

A Proposed Integrated Entrepreneurship Model for Afghanistan Toward Economic Growth: Neighboring Countries' Perspective

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Abstract

An entrepreneur is a person who recognizes possibilities in the business world and establishes organizations to explore those prospects. Entrepreneurs contribute significantly to the expansion of the economy as well as the advancement of our society. All across the globe, there are hundreds of millions of individuals who are either actively participating in the process of attempting to establish a new start-up or who are owner-managers of a new firm. Every working hour, nearly 1700 new enterprises establish themselves in the US. For the last two decades, entrepreneurship has been viewed as a vital economic force for society due to its contributions to both the economy and social well-being in two key ways. First, new enterprises generate numerous new jobs. As new positions become available, millions may join the labour market and seek economic success. Second, new businesses may innovate and alter market structures and technology. Due to the unavailability of data from Afghanistan, neighbouring countries (Tajikistan and the Kyrgyz Republic) were selected as potential role models for economic growth. Panel data spanning from 2006 to 2020 were analyzed through an OLS regression model to draw these valid conclusions: all regressors of the model do not contribute to GNIPC except gross capital formation. Entrepreneurship, when combined with gross capital formation, could accelerate economic growth significantly, while entrepreneurship alone does not make sense for GNIPC. The moderation effect of the ease of doing business, when combined with entrepreneurship, has a significantly negative impact on economic growth, indicating that current government policies are not yet favourable enough. Future research could explore the role of psychological, sociological, and knowledge factors in the

relationship between entrepreneurship and economic growth across different regions or countries.

Keywords: Entrepreneurship; Interact Effect; Role Model; Economic Growth; Afghanistan.

Introduction

The word entrepreneur derives from the French words *entre* meaning “between” and *prendre* meaning “to take.” The word was originally used to describe people who “take on the risk” between buyers and sellers or who “under take” a task such as starting a new venture. Inventors and entrepreneurs differ from each other. An inventor creates something new. An entrepreneur assembles and then integrates all the resources needed- the money, the people, the business model, the strategy, and the- risk bearing ability- to transform the invention in to viable business. Fred Wilson as venture capitalist define entrepreneurship the art of turning an idea in to a business. Three primary reasons that people become entrepreneurs and start their own firms to be their own boss, pursue their own ideas, and realize financial rewards. Some common myths about entrepreneurs are counted as: 1. Entrepreneurs are born, not made (could be made) 2. Entrepreneurs are gamblers (taking moderate risks rather than high risks) 3. Entrepreneurs are motivated primarily by money (if you think money is a real big deal... you will be too scared of losing it to get it) 4. Entrepreneurs should be young and energetic (older- aged could be considered as entrepreneurs; a total of 14% of entrepreneurs were 55 to 64 years old in 1996 compared to 23% in 2010. The increasing number of older- aged entrepreneurs is big change in entrepreneur landscape in the USA.) 5. Entrepreneurs love the spotlight (did not attract or avoided the public attention). Entrepreneurship is of paramount importance in developing countries such as Afghanistan since it has the ability to spur economic growth in the settings where resources are limited, capital formation is low and institutions are underdeveloped. Nevertheless, the effects of entrepreneurship on the economic growth of Afghanistan cannot be empirically analyzed as it is impossible to find data on the whole issue. In an effort to fill this gap, this study uses lessons learned in neighbouring states such as Tajikistan and the Kyrgyz Republic which have similar economic, institutional as well as social attributes. The countries offer a valuable benchmark against which one can determine the relationship

between entrepreneurship and economic and institutional factors to determine growth (Barringer & Ireland, 2011).

Literature Review

Afghah et al. (2014) explore that reaching development is a significant and vital aim that relies on making the best use of all of the nation's resources, especially its human capital, which is regarded as one of its most valuable assets. Therefore, the primary goal of the study is to shed light on the relationship between economic development and entrepreneurship as an intellectual capital in 50 chosen nations, including Iran, between 2004 and 2012. Therefore, they used the percentage of government spending relative to GDP, trade freedom, inflation, the school enrollment rate and entrepreneurship as explanatory variables, while data on economic growth served as dependent variables. They gathered data for this research from the World Bank and Global Entrepreneurial Monitor (GEM). Research findings demonstrate that entrepreneurship has a favourable and substantial impact on economic development. They also demonstrate the impact of other explanatory factors on economic development. Simultaneously, the enrollment rate in educational institutions and trade freedom positively influence economic development, but the ratio of government spending to gross domestic product has a negative impact.

Acs (2006) states that how could entrepreneurship boost economic growth? There seems to be a simple answer: Entrepreneurs start new firms, which generate employment, promote competition, and may boost productivity via technology. High entrepreneurial levels closely correlate with economic development. However, reality is more difficult. Including informal self-employment in the definition of entrepreneurship may indicate bureaucratic barriers to starting a new business or a lack of conventional wage-earning job opportunities. In these situations, high entrepreneurship levels may be linked to weak economic growth and trailing development. Over the last two years, Zoltan Acs has chaired the research committee of the Global Entrepreneurship Monitor (GEM) project, which is advancing knowledge of how various kinds of entrepreneurship impact development across several countries. Start by distinguishing between "necessity entrepreneurship," where one becomes an entrepreneur due to no other options, and "opportunity entrepreneurship," where one actively chooses to start a new enterprise based on an unexploited or underexploited business opportunity. After analyzing GEM data from 11 countries, Acs and Varga discovered

significant differences in the impact of necessity and opportunity entrepreneurship on economic growth. Opportunity entrepreneurship has a considerable beneficial impact on economic growth, whereas necessity entrepreneurship has no meaningful impact (Acs & Varga, 2005).

Doran et al. (2018) examine whether entrepreneurial measures may explain economic growth or investigate how entrepreneurial activities, ambitions, and attitudes affect GNI per capita using 14 metrics. The study further compares the significance of entrepreneurship in high-income and middle/low-income nations. They utilize an imbalanced selection of 55 nations from 2004 to 2011. They use principal components analysis to derive three components from 14 entrepreneurship indicators. A regression analysis is done to determine whether the three components of entrepreneurship contribute to economic development. The study indicated that entrepreneurial attitudes boost GNI per capita in high-income nations, whereas entrepreneurial behaviour had a negative impact in middle/low-income economies.

Armeanu et al. (2015) stated that economic crisis has had a significant impact on Romania's economy, making entrepreneurship a key pillar for recovery and government should promote private entrepreneurial initiatives. SMEs play a significant role in national economies owing to their capacity for intervention and contribution to gross value added, but they are not synonymous with entrepreneurship. SME contribution to GDP is highly volatile due to the fluctuating business environment, particularly due to limited technology, capital, financing, and know-how compared to large companies dominating their market. Successful entrepreneurship promotes sustainable firms, enables value creation, and supports economic development by closing recession-era macroeconomic gaps. One of the most active aspects of Romanian enterprise, the SME sector significantly contributes to GDP. This research attempts to evaluate the impact of entrepreneurship on Romania's GDP in key economic sectors, as well as estimate sectoral production gaps, filling a vacuum in local literature on entrepreneurship.

Valliere and Peterson (2009) extended Wong, Ho, and Autio's (2005) economic growth model to account for unique economic impacts of opportunity- and necessity-based entrepreneurship in developing and developed nations. The Global Entrepreneurship Monitor (GEM) and Global Competitiveness Report (GCR) data from 44 countries from 2004–2005 is utilized to discover GDP growth predictors for developing and developed nations. GEM statistics quantify the impact of various

entrepreneurship types on GDP growth. The GCR statistics include control variables from three economic growth theories: new economic geography, endogenous growth theory, and national innovation systems. This study argues that high-expectation entrepreneurs in industrialized nations benefit from national investments in knowledge production and regulatory flexibility, contributing significantly to economic growth. For emerging nations, this impact is not present. The hypothesis suggests that entrepreneurs must reach a threshold to enter the formal economy, beyond which their contributions go to informal processes.

Elfadli and Sayed (2024) analyze the correlation of entrepreneurship and sustainable development in Saudi Arabia in the period of 2006-2022 through the prism of the three aspects, i. e. economic, social, and environmental. The paper uses the autoregressive distributed lag (ARDL) model to explore both the short-run and long-run processes, which gives an understanding of the relationship between entrepreneurial activity and sustainable development in the context of the Saudi Arabia vision 2030 program. The results show that entrepreneurship plays a significant economic growth role by creating jobs and innovation to the economy to diversify it out of dependency on oil. Entrepreneurial projects are socially beneficial in terms of fostering gender equality and social inclusion requirements through empowerment of women and youth integration into workforce, whereas environmentally, the entrepreneurship is associated with sustainable business operation and carbon emissions. Although these are the good impacts, the regulatory barriers, access to small amount of finance, and the necessity of a supportive entrepreneurial ecosystem are some of the challenges which limit the potential of entrepreneurship. The paper advises the need to improve entrepreneurial education, financial incentive, and regulatory procedures to make them more assistive to the start-ups and SMEs. In general, the study will have empirical findings on how entrepreneurship contributes to sustainable development and will present practical recommendations that can be taken by policymakers to achieve a more resilient diversified economy and that is consistent with Vision 2030.

Zarkua et al. (2025) investigate the interaction between entrepreneurship and economic development that is measured by GNI per capita in 98 developed and developing countries in the period between 2015 and 2019. The cross-sectional OLS model and two-stage least squares (2SLS) approach to deal with possible endogeneity reveals that changes in the Global Entrepreneurship Index (GEI) have a significant

impact on the GNI per capita. In particular, the increment of one percent in GEI correlates with a growth of 3.04 percent in GNI per capita which means that entrepreneurship is one of the primary sources of economic development. The research highlights that policymakers may improve the level of economic growth by creating an enabling environment to entrepreneurship by means of conducive policies and infrastructure, education and investment in innovation. The findings are informative regarding the financial contribution of entrepreneurship and can further research on the subject to determine its contribution to sustainable growth.

Rahmawati (2025) studies the community level of entrepreneurship and innovation through descriptive qualitative approach to evaluate the contribution of these to employment, income and reduction of poverty. Research determines that entrepreneurship mobilizes resources, fosters creativity, diversification of economic operations and competitiveness and that innovation makes the markets more adaptable in dynamic settings. Issues of limited capital, poor infrastructure and lack of education are still present and these are some of the reasons why both the government and the private sector should collaborate in developing enabling entrepreneurial ecosystems to help spur inclusive economic growth.

Kara (2025) investigates the contribution of entrepreneurship to regional economic growth in Türkiye using data from 26 Level-2 regions for the period 2009–2021, obtained from the Turkish Statistical Institute (TSI). The study employs a Cobb-Douglas production function estimated through the System Generalized Method of Moments (System GMM) developed by Arellano and Bover (1995) and Blundell and Bond (1998). The results indicate that a 1% increase in entrepreneurial activity raises regional income by 2.70%, with the effect statistically significant at the 1% level. The study highlights entrepreneurship's role in mobilizing intra-regional resources and enhancing regional competitiveness, emphasizing the importance of promoting entrepreneurial activities in regional economic policy design. This study is notable as one of the first econometric analyses of entrepreneurship's contribution to regional economic growth in Türkiye.

Research Methods

Research Design and Objective

This study examines the relationship between entrepreneurship and economic growth, where entrepreneurship is proxied by newly registered businesses and economic growth is measured by gross national income (GNI) per capita. The analysis focuses on Tajikistan and Kyrgyzstan to derive insights for designing a suitable model for Afghanistan, given similarities in institutional structures, economic conditions, and relatively low GNI per capita levels. This approach allows the study to provide policy-relevant recommendations for Afghanistan based on comparable neighboring economies.

Data Sources

The study uses panel data obtained from the Global Entrepreneurship Monitor for the period 2006–2020. Data on entrepreneurship, labor, investment, research and development, and institutional factors were collected and harmonized across the two countries. The use of longitudinal data allows the study to account for both cross-country differences and temporal variations, increasing the robustness of the results.

Theoretical Framework

The empirical model is grounded in the Solow growth model (Solow, 1956), which identifies capital, labor, and technological progress as the primary determinants of economic growth (Todaro & Smith, 2012). While technology is treated as exogenous in the traditional model, recent literature emphasizes institutional quality, innovation, and entrepreneurship as additional drivers of growth. Entrepreneurship is conceptualized as a mechanism that transforms resources into productive output, enhances innovation, and promotes market efficiency. This study extends the Solow model by incorporating entrepreneurship and institutional variables to better capture growth dynamics in developing economies.

Model Specification

The dependent variable in the model is GNI per capita, while the main independent variable is entrepreneurship, measured by the number of newly registered businesses. The model includes the following control variables:

1. Labor force participation (LF), capturing the human capital contribution,
2. Gross capital formation (GCF), representing physical investment,

3. Research and development expenditure relative to GDP (R&D), reflecting innovation capacity, and
4. Ease of doing business index (EoDBI), representing institutional and regulatory quality.

Moderation Analysis

To investigate whether the impact of entrepreneurship on economic growth depends on complementary factors, the study introduces interaction terms between entrepreneurship and each control variable. These interaction effects are estimated separately to prevent multicollinearity and to clarify how labor, capital, R&D, and institutional quality moderate the entrepreneurship-growth relationship.

Estimation Technique

The study employs Ordinary Least Squares (OLS) regression using Stata 17 to estimate both the baseline and interaction models. The panel data structure allows for controlling country-specific heterogeneity and time effects. Model diagnostics and significance testing are performed to ensure the robustness and validity of the results.

Relevance for Policy

Although the analysis is based on Tajikistan and Kyrgyzstan, the findings are relevant for Afghanistan, where structural challenges and policy environments are comparable. The results provide insights into how entrepreneurship, when combined with supportive capital, labor, innovation, and institutional conditions, can effectively stimulate economic growth. These insights can inform policy interventions aimed at promoting new business creation and improving the overall investment and regulatory environment in Afghanistan.

Equations Of Regressions:

$$GNIPC_{it} = \beta_0 + \beta_1 NRB_{it} + \beta_2 LF (\% POP)_{it} + \beta_3 GCF (Current US Dollars)_{it} + \beta_4 R\&D (\% GDP)_{it} + \beta_5 EoDBI_{it} + \varepsilon_{it} \dots\dots\dots 1$$

$$GNIPC_{it} = \beta_0 + \beta_1 [NRB_{it} * LF (\% POP)_{it}] + \beta_2 GCF (Current US Dollars)_{it} + \beta_3 R\&D (\% GDP)_{it} + \beta_4 EoDBI_{it} + \varepsilon_{it} \dots\dots\dots 2$$

$$GNIPC_{it} = \beta_0 + \beta_1[NRB_{it} * GCF(Current\ US\ Dollars)_{it}] + \beta_2 LF(\% POP)_{it} + \beta_3 R\&D(\% GDP)_{it} + \beta_4 EoDBI_{it} + \varepsilon_{it} \dots\dots\dots 3$$

$$GNIPC_{it} = \beta_0 + \beta_1[NRB_{it} * R\&D(\% GDP)_{it}] + \beta_2 LF(\% POP)_{it} + \beta_3 GCF(Current\ US\ Dollars)_{it} + \beta_4 EoDBI_{it} + \varepsilon_{it} \dots\dots\dots 4$$

$$GNIPC_{it} = \beta_0 + \beta_1[NRB_{it} * EoDBI_{it}] + \beta_2 LF(\% POP)_{it} + \beta_3 GCF(Current\ US\ Dollars)_{it} + \beta_4 R\&D(\% GDP)_{it} + \varepsilon_{it} \dots\dots\dots 5$$

Where: $GNIPC_{it}$ indicating gross national income per capita, NRB_{it} new registered business, $LF(\% POP)_{it}$ labour force participating relative to population, $GCF(Current\ US\ Dollars)_{it}$ gross capital formation, $R\&D(\% GDP)_{it}$ reserch and developing spending relative to gross domestic product, $EoDBI_{it}$ ease of doing business index, and $\beta_1, \beta_2, \beta_3, \beta_4,$ and β_5 exploring the coefficients of relevant variables and ε_{it} indicates the error term of the model. Some explanation of the variables of the study and the references is specified in below table 1.

Table 1. Illustrations of the variable

Variable name	Abbreviation of the variable	Description of the variables	Source
GNI Per Capita	GNIPC	GNI per capita is a measure of a country's national income per person and is used to classify economies by income level. GNI per capita (formerly GNP per capita) is the gross national income, converted to U.S. dollars using the World Bank Atlas method, divided by the mid-year population. GNI is the sum of value added by all resident producers plus any product taxes (less subsidies) not included in the valuation of output plus net receipts of primary income (compensation of employees and property income)	World bank

from abroad. GNI, calculated in national currency, is usually converted to U.S. dollars at official exchange rates for comparisons across economies, although an alternative rate is used when the official exchange rate is judged to diverge by an exceptionally large margin from the rate actually applied in international transactions. To smooth fluctuations in prices and exchange rates, a special Atlas method of conversion is used by the World Bank. This applies a conversion factor that averages the exchange rate for a given year and the two preceding years, adjusted for differences in rates of inflation between the country, and through 2000, the G-5 countries (France, Germany, Japan, the United Kingdom, and the United States). From 2001, these countries include the Euro area, Japan, the United Kingdom, and the United States.

New registered business	NRB	New businesses registered are the number of new limited liability corporations (or its equivalent) registered in the calendar year.	World bank's entrepreneurship database
Libor force	LF (% POP)	Labor force participation rate is the proportion of the population ages 15-64 that is economically active: all people who supply labor for the production of goods and services during a specified period.	ILOSTAT
Gross capital formation	GCF	Gross capital formation (formerly gross domestic investment) consists of outlays on additions to the fixed assets of the economy plus net changes in the level of inventories. Fixed assets include land improvements (fences, ditches, drains, and so on); plant, machinery, and equipment purchases; and the	World bank

		construction of roads, railways, and the like, including schools, offices, hospitals, private residential dwellings, and commercial and industrial buildings. Inventories are stocks of goods held by firms to meet temporary or unexpected fluctuations in production or sales, and "work in progress." According to the 1993 SNA, net acquisitions of valuables are also considered capital formation. Data are in current U.S. dollars.	
Research and development spending	R&D (% GDP)	Gross domestic expenditures on research and development (R&D), expressed as a percent of GDP. They include both capital and current expenditures in the four main sectors: Business enterprise, Government, Higher education and Private non-profit. R&D covers basic research, applied research, and experimental development.	UNESCO Institute for statistics (UIS)
Ease of doing business index	EoDBI	The Ease of Doing Business (EoDB) index measures the regulatory environment in different countries that impacts businesses. The World Bank developed this index to compare and track improvements in the regulatory frameworks that affect business operations.	World bank

Results and Discussion

After estimating the regression model based on Equations (1) to (5), the empirical findings reveal mixed results regarding the impact of the explanatory variables on economic growth, measured by GNI per capita. Of all the variables, the gross capital formation (GCF) is the only statistically significant variable in explaining economic growth. The coefficient of 2.02×10^{-7} (0.000000202) is positive showing that an increase in capital formation leads to an increase in economic growth. Although the magnitude is rather small, probably because of the scale of measurement, the p-value of the latter one (0.001) is very significant at the 1% level. This goes a long way to suggest that the role of investment

in physical capital is important in improving economic performance. Thus, the hypothesis associated with gross capital formation is accepted. Conversely, there is positive but non-significant correlation between entrepreneurship, which is proxied by the number of newly registered businesses (NRB), and economic growth.

Though the coefficient (0.42) indicates that entrepreneurship could have a positive impact on GNI per capita, this impact is so high (p-value 0.900) which proves that this result is not statistically meaningful. Therefore, it is concluded that the entrepreneurship hypothesis is not substantiated, which means that the newly registered ventures might not be yet translated into the economic benefits, potentially because of the structural inefficiencies or informal character of most of the enterprises. Likewise, labor force participation rate (LF) has a positive coefficient (1.32) which means it could have a positive impact in economic growth. Still, this relationship is not statistically significant as shown by the p-value (0.840). This can be an indication of low productivity, underemployment or lack of skills and labor market requirements. Thus, the variable of the labor force is not also statistically supported. The research and development (R&D) expenditure coefficient is high (644) and positive, which means that the impact on the economic growth is possibly significant. But the p-value (0.620) has indicated that this relationship is not significant. This could either be because of lack of investment in R&D, it takes long before returns can be realized or due to inefficiency in the use of all the expenditure on innovations.

Lastly, the coefficient of ease of doing business index (EoDBI) also exhibits a positive coefficient (0.92) suggesting that the enhancement of the business environment can be helpful in economic growth. However, having a p-value of 0.720, the effect is not statistically significant. This implies that regulatory improvements are crucial, but these could not affect economic growth in the analyzed context directly and immediately. In general, it is possible to note that the results support the idea that capital accumulation is the key driver of economic growth in this model, and other factors (however, theoretically significant) do not demonstrate statistically significant impacts. These findings demonstrate the need to reinforce investment policy and enhance the performance of entrepreneurship, labor markets, systems of innovation and business environments (See table 2).

Table 2. Dependent variable: Economic growth (GNI per capita)

Variable Name	Code of Variable	Coefficient	P-Value	Sign +/-	Status
Entrepreneurship (New registered businesses)	NRB	0.42	0.900	Positive	Not acceptable
Libor force	LF (% POP)	1.32	0.840	Positive	Not acceptable
Gross capital formation	GCF	2.02 e-07= (0.000000202)	0.001	Positive	Acceptable
Research and development spending relative to GDP	R&D (% GDP)	644	0.620	Positive	Not acceptable
Ease of doing businesses	EoDBI	0.92	0.720	Positive	Not acceptable

Source: Analyzed by Stata 17

The interaction (moderation) analysis provides deeper insight into how the relationship between entrepreneurship (new registered businesses) and economic growth is influenced by other macroeconomic factors. The results show that gross capital formation (GCF) plays a positive and statistically significant moderating role in the relationship between entrepreneurship and economic growth. The interaction term (NRB × GCF) has a positive coefficient of 1.62×10^{-8} with a p-value of 0.000, indicating significance at the 1% level. This suggests that when capital investment increases, the positive contribution of newly registered businesses to economic growth becomes stronger. In other words, entrepreneurship becomes more effective in promoting growth when it is supported by sufficient capital formation.

This finding highlights the complementary role of investment and entrepreneurial activity in driving economic performance. In contrast, the interaction between entrepreneurship and the ease of doing business index (NRB×EoDBI) reveals a negative and marginally significant effect (coefficient = -0.16, p-value = 0.060). This implies that improvements in the business environment, as measured in this model, do not necessarily enhance the growth impact of new businesses. Instead, the negative sign suggests that the existing business environment may not be effectively supporting entrepreneurial outcomes. This could reflect institutional inefficiencies, regulatory barriers, or weak implementation of policies. The result supports the argument that government policies toward starting and sustaining businesses may not yet be sufficiently conducive

and require further improvement. Similarly, the interaction between entrepreneurship and labor force (NRB × LF) shows a negative coefficient (-0.26) but is statistically insignificant (p-value = 0.260).

This indicates that labor force participation does not significantly influence how entrepreneurship affects economic growth. This may be due to issues such as low labor productivity, skill mismatches, or structural unemployment. The interaction between entrepreneurship and R&D expenditure (NRB×R&D) also produces a negative and statistically insignificant coefficient (-65.51, p-value = 0.500). This suggests that innovation spending does not significantly enhance the effectiveness of new businesses in contributing to economic growth. Possible explanations include low efficiency of R&D investment, weak innovation systems, or delayed effects of technological development. Overall, the moderation analysis reveals that only capital formation significantly strengthens the entrepreneurship-growth nexus, while other factors either weaken or do not significantly influence this relationship. These findings emphasize the importance of aligning entrepreneurial policies with strong investment frameworks and improving institutional quality to ensure that entrepreneurship can effectively contribute to economic growth (See table 3).

Table 3. Dependent variable: Economic growth (GNI per capita)

Interaction variable name	Coefficient	P-Value	Sign +/-	Status
NRB*LF (% POP)	-0.26	0.260	Negative	Not acceptable
NRB*GCF	1.62e-08 (0.0000000162)	0.000	Positive	Acceptable
NRB*R&D (% GDP)	-65.51	0.500	Negative	Not acceptable
NRB*EoDBI	-0.16	0.060	Negative	Acceptable

Source: Own's elaboration

The empirical findings show that the model estimated has a good explanatory capability. In particular, the coefficient of determination ($R^2 = 0.70$) shows that the overall change in the dependent variable can be explained by the combination of independent (explanatory) variables that are incorporated in the model (around 70 percent). It implies that the regressors as a group offer a lot of information in understanding the behaviour of the dependent variable and the remaining 30 percent of the variation can be explained by other factors not included in the model,

measurement error, or random disturbances. Moreover, the adjusted R^2 value is 0.64 which supports the strength of the model. The adjusted R^2 unlike R^2 , takes into consideration the number of predictors as well as the sample size, punishing irrelevant variables included.

The fact that the difference between R^2 (0.70) and adjusted R^2 (0.64) is not very high suggests that the model has not been overfitted, and that the majority of the explanatory variables incorporate in it are really significant to explain the dependent variable. Besides the goodness-of-fit indicators, F-statistic (16.21) gives evidence about the total significance of the regression model. The F-test tests the null hypothesis of the equal values of all slope coefficients (i.e. the independent variables do not explain anything). The resulting p-value at 0.0008, that is significantly lower than standard significance rates (10, 5, and 1%), results into a decisive rejection of the null hypothesis.

This finding implies that the independent variables of a combination of the independent variables have statistically significant effect on the dependent variable. That is, the model is statistically valid and, at the same time, meaningful to make inferences and analysis. The level of significance is very high to indicate that chances of such results being attained by chance are very low. Altogether, the relatively high R^2 , the stable adjusted R^2 and the significantly high F-statistic support the idea that the model is well-specified and offers the valid structure of the analysis of the dependence between the dependent and independent variables. These outcomes speak in favor of the model validity and the need to continue with the interpretation of individual regression coefficients.

Table 4. Models' specification

Source: Own calculations

Conclusion

Over all confidence of the model	Models significancy
$R^2 = 0.7 = 70\%$	$F = 16.21$
Adjusted $R^2 = 0.64 = 64\%$	P- Value = 0.0008

Traditional neoclassical economic growth theory, as proposed by Solow (1956), states that economic growth is determined by labour, capital, and technological progress. As years progress, the issue of pro-business government policies and entrepreneurship has been identified as other economic growth impetuses (Audretsch and Lehmann, 2005).

The economic growth will be the dependent variable, entrepreneurship will be the major independent variable, and the following are control variables: gross capital formation, labour force, research and development (R&D) spending, and the ease of doing business index. To come up with sound estimates of policy implications and future research directions, an ordinary least squares (OLS) regression model was used. The results show that entrepreneurship has no significant effect on economic growth, however, when correlated with gross capital formation, it is strongly and positively correlated to GNI per capita. This indicates that conventional growth variables like labour, research and development expenditures and ease of doing business cannot spur growth without capital formation. In addition, the mediating roles of gross capital formation and ease of doing business on entrepreneurship also doubles the role of the new business activity to economic growth. Comprehensively, this paper expands on the growth model of Solow by including entrepreneurship as a further element, which makes it a more effective tool of analyzing the economic development in Afghanistan. The focus of policy implications is resources to assist entrepreneurial activity in addition to conventional growth variables. Future studies may focus on the impacts of various forms of entrepreneurships in different countries with varying income levels, on more specific quantitative aspects of entrepreneurship, and on the use of digital technologies, artificial intelligence and digital marketing in increasing the relationship between entrepreneurship and economic growth.

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