

# Exploring the Relationship between Entrepreneurship and Economic Growth via A Cross-Sectional Analysis

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**Abstract**— *The research shows that indicators related to governance and entrepreneurship have a significant impact on GDP growth, with the degree and character of this link varying greatly depending on the country's developmental stage. Innovation-driven nations can benefit economically from entrepreneurialism, while societies driven by efficiency and factoring cannot. Innovation-driven nations have the only for nations that are efficiency and factor driven, necessity-driven entrepreneurship (NDE) has a negative link with economic advancement, but opportunity-driven entrepreneurship (ODE) has a positive correlation with GDP growth. In all three groups of countries, entrepreneurialism correlates favorably with indicators of good governance. Good governance is the focus of this research, which adds to the current literature by investigating mediates the relationship between entrepreneurship and development and offering suggestions for enhancing governance to foster entrepreneurship and economic growth.*

**Keywords**— *Governance, Country, GDP Entrepreneurship and Economic Growth.*

## I. INTRODUCTION

The ability to transform innovative ideas into marketable goods and services is a hallmark of successful entrepreneurs. Two famous examples of internet apps that have been commercially successful are Google and Amazon. The public sector was instrumental in creating the foundational technologies underpinning the internet, but entrepreneurs created the vast majority of its many commercial uses. Entrepreneurs not only make things that people want to buy, but they also make things that solve some of the world's biggest problems. One prominent example is the coronavirus disease (COVID-19) vaccine produced by the German biotech start-up BioNTech founded by two innovative entrepreneurs, Dr. Ugur Sahin and Dr. Ozlem Tureci. Innovative entrepreneurs have a significant impact on economies of all income and development levels when they promote knowledge spillovers and revolutionary breakthroughs. This leads to increased economic growth, employment, productivity, and social welfare (Kritikos 2014). It is not always easy to tell the difference between regular entrepreneurs and those that are really inventive. For example, innovative street food sellers who come up with new and tasty recipes often end up becoming powerful restaurant owners. However, the majority of the economic benefit from entrepreneurship comes from a little number of really productive entrepreneurs.

An important reason to study entrepreneurship in emerging Asian countries is because it is crucial to economic growth and development but has received little attention in economic research. An essential component of long-term economic progress, a thriving private sector can only arise and flourish when entrepreneurial spirit is rampant. This is a perfect moment to study the motivations of company founders because of the rise of digital entrepreneurship in the last few years. Due to the elimination of the need for traditional storefronts and other physical infrastructure, the cost of launching a company has dropped significantly with the advent of digital technology and information and communication technology (ICT).

At its core, information and communication technology boosts productivity by lowering the price of data and communication. The increase of low-cost market access, improved cooperation with other participants, and exposure to new inventive ideas are specific advantages that businesses should expect. Additionally, digital technology played a significant role in the resilience of entrepreneurs throughout the COVID-19 pandemic. Inclusionary growth and development may be promoted via the use of ICT by reducing the obstacles to admission into a particular sector. For instance, women and the impoverished might find new

avenues for entrepreneurship because to ICT. The digital gap is still a big obstacle to ICT-enabled business, which is preventing people from realizing their potential. On the other hand, a robust digital infrastructure does not spark innovation on its own.

## II. LITERATURE REVIEW

**Kheiri, Nouh et.al. (2022).** A true entrepreneur goes above and beyond the call of duty to promote purposeful innovation that enhances people's quality of life. Entrepreneurs are people with a clear vision for their company's future that allows them to seize chances and use resources like technology to climb the corporate ladder. In this academic work, we will try to provide both the reasons for and against the assertion that entrepreneurs help foster innovation, which is important for economic and social progress, and that there are theoretical considerations that support this claim.

**González-Pernía, José et.al. (2015).** Research into innovation-driven entrepreneurship's historical roots, contemporary trajectory, and potential monetary effects has lately seen the proliferation of KSTE, the theory of knowledge spillover in entrepreneurship. Although previous research has shown that the KSTE's central assumption is typically true in most developed economies, this study aims to examine how well the KSTE's proposed principles may be applied to various developing country environments. Results from Nearly 250,000 individuals from 45 developing countries were analyzed using a logistic multilevel model. nations reveal that, in contrast to the traditional linkage examined in the KSTE literature, the unique context of developing economies results in a weaker relationship among knowledge spillovers, innovation, and entrepreneurship.

**Kritikos, Alexander. (2015).** The inventive actions, higher productivity and competitiveness, new jobs, and accelerated structural change that result from entrepreneurs' establishment of new enterprises are all good for economies. Economic growth could be stunted if new company owners don't enter the market. Thus, entrepreneurs' One approach to encourage innovation is via the establishment of new firms. economic expansion.

**Peprah, Augustine et.al. (2020).** The literature on entrepreneurialism and economic development has looked at the connection between the two. However, when these studies are examined critically, it becomes clear that the majority of study has concentrated on developed economies, which leaves a lot of information on emerging nations, particularly in Africa, unexplored. Using World growth Indicator data on 10 African countries—Zambia, Botswana, Mauritius, Namibia, Senegal, South Africa, and Zambia—this study looks at the connection between entrepreneurship and economic growth. According to the findings, entrepreneurial is good for the economy and boosts growth considerably. We address policy implications based on this conclusion.

**Doran, Justin et.al. (2018).** The potential explanatory power of alternative entrepreneurial quotients for GDP growth is examined in this article. It examines the impact of entrepreneurial activities, ambitions, and attitudes on GDP per capita using fourteen different entrepreneurship measures. Additionally, it compares nations with high and low incomes to see whether the value of entrepreneurship differs. For the years 2004–2011, an imbalanced panel of 55 nations was used. We use principal components analysis to distil fourteen different entrepreneurship metrics into just three. Next, we'll utilise regression analysis to see whether these three aspects of entrepreneurship really contribute to GDP growth. Having an entrepreneurial mindset increases GDP per capita in countries with high incomes, while the reverse is true in economies with moderate or low incomes.

## III. RESEARCH METHODOLOGY

In this research, I will be testing how new ideas, entrepreneurial spirit, and economic expansion are interconnected by using it as the dependent variable. I choose real GDP per capita (in USD) as a metric to assess economic growth because it suggests a rise in what the economy's revenue and goods are worth. I gather the information from the World Bank for the years 2001–2019 To measure innovation per capita, I utilize research and development spending, which is a key indicator of economic success and innovation. Capitalizing on investments in R&D helps scientists, engineers, and innovators in the commercial and public sectors come up with new ideas, information, methods, and technology. The new company density, defined as the annual rate of formation of limited liability companies adjusted for the working-age population. An important part of dynamic entrepreneurship is the registration of new businesses, and this metric helps to quantify the effect of changes in political, economic, and regulatory institutions on this process. In order to examine the connection between the aforementioned three critical variables, it is essential to account for potential influences on them. To rephrase, the goal is to determine how the various attributes impact the interplay of the three factors. According to the United Nations Department of United Nations Department of Economic and Social Affairs (UN/DESA) in 2018, I rely on 125 countries, broken down into developed and developing categories, based on their degree of progress as measured by the ratio of fuel exports to imports and gross national income per capita (GNI). A total of 125 nations are considered developing, while 36 are considered developed.

## IV. DATA ANALYSIS

### 4.1 Economic Growth, Entrepreneurship, and the Quality of Governance:

Since Using the 2SLS and 3SLS estimators combined, we estimate the system of equations, and the signs and economic importance of the conclusions are equivalent. Although the 2SLS estimate results are not shown here, they are available upon request. However, 3SLS seems to be an appropriate approach, given its estimators outperform single equation estimators asymptotically and are consistent. With the 3SLS results associated with the empirical relationship between the two types of entrepreneurs, governance indicators (Models 1-6), and economic development are shown in Tables 4.18-4.23 below. In particular, we developed six distinct models to examine and contrast the impact of governance quality on entrepreneurialism. Assuming constant GDP growth, access to capital, and startup time Models 1-6 examine the relationship between entrepreneurial activity and governance quality, which includes rule of law, government efficacy, corruption control, political stability, regulatory quality, and voice and accountability. These factors are related to labor productivity and the relative significance of TEA (Equation 1).

**TABLE 1**  
**ECONOMIC GROWTH (IN ECONOMIES DRIVEN BY FACTORS) AND OPPORTUNITY ENTREPRENEURSHIP**  
**ESTIMATED. ORIGINAL RESEARCH**

| Eq. (1)        | Model 1 (VA)       | Model 2 (PS)       | Model 3 (GE)        | Model 4 (RQ)        | Model 5 (RL)        | Model 6 (CC)       |
|----------------|--------------------|--------------------|---------------------|---------------------|---------------------|--------------------|
| (VA)           | 0.31***<br>(0.11)  |                    |                     |                     |                     |                    |
| (PS)           |                    | 0.32**<br>(0.13)   |                     |                     |                     |                    |
| (GE)           |                    |                    | 0.221<br>(0.126)    |                     |                     |                    |
| (RQ)           |                    |                    |                     | 0.267<br>(0.189)    |                     |                    |
| (RL)           |                    |                    |                     |                     | 0.27*<br>(0.14)     |                    |
| (CC)           |                    |                    |                     |                     |                     | 0.252*<br>(0.128)  |
| (GDP)          | 0.03*<br>(0.01)    | 0.05***<br>(0.01)  | 0.08**<br>(0.03)    | 0.033*<br>(0.02)    | 0.028*<br>(0.01)    | 0.04***<br>(0.012) |
| (TB)           | -0.33***<br>(0.11) | -0.29**<br>(0.11)  | -0.29**<br>(0.14)   | -0.43***<br>(0.16)  | -0.0882             | -0.57**<br>(0.22)  |
| (FIN)          | 0.327**<br>(0.135) | 0.492**<br>(0.213) | 0.543<br>(0.297)    | 0.47**<br>(0.144)   | 0.45***<br>(0.137)  | 0.486**<br>(0.212) |
| R <sup>2</sup> | 0.89               | 0.893              | 0.898               | 0.886               | 0.885               | 0.871              |
| Eq. (2)        | 1                  | 2                  | 3                   | 4                   | 5                   | 6                  |
| ODE            | 0.036<br>(0.026)   | 0.041<br>(0.027)   | 0.039<br>(0.031)    | 0.041<br>(0.024)    | 0.048<br>(0.031)    | 0.037<br>(0.023)   |
| NDE            | -                  | -                  | -                   | -                   | -                   | -                  |
| (GCF)          | 0.163**<br>(0.058) | 0.171**<br>(0.064) | 0.142***<br>(0.045) | 0.173**<br>(0.078)  | 0.166**<br>(0.071)  | 0.18***<br>(0.058) |
| (TR)           | 0.08**<br>(0.04)   | 0.09**<br>(0.04)   | 0.036**<br>(0.014)  | 0.182**<br>(0.066)  | 0.173***<br>(0.051) | 0.138**<br>(0.052) |
| (INF)          | -0.579*<br>(0.323) | -0.61**<br>(0.279) | -0.427*<br>(0.262)  | -0.523**<br>(0.298) | -0.634**<br>(0.235) | -0.447*<br>(0.231) |
| (GC)           | 0.251**<br>(0.114) | 0.238*<br>(0.148)  | 0.251***<br>(0.161) | 0.287**<br>(0.109)  | 0.421**<br>(0.167)  | 0.432**<br>(0.183) |
| R <sup>2</sup> | 0.941              | 0.925              | 0.914               | 0.935               | 0.928               | 0.912              |

*Notes: At the 1, 5, and 10% levels, the findings are \*\*\*, \*\*, and \* significant, respectively. Statistical significance is indicated by \*\*\* $p < 0.01$ ; \*\* $p < 0.05$ ; \* $p < 0.1$  in this circumstance. Bracketed next to each coefficient are the robust standard errors.*

All calculated models in factor-driven economies show a positive influence of governance on opportunity entrepreneurship. The exceptions are Models 3 and 4, which deal with regulatory quality and government effectiveness, respectively. A one percent rise

in opportunity entrepreneurship led to a the rate of increase ranges from 0.036% to 0.048% ( $p < 0.05$ ). Opportunity entrepreneurship in nations driven by factors relies heavily on economic development.

**TABLE 2**  
**ESTIMATING NECESSITY ENTREPRENEURSHIP AND ECONOMIC DEVELOPMENT (FACTOR-DRIVEN ECONOMIES). ORIGINAL RESEARCH**

| Eq. (1)        | NEA                 |                     |                     |                     |                    |                     |
|----------------|---------------------|---------------------|---------------------|---------------------|--------------------|---------------------|
|                | Model 1 (VA)        | Model 2 (PS)        | Model 3 (GE)        | Model 4 (RQ)        | Model 5 (RL)       | Model 6 (CC)        |
| (VA)           | -0.24**<br>(0.11)   |                     |                     |                     |                    |                     |
| (PS)           |                     | -0.31*<br>(0.19)    |                     |                     |                    |                     |
| (GE)           |                     |                     | -0.245<br>(0.123)   |                     |                    |                     |
| (RQ)           |                     |                     |                     | -0.278<br>(0.138)   |                    |                     |
| (RL)           |                     |                     |                     |                     | -0.278<br>(0.138)  |                     |
| (CC)           |                     |                     |                     |                     |                    | -0.21*<br>(0.1)     |
| (GDP)          | 0.03<br>(0.11)      | 0.032<br>(0.13)     | 0.005<br>(0.04)     | 0.001<br>(0.02)     | 0.003<br>(0.01)    | 0.004<br>(0.019)    |
| (TB)           | -0.36***<br>(0.11)  | -0.43*<br>(0.22)    | -0.54***<br>(0.23)  | -0.46**<br>(0.21)   | -0.59**<br>(0.24)  | -0.36***<br>(0.15)  |
| (FIN)          | 0.223<br>(0.121)    | 0.329**<br>(0.116)  | 0.52***<br>(0.212)  | 0.289<br>(0.147)    | 0.427<br>(0.27)    | 0.531**<br>(0.248)  |
| R <sup>2</sup> | 0.881               | 0.879               | 0.891               | 0.893               | 0.881              | 0.869               |
| Eq. (2)        | 1                   | 2                   | 3                   | 4                   | 5                  | 6                   |
| ODE            | -                   | -                   | -                   | -                   | -                  | -                   |
| NDE            | -0.034**<br>(0.016) | -0.04***<br>(0.011) | -0.03**<br>(0.014)  | -0.043*<br>(0.019)  | -0.04*<br>(0.02)   | -0.027**<br>(0.011) |
| GCF            | 0.19**<br>(0.062)   | 0.173**<br>(0.074)  | 0.161**<br>(0.055)  | 0.143*<br>(0.078)   | 0.165**<br>(0.07)  | 0.188**<br>(0.068)  |
| TR             | 0.068**<br>(0.028)  | 0.083**<br>(0.033)  | 0.078**<br>(0.032)  | 0.187**<br>(0.096)  | 0.18**<br>(0.07)   | 0.16**<br>(0.07)    |
| INF            | -0.572**<br>(0.224) | -0.531**<br>(0.279) | -0.563**<br>(0.262) | -0.651**<br>(0.298) | -0.644**<br>(0.23) | -0.433*<br>(0.231)  |
| GC             | 0.335**<br>(0.122)  | 0.333**<br>(0.108)  | 0.642**<br>(0.261)  | 0.367**<br>(0.169)  | 0.421**<br>(0.177) | 0.239**<br>(0.113)  |
| R <sup>2</sup> | 0.903               | 0.922               | 0.906               | 0.913               | 0.942              | 0.911               |

With the exception of Models 3 and 4, which deal with the efficacy of the government and the quality of regulations, respectively, all calculated models in factor-driven economies show need-based entrepreneurship is negatively affected by government. The growth rate went from 0.14% to 0.19% due to a 1% rise in gross capital formation ( $p < 0.11$ ). It seems that factor-driven nations face slower development as a result of necessity entrepreneurship, which is harmful to growth overall. In contrast, factor-driven nations do not seem to witness an increase in the need for entrepreneurial spirit due to progress in the economy. A significant increase from 0.333 percent to 0.642 percent ( $p < 0.01$ ) might be caused by a one percent increase in government consumption. A 1% rise in economic openness influences economic development positively by a range of 0.068 to 0.187 percent ( $p < 0.05$ ). A growth rate ranging from 0.433% to 0.651% is shown in Table 2. would be reduced with an inflation rate of one percent ( $p < 0.05$ ).

**TABLE 3**  
**OPPORTUNITY ENTREPRENEURSHIP AND ECONOMIC GROWTH ESTIMATION (INCOME-DRIVEN ECONOMIES FOCUSED ON EFFICIENCY). ORIGINAL RESEARCH**

| Eq. (1)        | ODE                 |                     |                     |                     |                     |                      |
|----------------|---------------------|---------------------|---------------------|---------------------|---------------------|----------------------|
|                | Model 1 (VA)        | Model 2 (PS)        | Model 3 (GE)        | Model 4 (RQ)        | Model 5 (RL)        | Model 6 (CC)         |
| (VA)           | 0.211**<br>(0.105)  |                     |                     |                     |                     |                      |
| (PS)           |                     | 0.261**<br>(0.114)  |                     |                     |                     |                      |
| (GE)           |                     |                     | 0.219**<br>(0.107)  |                     |                     |                      |
| (RQ)           |                     |                     |                     | 0.253<br>(0.138)    |                     |                      |
| (RL)           |                     |                     |                     |                     | 0.262*<br>(0.133)   |                      |
| (CC)           |                     |                     |                     |                     |                     | 0.283**<br>(0.127)   |
| (GDP)          | 0.039**<br>(0.016)  | 0.036**<br>(0.014)  | 0.042**<br>(0.015)  | 0.022**<br>(0.009)  | 0.018***<br>(0.006) | 0.014*<br>(.008)     |
| (TB)           | -0.312**<br>(0.138) | -0.306**<br>(0.162) | -0.242**<br>(0.137) | -0.65*<br>(0.364)   | -0.552**<br>(0.239) | -0.756***<br>(0.223) |
| (FIN)          | 0.219**<br>(0.121)  | 0.216**<br>(0.113)  | 0.221**<br>(0.097)  | 0.350***<br>(0.144) | 0.371**<br>(0.167)  | 0.451**<br>(0.233)   |
| R <sup>2</sup> | 0.887               | 0.885               | 0.892               | 0.894               | 0.891               | 0.879                |
| Eq. (2)        | 1                   | 2                   | 3                   | 4                   | 5                   | 6                    |
| ODE            | 0.052<br>(0.038)    | 0.066<br>(0.039)    | 0.053<br>(0.28)     | 0.048<br>(0.031)    | 0.041<br>(0.023)    | 0.055<br>(0.041)     |
| NDE            | -                   | -                   | -                   | -                   | -                   | -                    |
| GCF            | 0.191***<br>(0.032) | 0.189***<br>(0.044) | 0.193***<br>(0.045) | 0.188***<br>(0.078) | 0.175**<br>(0.071)  | 0.196***<br>(0.028)  |
| TR             | 0.071**<br>(0.028)  | 0.069***<br>(0.023) | 0.059**<br>(0.025)  | 0.195***<br>(0.036) | 0.161***<br>(0.041) | 0.142***<br>(0.032)  |
| INF            | -0.673**<br>(0.224) | -0.689**<br>(0.279) | -0.543*<br>(0.262)  | -0.608**<br>(0.298) | -0.611**<br>(0.235) | -0.571**<br>(0.231)  |
| GC             | 0.431***<br>(0.122) | 0.453***<br>(0.148) | 0.264**<br>(0.121)  | 0.349**<br>(0.169)  | 0.362**<br>(0.167)  | 0.629**<br>(0.303)   |
| R <sup>2</sup> | 0.953               | 0.945               | 0.944               | 0.933               | 0.913               | 0.902                |

As predicted, among efficiency-driven nations, opportunity entrepreneurship is positively affected by governance metrics, with the exception of Model 4 (RQ). Entrepreneurship motivated by opportunity is on the rise in nations that prioritize efficiency. The ODE rose from 0.0142 percent to 0.044 percent ( $p < 0.05$ ) in response to a one percent rise in economic growth. In the meantime, according to Table 3, the ODE isn't helping these nations' economies flourish.

**TABLE 4**  
**EVALUATION OF EFFICIENCY-DRIVEN ECONOMIC DEVELOPMENT, ENTREPRENEURIALISM, AND THE NEED FOR INVESTMENT. ORIGINAL RESEARCH**

| Eq. (1)        | ODE                 |                     |                      |                      |                     |                     |
|----------------|---------------------|---------------------|----------------------|----------------------|---------------------|---------------------|
|                | Model 1 (VA)        | Model 2 (PS)        | Model 3 (GE)         | Model 4 (RQ)         | Model 5 (RL)        | Model 6 (CC)        |
| (VA)           | -0.149**<br>(0.121) |                     |                      |                      |                     |                     |
| (PS)           |                     | -0.204**<br>(0.092) |                      |                      |                     |                     |
| (GE)           |                     |                     | -0.165**<br>(0.063)  |                      |                     |                     |
| (RQ)           |                     |                     |                      | -0.216<br>(0.134)    |                     |                     |
| (RL)           |                     |                     |                      |                      | -0.159**<br>(0.121) |                     |
| (CC)           |                     |                     |                      |                      |                     | -0.161*<br>(0.083)  |
| (GDP)          | 0.0021<br>(0.011)   | 0.023<br>(0.014)    | 0.0028<br>(0.012)    | 0.0031<br>(0.015)    | 0.0026<br>(0.009)   | 0.0029<br>(0.014)   |
| (TB)           | -0.322**<br>(0.117) | -0.412*<br>(0.209)  | -0.433***<br>(0.122) | -0.541*<br>(0.311)   | -0.481*<br>(0.245)  | -0.421*<br>(0.208)  |
| (FIN)          | 0.221*<br>(0.123)   | 0.356**<br>(0.143)  | 0.432**<br>(0.167)   | 0.372**<br>(0.151)   | 0.337**<br>(0.156)  | 0.458**<br>(0.248)  |
| R <sup>2</sup> | 0.891               | 0.883               | 0.887                | 0.932                | 0.901               | 0.878               |
| Eq. (2)        | <b>1</b>            | <b>2</b>            | <b>3</b>             | <b>4</b>             | <b>5</b>            | <b>6</b>            |
| OEA            | -                   | -                   | -                    | -                    | -                   | -                   |
| NEA            | -0.024**<br>(0.009) | -0.029*<br>(0.017)  | -0.031*<br>(0.018)   | -0.029***<br>(0.012) | -0.019**<br>(0.009) | -0.021**<br>(0.011) |
| GCF            | 0.145**<br>(0.025)  | 0.119***<br>(0.026) | 0.187***<br>(0.037)  | 0.162***<br>(0.045)  | 0.189***<br>(0.052) | 0.152***<br>(0.041) |
| TR             | 0.059**<br>(0.021)  | 0.078**<br>(0.029)  | 0.066**<br>(0.025)   | 0.171***<br>(0.032)  | 0.159***<br>(0.041) | 0.162***<br>(0.033) |
| INF            | -0.445**<br>(0.133) | -0.461**<br>(0.221) | -0.501*<br>(0.362)   | -0.479**<br>(0.218)  | -0.331**<br>(0.139) | -0.518*<br>(0.316)  |
| GC             | 0.431***<br>(0.122) | 0.453***<br>(0.148) | 0.264**<br>(0.121)   | 0.349**<br>(0.169)   | 0.362**<br>(0.167)  | 0.629**<br>(0.303)  |
| R <sup>2</sup> | 0.953               | 0.945               | 0.944                | 0.935                | 0.915               | 0.902               |

As predicted, among efficiency-driven nations, the indices of governance impact need entrepreneurship negatively, with the possible exception of Model 4 (RQ).

**TABLE 5**  
**GROWTH IN INNOVATION-DRIVEN ECONOMIES AND OPPORTUNITY ENTREPRENEURSHIP ESTIMATION.**  
**ORIGINAL RESEARCH**

| Eq. (1)        | ODE                |                     |                     |                     |                     |                     |
|----------------|--------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
|                | Model 1 (VA)       | Model 2 (PS)        | Model 3 (GE)        | Model 4 (RQ)        | Model 5 (RL)        | Model 6 (CC)        |
| (VA)           | 0.22**<br>(0.016)  |                     |                     |                     |                     |                     |
| (PS)           |                    | 0.241***<br>(0.011) |                     |                     |                     |                     |
| (GE)           |                    |                     | 0.237***<br>(0.027) |                     |                     |                     |
| (RQ)           |                    |                     |                     | 0.178***<br>(0.034) |                     |                     |
| (RL)           |                    |                     |                     |                     | 0.197***<br>(0.033) |                     |
| (CC)           |                    |                     |                     |                     |                     | 0.219***<br>(0.048) |
| (GDP)          | 0.024**<br>(0.010) | 0.029**<br>(0.014)  | 0.035**<br>(0.012)  | 0.028**<br>(0.011)  | 0.021**<br>(0.008)  | 0.023**<br>(0.005)  |
| (TB)           | -0.42**<br>(0.146) | -0.38**<br>(0.139)  | -0.32**<br>(0.187)  | -0.53**<br>(0.211)  | -0.58**<br>(0.279)  | -0.64**<br>(0.291)  |
| (FIN)          | 0.251**<br>(0.101) | 0.311**<br>(0.132)  | 0.399**<br>(0.186)  | 0.431*<br>(0.202)   | 0.401*<br>(0.201)   | 0.451*<br>(0.233)   |
| R <sup>2</sup> | 0.924              | 0.894               | 0.995               | 0.884               | 0.876               | 0.912               |
| Eq. (2)        | 1                  | 2                   | 3                   | 4                   | 5                   | 6                   |
| ODE            | 0.05***<br>(0.013) | 0.049***<br>(0.012) | 0.048***<br>(0.016) | 0.039**<br>(0.011)  | 0.038**<br>(0.015)  | 0.051**<br>(0.019)  |
| NDE            | -                  | -                   | -                   | -                   | -                   | -                   |
| GCF            | 0.12***<br>(0.031) | 0.177***<br>(0.021) | 0.182***<br>(0.033) | 0.115**<br>(0.021)  | 0.131***<br>(0.041) | 0.18***<br>(0.033)  |
| TR             | 0.153*<br>(0.072)  | 0.058**<br>(0.023)  | 0.161***<br>(0.035) | 0.164**<br>(0.061)  | 0.152***<br>(0.033) | 0.15***<br>(0.03)   |
| INF            | -0.53**<br>(0.28)  | -0.62**<br>(0.34)   | -0.54**<br>(0.34)   | -0.66**<br>(0.29)   | -0.75**<br>(0.30)   | -0.54**<br>(0.33)   |
| GC             | 0.527**<br>(0.24)  | 0.45**<br>(0.20)    | 0.36**<br>(0.13)    | 0.28**<br>(0.12)    | 0.48**<br>(0.23)    | 0.74**<br>(0.39)    |
| R <sup>2</sup> | <b>0.929</b>       | <b>0.934</b>        | <b>0.957</b>        | <b>0.946</b>        | <b>0.932</b>        | <b>0.944</b>        |

What role does government play in shaping opportunities in innovation-driven economies? Enterprising individuals have a favorable impact on all predicted models.

**TABLE 6**  
**PROJECTION OF INNOVATION-DRIVEN ECONOMIC DEVELOPMENT, ENTREPRENEURIALISM, AND THE NEED**  
**FOR THE FORMER. ORIGINAL RESEARCH**

| Eq. (1)        | ODE                |                     |                      |                     |                     |                   |
|----------------|--------------------|---------------------|----------------------|---------------------|---------------------|-------------------|
|                | Model 1 (VA)       | Model 2 (PS)        | Model 3 (GE)         | Model 4 (RQ)        | Model 5 (RL)        | Model 6 (CC)      |
| (VA)           | -0.22**<br>(0.011) |                     |                      |                     |                     |                   |
| (PS)           |                    | -0.21***<br>(0.023) |                      |                     |                     |                   |
| (GE)           |                    |                     | -0.231***<br>(0.031) |                     |                     |                   |
| (RQ)           |                    |                     |                      | -0.19***<br>(0.021) |                     |                   |
| (RL)           |                    |                     |                      |                     | -0.23***<br>(0.031) |                   |
| (CC)           |                    |                     |                      |                     |                     | -0.24**<br>(0.03) |
| (GDP)          | 0.0027<br>(0.012)  | 0.0023<br>(0.006)   | 0.0039<br>(0.013)    | 0.0032<br>(0.007)   | 0.0021<br>(0.009)   | 0.002<br>(0.005)  |
| (TB)           | -0.44**<br>(0.165) | -0.34**<br>(0.121)  | -0.32**<br>(0.111)   | -0.59**<br>(0.233)  | -0.36**<br>(0.133)  | -0.61**<br>(0.25) |
| (FIN)          | 0.254**<br>(0.121) | 0.276**<br>(0.113)  | 0.24**<br>(0.117)    | 0.39**<br>(0.114)   | 0.42**<br>(0.192)   | 0.51**<br>(0.20)  |
| R <sup>2</sup> | 0.934              | 0.952               | 0.891                | 0.898               | 0.901               | 0.907             |
| Eq. (2)        | <b>1</b>           | <b>2</b>            | <b>3</b>             | <b>4</b>            | <b>5</b>            | <b>6</b>          |
| ODE            | -                  | -                   | -                    | -                   | -                   | -                 |
| NDE            | -0.069<br>(0.043)  | 0.043<br>(0.026)    | 0.032<br>(0.022)     | -0.041<br>(0.029)   | 0.035<br>(0.027)    | 0.039<br>(0.024)  |
| GCF            | 0.148**<br>(0.031) | 0.139**<br>(0.047)  | 0.18**<br>(0.035)    | 0.19**<br>(0.038)   | 0.166**<br>(0.052)  | 0.17**<br>(0.036) |
| TR             | 0.036<br>(0.021)   | 0.143<br>(0.083)    | 0.051**<br>(0.021)   | 0.068*<br>(0.036)   | 0.133**<br>(0.043)  | 0.12**<br>(0.031) |
| INF            | -0.43**<br>(0.23)  | -0.58**<br>(0.29)   | -0.42**<br>(0.18)    | -0.54**<br>(0.20)   | -0.46**<br>(0.21)   | -0.34**<br>(0.12) |
| GC             | 0.49**<br>(0.12)   | 0.39**<br>(0.21)    | 0.32**<br>(0.19)     | 0.32**<br>(0.15)    | 0.36**<br>(0.17)    | 0.31**<br>(0.14)  |
| R <sup>2</sup> | <b>0.956</b>       | <b>0.912</b>        | <b>0.902</b>         | <b>0.963</b>        | <b>0.941</b>        | <b>0.935</b>      |

## V. CONCLUSION

Gross domestic product growth and aggregate entrepreneurship are unrelated that we can detect. This lines up with the fact that entrepreneurial activity is quite diverse. Distinguishing between several forms of entrepreneurship and economic groupings is crucial, according to our empirical research. The Favourable correlation between opportunity-driven entrepreneurship and growth is more pronounced for emerging nations with a strong manufacturing sector. It seems to reason that creative entrepreneurs benefit greatly from rapid technical advancements in manufacturing, while more traditional entrepreneurs in the service sector must patiently adjust to the more moderate rate of technological change. In this study, we look at the potential effects of entrepreneurship driven by opportunity and by need on the growth of national economies throughout different stages of economic development. Our objective is to comprehend the relationship between by using the "Coleman Bathtub" paradigm. good and to derive conclusions on the possible importance of this connection between entrepreneurialism, economic growth, and governance. Information gathered suggests that entrepreneurialism's impact on GDP growth varies with the stage of an economy's life cycle. As can be shown from the results, low-quality governance may increase NDE while decreasing ODE.

## CONFLICT OF INTEREST

The authors declare no conflict of interest.

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