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# CONTRIBUTION OF BANKING AND STOCK MARKET DEVELOPMENT ON THE PROSPECTS OF NEW BUSINESS

*Contribuição do desenvolvimento bancário e bolsa na perspectiva de novos negócios*

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## ABSTRACT

The relationship between entrepreneurship and financial development is essential for economic growth and stability of a country. The success of entrepreneurship is heavily influenced by the financial sector development as the financial sector provides a platform for companies to raise capital and obtain funding for expansion and progress. Therefore, the main objective of the current study is to explore the effects of financial sector development on the entrepreneurship progress. The data is collected from minimum 53 countries based on available data and analyzed by using Panel Feasible Generalized Least Squares (FGLS) regression method. The results show a positive association between entrepreneurial intentions and entrepreneurship development in the presence of banking sector progress. Whereas, perceived opportunities have negative association with the entrepreneurship development with the growth of banking sector, stock market and financial market. Results also indicate a positive association between opportunity entrepreneurship and entrepreneurship development. These findings have implication for policy makers to promote a well-developed financial sector in order to encourage new business entrants.

**Key-words:** Moderator Model; Entrepreneurship Development; Stock Markets; Banking Sector.

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# CONTRIBUIÇÃO DO DESENVOLVIMENTO BANCÁRIO E BOLSA NA PERSPECTIVA DE NOVOS NEGÓCIOS

*Contribution of banking and stock market development on the prospects of new business*

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## RESUMO

A relação entre empreendedorismo e desenvolvimento financeiro é essencial para o crescimento econômico e a estabilidade de um país. O sucesso do empreendedorismo é fortemente influenciado pelo desenvolvimento do setor financeiro, pois o setor financeiro fornece uma plataforma para as empresas levantarem capital e obterem financiamento para expansão e progresso. Portanto, o principal objetivo do presente estudo é explorar os efeitos do desenvolvimento do setor financeiro no progresso do empreendedorismo. Os dados são coletados de no mínimo 53 países com base nos dados disponíveis e analisados usando o método de regressão de painéis mínimos generalizados viáveis (FGLS). Os resultados mostram uma associação positiva entre as intenções empreendedoras e o desenvolvimento do empreendedorismo na presença do progresso do setor bancário. Já as oportunidades percebidas têm associação negativa com o desenvolvimento do empreendedorismo com o crescimento do setor bancário, bolsa de valores e mercado financeiro. Os resultados também indicam uma associação positiva entre o empreendedorismo de oportunidade e o desenvolvimento do empreendedorismo. Essas descobertas têm implicações para os formuladores de políticas promoverem um setor financeiro bem desenvolvido, a fim de incentivar novos entrantes de negócios.

**Palavras-chave:** Modelo de moderador. Desenvolvimento de Empreendedorismo. Mercado de ações. Setor bancário.

# INTRODUCTION

An idle money, machine or method is going to perish. It is only a matter of time. We get something out of all the factors of production by their combination. This way, we develop a mechanism whereby the resources are used, profits are generated, and society at large is able to set and accomplish various objectives. It is the entrepreneurs of a nation who come up with their risk taking innovative futuristic ideas to take a start and then embark on business journeys that take years to be an established successful practice (Gunewardena & Seck, 2020). In this process, entrepreneurs need financial support from their country' money markets. Financial institutions being the senior and experienced partners should provide ample finance and technical expertise to new entrepreneurs so that they start their business activities as smoothly as possible (Pradhan, Arvin, Hall, & Bahmani, 2014). Financial institutions can help in risk assessment and financial planning. In return, the entrepreneurs will generate new jobs, revenues, profits, losses, and other business activities (Ngo & Nguyen, 2022). The successful venture between banks and entrepreneurs will mean an active and bullish economy, resulting in improved country growth and development.

The process of identifying and innovatively solving a problem through a business venture is called entrepreneurship (Fogel, Hawk, Morck, & Yeung, 2006). It is open to all individuals. But in order to be an entrepreneur one needs to be innovative, risk taking and passionate about the business problem in question. Entrepreneurship is important because it helps to create jobs, solve business problems of society and boost the economy of a country (Zahra, Gedajlovic, Neubaum, & Shulman, 2009). The entrepreneurs should have a certain set of skills, including effective communication, teamwork, team building, clear goal, mutual respect, kindness, trust, strong communication and leadership. Above all, an entrepreneur should be untiringly resilient. Entrepreneurs should not be afraid of failures and trying again and again. Success does not come easy. Entrepreneurship is key to growth and expansion of economy and maintaining good grade of life style in a country/region. Although entrepreneurs and small businesses are fighting hard for their own business visions and profit motives, their activities produce waves of economic activities which are far more beneficial to the locality, cities, towns and countries of their origin (Ebong, 2022).

Now the situation is such that we have entrepreneurs in the society seeing problems and opportunities and willing to take on challenges coming in their way to achieve their business objectives but most of the time they are short of required finances to give a jump start to their business ideas (Amin, Khan, & Maqsood, 2021). According to Global Entrepreneurship Monitor Report (2022, p. 13), in 2021, more than one in two entrepreneurs agreed that starting a business had become more difficult in 18 of 47 economies. In 2020, almost twice as many (33 out of 46 economies) had 50% or more of their would-be entrepreneurs agreeing that this was the case. Moreover, sustainable business owners, however, find it challenging to change the market on their own. As a result, they depend on the assistance of the government and other stakeholders to improve mediation, more ambitious political policies, infrastructure, and social norms that foster more sustainable lives (Veleva, 2021). These individuals need support and guidance form the country, financial institutions and banks. The latter being their immediate source of finance. Banks are the experienced partners in this transaction (Omoruyi & Ahmed, 2014). Entrepreneurs are risk takers and banks are risk mitigators. They have to have a balance where entrepreneurs successfully implement their innovative ideas without a major fail and both parties achieving win-win solution to the business problem (Agostino, Errico, Rondinella, & Trivieri, 2022). As we expect success, the idea generates jobs, triggers economic activity and improves overall economic situation of the country.

After going through early stages of businesses, an entrepreneur may choose to go for public funding (Wagner, 2006). This gives him/her opportunity to openly implement business ideas with access to ample funds without excuse for nonperformance. At the same time, it makes entrepreneurs more responsible in front of all stakeholders involved in their business chain. And when entrepreneurs compete, this results in job creation, asset utilization and wealth maximization of economy. It benefits financial institutions, entrepreneurs, society and economy (Rusu, Roman, Tudose, & Cojocaru 2022). Financial considerations are undoubtedly important, especially in the early stages of entrepreneurship. One of the biggest challenges for an entrepreneur has been identified as a lack of financial resources (Reynolds, Hay, Bygrave, Camp, & Autio, 2000). In fact, lack of finance is one of the prominent reasons for a business exit (Global Entrepreneurship Monitor Report, 2022, p. 77).

All this above discussion suggests for a very strong interaction between entrepreneurs, banks and stock exchange of a country. Apparently at first instance it seems it is just the entrepreneur in the needy situation but the debate concludes that in order to have an efficient and robust economy, all these three players should play their vital and necessary part as and when needed to accomplish entrepreneurial motives existing in economy. In fact, the yield of these players is actually very fruitful for the economy as a whole. And if we consider a scenario where there is little or no cooperation between entrepreneurs, financial institutions, and markets, the answer is not difficult to judge. Keeping all other things aside, first obvious feel is negativity. We have to have a situation in economy where there is full awareness among all financial institutions, aspiring and existing entrepreneurs and allied social linkages. Therefore, the main objective of the current study is to explore the association between the role of bank and stock market on entrepreneurship development. This study explores the role of intentions and opportunities on entrepreneurship while exploring the moderating role of banking sector, stock market and financial market.

## 1 LITERATURE REVIEW

### 1.1 Entrepreneurship

For a nation, entrepreneurship works as an asset and thus the entrepreneurs are managing the maintenance of this asset. These ways of managing are rhythmic, resulting in increased national wealth and improvement in overall wellbeing of common man in society. This entrepreneurial mindset also helps in shaping the society therefore it seems sensible to look after, stimulate and promote such activities to the maximum possible levels (Gunewardena & Seck, 2020). Implementation of entrepreneurial mindset through a certain behavior and usage of required framework has a substantial effect on the outlook of any economy (Vatavu, Dogaru, Moldovan, & Lobont, 2022). Entrepreneurship involves generation of profit using all factors of production such as intellect, manpower, available materials of nature along with money and machines. As nations compete against one another in this global market, it becomes essential for them to have a strong definition of entrepreneurship which involves discovering new things, gaining new knowledge, taking timely risks so that they compete and achieve targets in a continuously changing global world.

However, entrepreneurship intensions, perceived opportunities and opportunity entrepreneurship are the essential factors for the business development. Entrepreneurial intensions play vital role in the business startups (Botsaris & Vamvaka, 2016; Robert, Christopher, & Nilolay, 2011; Shah, Amjed, & Jaboob, 2020). Tian, Akhtar, Qureshi, and Iqbal (2022) explain that entrepreneurs' intensions are the significant factors that affect economic development. Moreover, Nguyen (2018) indicates that entrepreneurs intensions significantly contribute to the socio economic developments of the country. Likewise, Entrepreneurs always explore potential opportunities whether for starting a new business or developing the existing one (Rudhumbu, du Plessis, & Maphosa, 2020; Tehseen & Haider, 2021; Tian et al., 2022). Likewise, Aparicio, Urbano, and Audretsch (2016) mention that opportunity entrepreneurship is also a significantly related with the economic development.

The literature and its practice imply that entrepreneurship keeps the wheels of economy running. In fact, it's this activity which determines the incremental growth rates and economic development of a nation. The growth is directly dependent on the number and performance of steps taken by entrepreneurs. In short if we trigger entrepreneurial initiatives and performances, we can develop national market economy (Rusu et al., 2022). Entrepreneurs are actually agents of economic changes in the circles of their society. Successful startups and maintenance of existing businesses always results in increment in wealth of a society as a whole. (Zahra et al., 2009). The small entrepreneurs in fact fight against heavy profit taking organizations, complex market systems and assure the reinvestment of their productive results in the social communities, groups, and stakeholders (Phillips, Lee, Ghobadian, O'regan, & James, 2015).

## 1.2 Financial development impact on Entrepreneurship

Economic growth and development plays a pivotal part in the entrepreneurial makeup, new ideas, implementation, and spread (Dutta & Meierrieks, 2021). Financial development can be defined as the mix of complexity, approachability, proficiency and solidity in financial activities (Gupta & Mahakud, 2019). Economic growth advances the monetary segment of the economy (Pradhan et al., 2014) through well-organized distribution of resources (Cherif & Dreger, 2016). Financial development is needed to accomplish development for the entire financial sector (Zaman, Izhar, Khan, & Ahmad, 2012). Ngo and Nguyen (2022) and Amin et al. (2021) determine that financial development is key to achieving substantial n business growth. Concurrently, financial development permits entities to reach better capital (Owen & Pereira, 2018) and to better their capital structure (Fafchamps & Schündeln, 2013), hence encouraging investment for the business.

Monetary concerns are without doubt among the most significant factors in the initial phases of entrepreneurship. In fact, arrangement of highly liquid finances has been seen as the biggest problem for nascent entrepreneurs. They suffer due to lack of finances (Global Entrepreneurship Monitor Report, 2022). Their growth rate is hampered (Wagner, 2006). Further, in order to enter the markets, the entrepreneurs find themselves in essential need of regular market and private credits and non-provision of finance works as obstacle in the way of developing new firms (Baliamoune, Brixiová, & Ndikumana, 2011; Klapper, Laeven, & Rajan, 2004). At the same time easy availability of capital, entrepreneurial chances, and capacity size and capacity are significant determinants of entrepreneurship. Banks and stock markets are the important actors of financial expansion of the economy (Omoruyi & Ahmed, 2014).

According to Rusu et al. (2022), the vital part played by a continued entrepreneurial activity for generating the competitive environment and economic growth of countries. They further explore that many different indicators determining entrepreneurial performance meaningfully affect attractiveness and monetary growth. There are segments of commercial banks known as development banks. Such banks can lend necessary required credits and work as vital means of economic expansions. They could do so by helping private sector. The scope of their operations can be broad. They can either target and focus on customers like SMEs and start-ups or may have a diversified scope by involving themselves in national infrastructural projects linked with country growth (Bongini, Iwanicz-Drozdowska, Smaga, & Witkowski, 2017).

Financial institutions mainly banks have a significant role to act in the growth and expansion of entrepreneurship (Ghosh, 2021). Many entrepreneurs are out in the field who have the desire and will to initiate and promote their own business activities but are short of finances. Bank are one most widely and directly available source of finance for such entrepreneurs. New businesses can use these banks funds for their ambitions. (Agostino et al., 2022).It is particularly tough and tedious for new sole proprietors and SMEs to get finances for them through equity because they do not have adequate awareness of money markets and finances. Funds are like blood for new businesses and without injection of new funds, they cannot develop and expand. So, in order to keep going, the entrepreneurs are left with choice of lending from banks. Credit supply in economy is directly affected by banks. So they can work as catalytic agent for new business entrants (Elitcha, 2021). Further, the banks have their own set of skills, knowledge, can use their wealth, capability, proficiency goodwill, and marketing abilities with necessary resources to help and stimulate their needy entrepreneurial clients with the intent of maintaining successful long-term relationships and provide both monetary and non-monetary services. Overall, the market economy responds to produce legal chances for the circulation of currencies and wealth of developed countries in the domestic market. Entrepreneurs should be in a capable position to effectively carry out their money-related activities, buy new machines and equipment along with latest technology in any international currency and thus enhance the standards in production and service enterprises, produce high quality items in the manufacturing sector and generate meaningful volumes of profits from the selling activity (Hakimovna & Muhammed, 2022).

According to A. K. Singh (2013), financial institutions and commercial banks have provided monetary services and assistance to entrepreneurs other than just following normal process of money collection, deposits and disbursals.. It is of immense value to entrepreneurs. It is of immense value to entrepreneurs. The entrepreneurs should take advantage of such opportunities and cooperation on offer from banks to develop the entrepreneurship (Mudugal, 2020). Likewise, Singh, Mahal, Kumar, and Chahal (2020) disclose that the banking industry can augment the process of start-ups for young generations for new business ventures and help them financially and technologically. Growth in banking sector should not only increase the enlargement ability of the entrepreneur but also the throughput. (Adeoye, 2016). Interestingly, this expansion in entrepreneurial activities directly increases need for banking services. This can result in more demand for development of financial sector (Shahabadi, Moradi, & Rahwardarzadeh, 2021).

Besides, Tatarinov and Fihurovska (2019) look into the interplay of stock market and the business development and propose that it is possible for small and medium-sized entrepreneurship with new ideas to effectively take part in the progress of stock market that can meaningfully shake market capitalization. Georgiou (2009) specifies that standard of entrepreneurship is the most vital element to ascertain share prices having a positive impact on share prices. Similarly, Michelacci and Suarez (2004) bring out few academic connections between the actions of stock exchanges and venture capital investors whereby the finance new business activities. They explore businesses, studying their association with business initiation, generation, modernization and economic progress and accomplish that stock market encourages progression through business creation rather than savings. According to Cunat (2015), trends show that the loans disbursed to families and companies after 2008 are decreasing every year. This decline in loan grants has resulted in fewer new business projects and it prompted new born businesses to get funding from the stock market to sustain and to accomplish their business ideas.

Hence, the above discussion conclude that entrepreneurship is the main driver of the economy which plays a vital role in the economic growth and development of the economies. Also, entrepreneurship intensions, perceived opportunities and opportunity entrepreneurship play significant role in the business development of the economies (Aparicio et al., 2016; Botsaris & Vamvaka, 2016; Robert et al., 2011; Shah et al., 2020). Although this development is directly associated with the entrepreneur's initiatives and performances, there is a very strong association between entrepreneurs, banks and stock exchange of a country. The banks and the stock market can play their vital and necessary part as and when needed to accomplish entrepreneurial motives existing in economy. In fact, the yield of these players is actually very fruitful for the country's economy as a whole. Therefore, the main objective of the current study is to explore the role of banks and stock market in the development of entrepreneurship.

## 2 METHODOLOGY

### 2.1 Variables and Data Sources

Table 1 provides the list of variables whose data is collected by this study, including their definition and data sources. Here Entrepreneurship (NBR) is dependent variable while others are independent variables. Here the three instruments of financial sector namely banking sector development (BM), stock market development (ST) and overall financial sector development (FMD) are used as a moderator to entrepreneurial intentions (INTENT), perceived opportunities (PO) and opportunity driven entrepreneurship (OOP) against entrepreneurship (NBR) measured using new business density.

**Table 1 – Variables and Data Sources**

| **Name (Symbol)** | **Definitions and Units** | **Source** |
|---|---|---|
| Entrepreneurship (NBR) | New Business Density (per Capita) | World Development Indicators |
| Entrepreneurial Intentions (INTENT) | Proportion of 18-64 population who intend to become entrepreneur within 3 years | Global Entrepreneurship Monitor |
| Perceived Opportunities (PO) | Proportion of 18-64 population who have observed good opportunities in their locality | Global Entrepreneurship Monitor |
| Opportunity Driven Entrepreneurship (OOP) | Proportion of 18-64 population who are improvement driven or opportunity motivated entrepreneur | Global Entrepreneurship Monitor |
| Banking Sector Development (BM) | Broad Money as % of GDP | World Development Indicators |
| Stock Market Development (ST) | Stock Value Traded % of GDP | World Development Indicators |
| Higher Education (TER) | Tertiary School Enrollment | World Development Indicators |
| Financial Market Development (FMD) | $8^{th}$ pillar of Global Competitiveness Index. Index based on 7 depth and 4 stability indicators | World Economic Forum– Global Competitiveness Index |

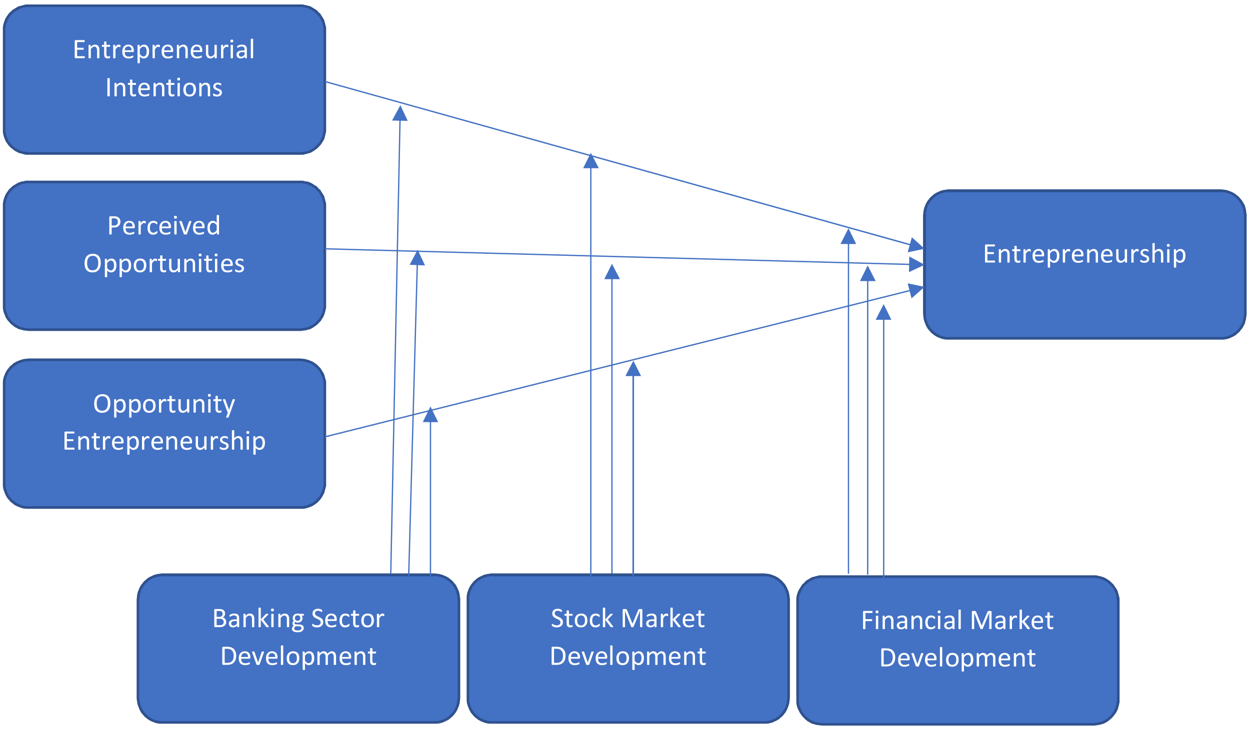
Source: Prepared by the authors

## 2.2 Theoretical Model

Although this study finding a direct relationship between entrepreneurship and financial development, yet it can be advocated that there is a negative element too associated with better financial development for the entrepreneurs. For example, in efficient economies where financial systems are highly developed, efficient and meritorious, thus more firms have easy and wider access to sources of credits and finances and it boosts their activities of research and development and new ventures (Fisherman & Love, 2003). This phenomenon results in intrapreneurship (Haitiwanger et al., 2013) or competition within industry entrepreneur (Berger & Udell, 1998; World Bank, 2015). However, the new entrepreneurs ideally want funds for making better products and development processes difficult enough to imitate either from within or outside the firm. Once the nascent entrepreneur gains competitive advantage, it makes things difficult for competitors and has less chance of facing intrapreneurship with more easy finance availability.

However. in general, improved financial development will still support even intrapreneurship along with entrepreneurship. It is because the financial development system is required to support the new ventures no matter, they are new or result of intrapreneurship. Conclusively, the interaction between financial development and entrepreneurship is complicated and multi-faceted. Financial development affects entrepreneurship through various factors like economic development, quality of political, social and legal regulatory framework, and they quality and quantity of entrepreneurial intentions and perceived opportunities.

**Figure 1- Theoretical Model**




Source: Prepared by the authors

## 2.3 Estimation Equation and Method

Following three equations are used to estimate the effect of financial sector development on the entrepreneurial intentions to entrepreneurship relationship. These equations are estimated using Panel Feasible Generalized Least Squares (FGLS) regression method. The advantage of this method is that it controls the cross-sectional heterogeneity using fixed effect specification and other forms of heterogeneity using robust variance covariance matrix (Ahmad et al., 2022; Arshed, Hameed, & Saher, 2022; Arshed, Rauf, & Bukhari, 2021; Greene, 2012). Studies like Ahmad et al. (2022), Arshed et al. (2021) and Arshed et al. (2022) used FGLS model in determining entrepreneurship in panel data setup.

$$NBR_{it} = \alpha_1 + \alpha_2 INTENT_{it} + \alpha_3 PO_{it} + \alpha_4 OOP_{it} + \alpha_5 (INTENT * BM)_{it} + \alpha_6 (PO * BM)_{it} + \alpha_7 (OOP * BM)_{it} + \alpha_8 BM_{it} + \alpha_9 TER_{it} + e_t - (1)$$

$$NBR_{it} = \alpha_1 + \alpha_2 INTENT_{it} + \alpha_3 PO_{it} + \alpha_4 OOP_{it} + \alpha_5 (INTENT * ST)_{it} + \alpha_6 (PO * ST)_{it} + \alpha_7 (OOP * ST)_{it} + \alpha_8 ST_{it} + \alpha_9 TER_{it} + e_t - (2)$$

$$NBR_{it} = \alpha_1 + \alpha_2 INTENT_{it} + \alpha_3 PO_{it} + \alpha_4 OOP_{it} + \alpha_5 (INTENT * FMD)_{it} + \alpha_6 (PO * FMD)_{it} + \alpha_7 (OOP * FMD)_{it} + \alpha_8 FMD_{it} + \alpha_9 TER_{it} + e_t - (3)$$

# 3 RESULTS

Table 2 provides descriptive statistics. Here variables like INTENT, PO, OOP, BM, TER and FMD have mean values higher than standard deviations denoting them as underdispersed while others are overdispersed in the sample. While for most cases skewness and kurtosis deviate away from 0 to 3 respectively showing that the variables are statistically not normal. But since the data has more than 30 observations, hence it can be assumed that the variables are asymptotically normal.

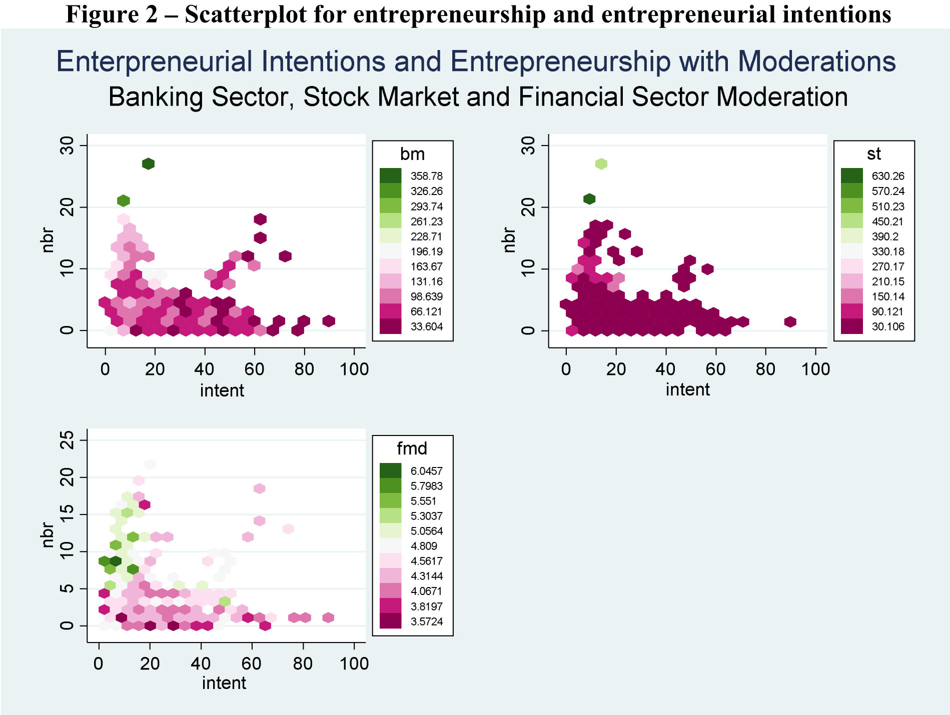
**Table 2 – Descriptive Statistics**

| Statistic | NBR | INTENT | PO | OOP | BM | ST | TER | FMD |
|---|---|---|---|---|---|---|---|---|
| Mean | 3.674 | 22.153 | 43.403 | 47.883 | 45.384 | 27.471 | 24.835 | 4.148 |
| Std. | 6.000 | 16.310 | 17.218 | 12.783 | 36.715 | 61.893 | 24.091 | 4.094 |
| Skewness | 5.371 | 1.185 | 0.154 | 0.014 | 2.293 | 6.649 | 1.174 | 0.111 |
| Kurtosis | 51.497 | 3.979 | 2.596 | 2.414 | 18.384 | 68.855 | 3.827 | 2.621 |

Source: Prepared by the authors

Figure 2 compared the graphical association between entrepreneurial intentions and entrepreneurship with different moderations of financial sector development indicators. In all cases, it is to be noted that there is generally negative association between intentions and entrepreneurship but for the high incidence of financial sector development there is high entrepreneurship even at low levels of intentions.

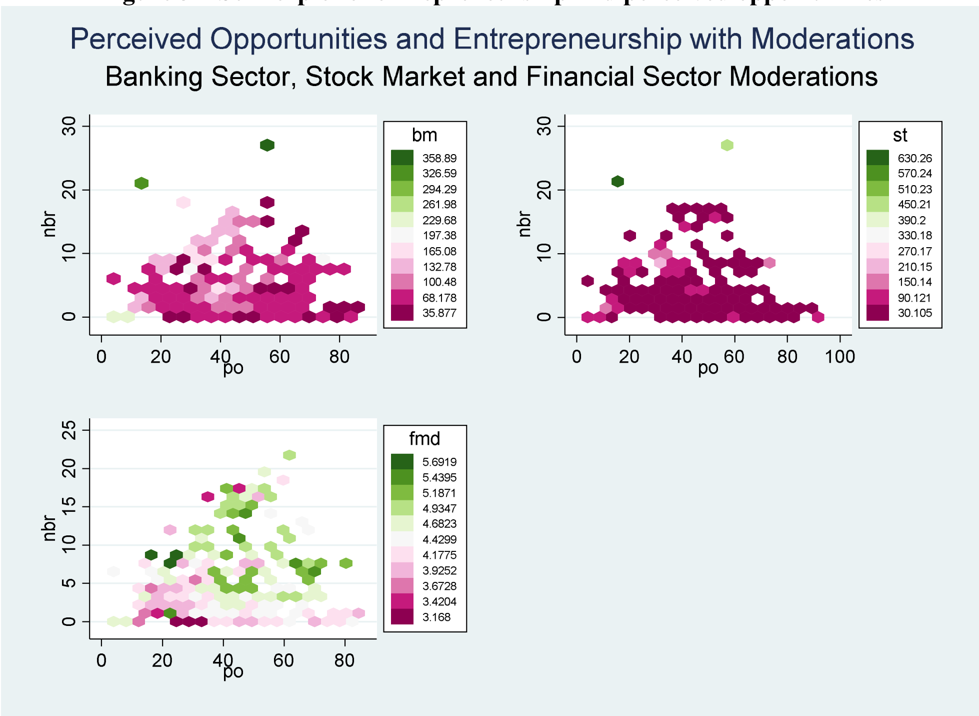
**Figure 2 – Scatterplot for entrepreneurship and entrepreneurial intentions**




Source: Prepared by the authors

Figure 3 compared the graphical association between perceived opportunities and entrepreneurship with different moderations of financial sector development indicators. In all cases, it is to be noted that there is generally positive association between perceived opportunities and entrepreneurship and there is high entrepreneurship for the case of high financial sector development.

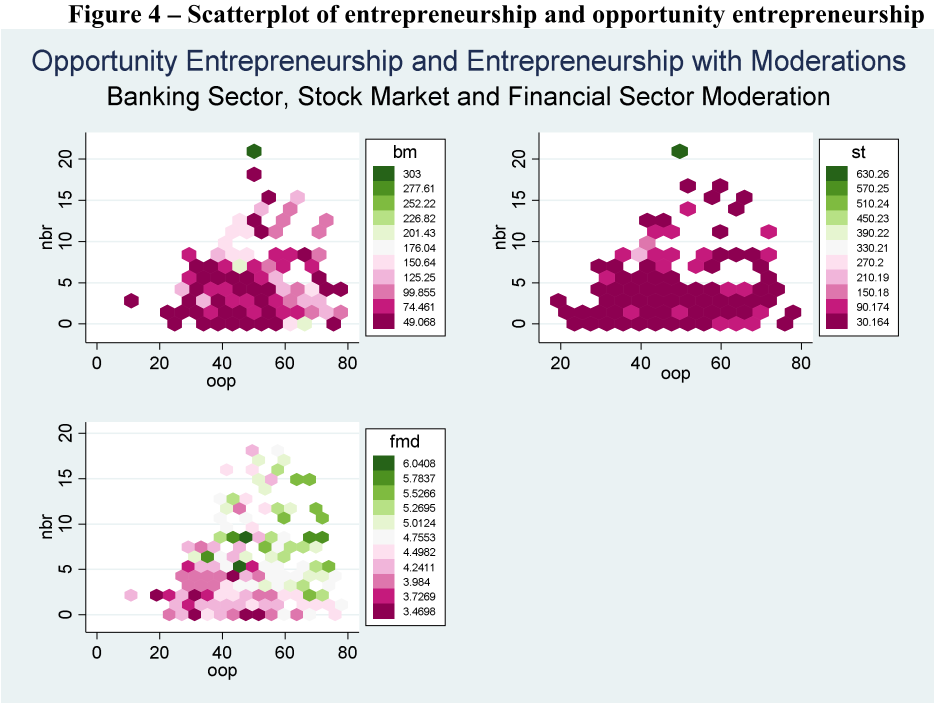
**Figure 3 – Scatterplot of entrepreneurship and perceived opportunities**




Source: Prepared by the authors

Figure 4 compared the graphical association between opportunity entrepreneurship and entrepreneurship with different moderations of financial sector development indicators. In all cases, it is to be noted that there is generally positive association between opportunity entrepreneurship and entrepreneurship and there is high entrepreneurship for the case of high financial sector development as also indicated by Agostino et al. (2022).

**Figure 4 – Scatterplot of entrepreneurship and opportunity entrepreneurship**




Source: Prepared by the authors

Table 3 provides the regression estimates of equation 1, 2 and 3 using Panel FGLS method. In these three cases, the sample size is 208, 223 and 290 respectively, allowing us to use the central limit theorem and assume data to be normally distributed. Here for all models the Wald test is significant confirming that the models are fit.

While assessing the role of entrepreneurial intentions (INTENT), it is significant in only equation 1 model. Here 1% increase in INTENT leads to 0.069% increase in NBR. This shows that an individual with intentions would set a conscious plan to engage in new venture (Shah et al., 2020).

For the case of perceived opportunities (PO) it has negative effect on all the models. A 1% increase PO leads decrease in NBR by 0.035%, 0.027% and 0.319% in equation 1, equation 2 and equation 3 respectively. Several studies have confirmed that the link between perceived opportunities and entrepreneurship is not straight forward. It depends on the risk averse nature, capabilities, confidence and access to resources for the individual (Wiklund et al., 2003; Wennekers et al., 2008).

For the case of opportunity entrepreneurship (OOP), it is positive significant in all models. A 1% increase in OOP will lead to increase in NBR by 0.109%, 0.052% and 0.207% in equation 1, equation 2 and equation 3 respectively. This indicates that individuals who are starting businesses by seeking improvement driven venture they would likely to have higher new business formation rates. These results are similar with the findings of (Aparicio et al., 2016).

**Table 3 – Regression Estimates**

| FGLS Model – Dependent Variable (Entrepreneurship - NBR) | | | | | |
|---|---|---|---|---|---|
| Equation 1 – Banking Sector | | Equation 2 – Stock Market | | Equation 3 – Financial Sector | |
| Variable | Coeff. (Prob.) | Variable | Coeff. (Prob.) | Variable | Coeff. (Prob.) |
| INTENT | 0.069 (0.00)** | INTENT | 0.007 (0.59) | INTENT | -0.071 (0.19) |
| PO | -0.035 (0.05)* | PO | -0.027 (0.01)* | PO | -0.319 (0.00)** |
| OOP | 0.109 (0.00)** | OOP | 0.052 (0.00)** | OOP | 0.207 (0.00)** |
| INTENT*BM | -0.002 (0.00)** | INTENT*ST | -0.001 (0.00)** | INTENT*FMD | 0.024 (0.04)* |
| PO*BM | 0.001 (0.00)** | PO*ST | 0.001 (0.00)** | PO*FMD | 0.072 (0.00)** |
| OOP*BM | -0.001 (0.00)** | OOP*ST | -0.001 (0.00)** | OOP*FMD | -0.046 (0.00)** |
| BM | 0.084 (0.00)** | ST | 0.051 (0.00)** | FMD | 0.812 (0.15) |
| TER | 0.050 (0.00)** | TER | 0.020 (0.00)** | TER | 0.034 (0.00)** |
| Cons. | -5.884 (0.00)** | Cons. | -0.219 (0.71) | Cons. | -2.267 (0.29) |
| Sample | 208 | | 223 | | 290 |
| Cross-sect. | 53 | | 53 | | 66 |
| Wald (Prob.) | 738.7 (0.00)** | | 160.1 (0.00)** | | 630 (0.00)** |

Legend: ** significant at 1% and * significant at 5%. Source: Prepared by the authors

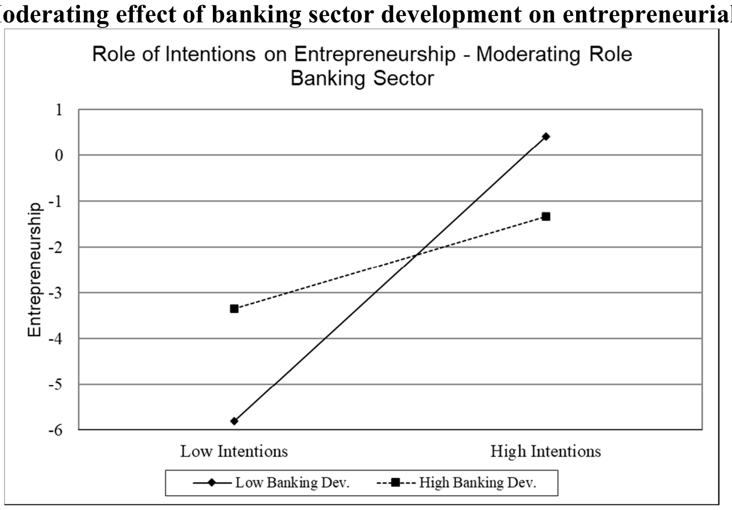
For the case of tertiary enrollment (TER) it has a positive significant effect on NBR in all models. A 1% increase in TER leads to increase in NBR by 0.05%, 0.02%, and 0.03% in equation 1, equation 2 and equation 3 respectively. Access to higher education improves the meta competencies of individual to increase likelihood of becoming and entrepreneur (Shah et al., 2020) (Arshed et al., 2021).

In the estimates of equation 1, a 1% increase in banking sector development (BM) leads to increase NBR by 0.08%, these results are similar with the findings of (Agostino et al., 2022; Ghosh, 2021). Development in banking sector helps in increasing financial inclusion and mitigating risks using hybrid products. In this model, BM has shown positive moderation with PO (figure 6) and negative moderation with INTENT (figure 5) and OOP (figure 7). Beck et al. (2009) showed that improvement in banking sector increases access to credit and diminishes the financial constraints to enter into a new business. Further the venture capital programs in banks can help via mentorship and encouragement to become entrepreneur.

In the estimates of equation 2, a 1% increase in stock market development (ST) leads to increase in NBR by 0.051%. Countries with developed stock market tend to improve the accessibility to access equity financing to mitigate their business risks (Ayyagari et al., 2011). In this model, ST positively moderates PO (figure 9) and negatively moderates INTENT (figure 8) and OOP (figure 10). A developed market works as a signal that existing business are gaining from equity-based transactions (Zhao & Seibert, 2006).

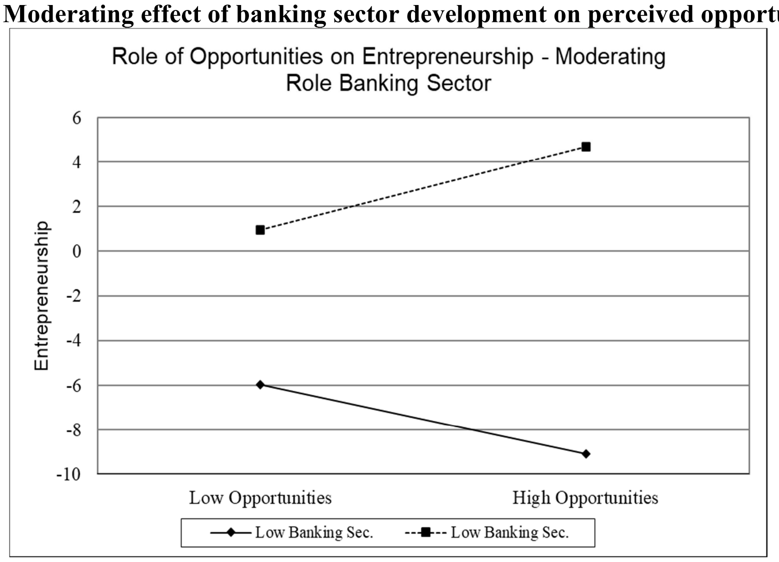
In the estimates of equation 3, a 1% increase in the financial sector development (FMD) leads to increase in NBR by 0.81%. These results are similar with the findings of (Amin et al., 2021; Ngo & Nguyen, 2022). In this model, FMD positively moderates INTENT (figure 11) and PO (figure 12), as suggested by (Linan & Fernandez-Serrano, 2014). FMD also negatively moderates OOP (figure 13) because improved financial system enables bigger firms to develop in house research and development division leading to a competitive advantage over smaller firms (Klapper et al., 2006).

**Figure 5 – Moderating effect of banking sector development on entrepreneurial intentions**



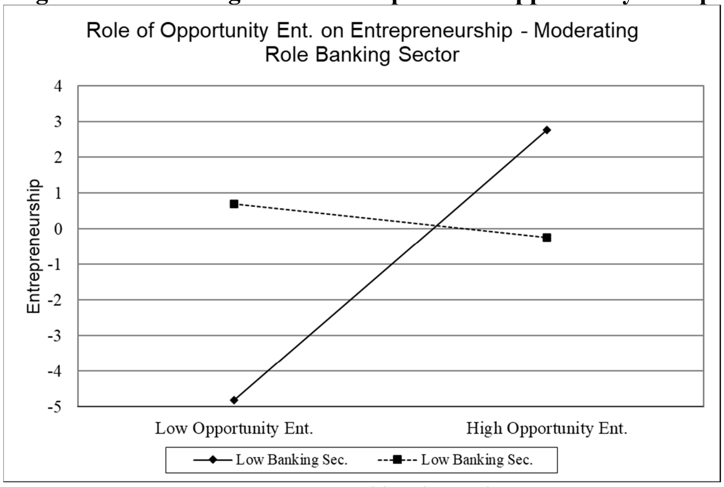

Source: Prepared by the authors

**Figure 6 – Moderating effect of banking sector development on perceived opportunities**



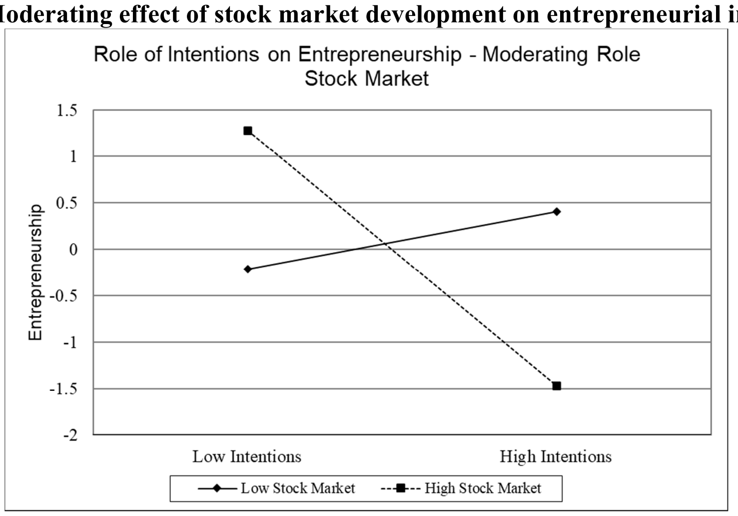

Source: Prepared by the authors

**Figure 7 – Moderating effect of banking sector development on opportunity entrepreneurship**



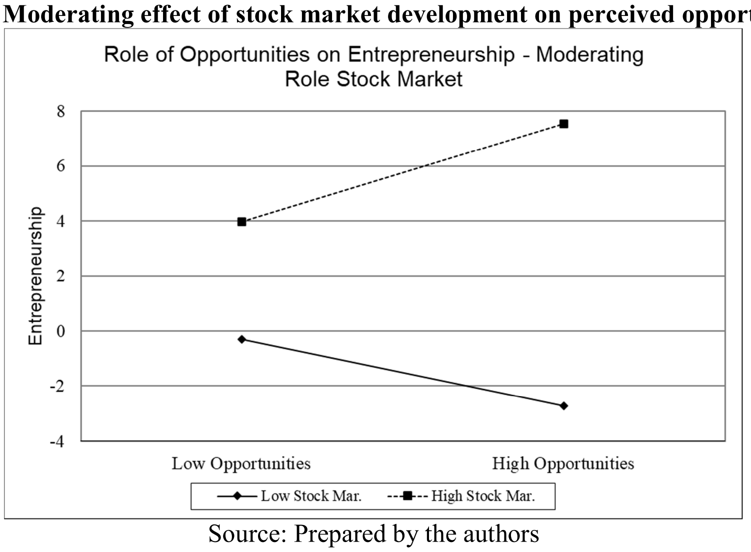

Source: Prepared by the authors

**Figure 8 – Moderating effect of stock market development on entrepreneurial intentions**



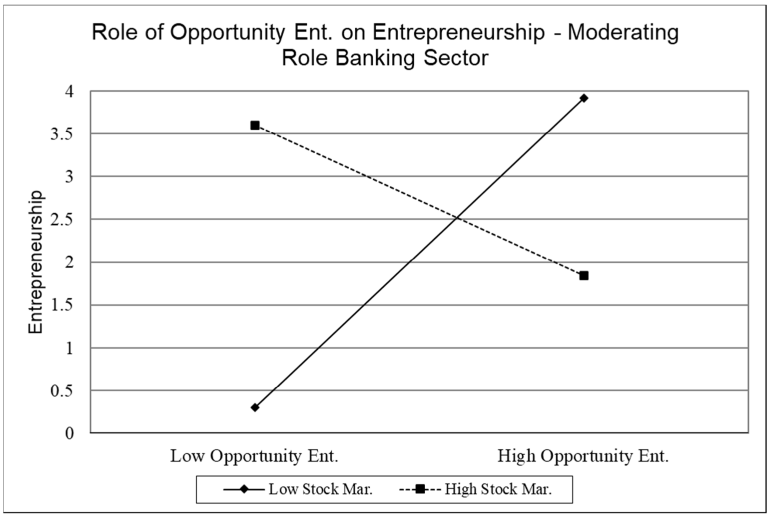

Source: Prepared by the authors

**Figure 9 – Moderating effect of stock market development on perceived opportunities**



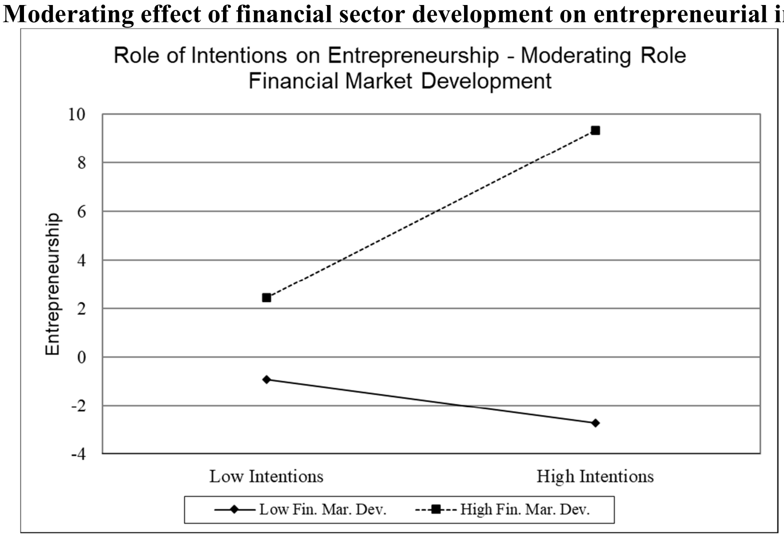

Source: Prepared by the authors

**Figure 10 – Moderating effect of stock market development on opportunity entrepreneurship**



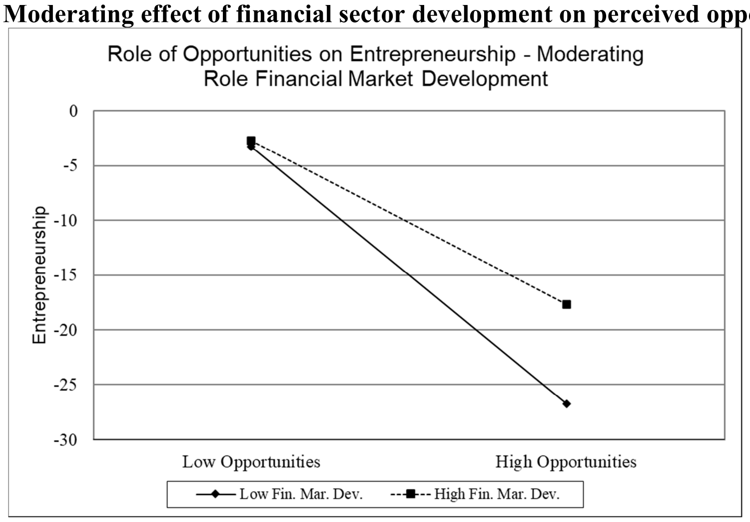

Source: Prepared by the authors

**Figure 11 – Moderating effect of financial sector development on entrepreneurial intentions**



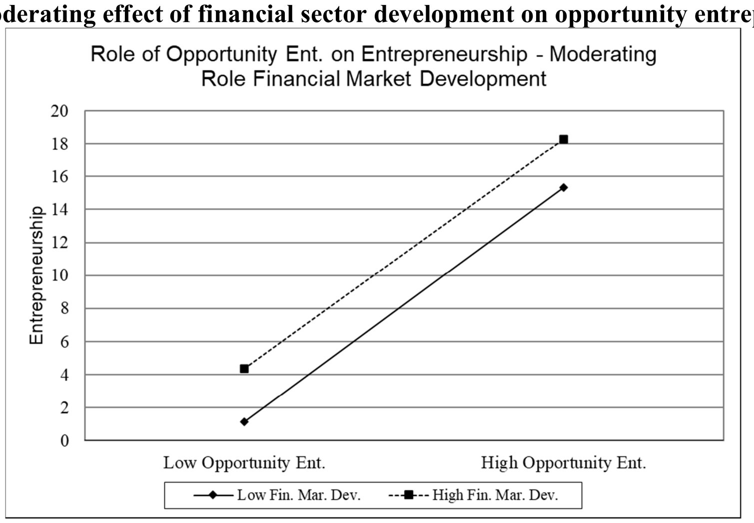

Source: Prepared by the authors

**Figure 12 – Moderating effect of financial sector development on perceived opportunities**




Source: Prepared by the authors

**Figure 13 – Moderating effect of financial sector development on opportunity entrepreneurship**




Source: Prepared by the authors

## CONCLUSION AND POLICY IMPLICATIONS

Robust financial sector plays a crucial role in promoting entrepreneurship growth by providing necessary financial support for the new businesses from intentions to launching the business. A strong banking system, stable stock market and efficient financial market not only induce new business entrance but also support entrepreneurship expansion. But on the other size, a strong financial system also assists the existing large industries which creates a competitive environment for the entrepreneurs.

Therefore, this paper examines the effect of financial sector development on the entrepreneurship. Panel Feasible Generalized Least Squares (FGLS) regression method. The data is collected for 53 countries in the stock market and banking sector models and 66 countries for financial market development model. The results show a positive association between entrepreneurial intentions and entrepreneurship development in the presence of banking sector progress. Whereas, perceived opportunities have negative association with the entrepreneurship development with the growth of banking sector, stock market and financial market. Results also indicate a positive association between opportunity entrepreneurship and entrepreneurship development.

These findings have implication for policy makers to promote a well-developed financial sector in order to encourage new business entrants. The governments and societies can contribute to the culture of increased entrepreneurship by providing suitable conditions and environment in the form of easy credit, venture capital, grants, donations, social collaterals and gifts for new business entrants. There should be special emphasis on developing infrastructures in the form of small and medium enterprises banks, microfinance banks with special allocation of resources and guidance to new businesses and entrepreneurs. The governments should develop all-inclusive frame work for its new entrepreneurs in the shape of supportive legal frame work and access to financial services and improving financial literacy of the new entrepreneurs all across the country. There should be a process for welcoming risk-taking entrepreneurs through some form of insurance and reinsurance by government and its agencies so that businesses could invest and grow without worrying about risk of failure.

## REFERENCES

Adeoye, A. (2016). Microfinance Bank and Entrepreneurship Development in an Emerging Market. *Risk governance & control: financial markets & institutions - Financial Markets and Institutions, 6*(4). doi: www.https://doi.org/10.22495/rcgv6i4art8

Agostino, M., Errico, L., Rondinella, S., & Trivieri, F. (2022). Do cooperative banks matter for new business creation? Evidence on Italian manufacturing industry. *Annals of Public Cooperative Economics, 93*(3), 637-675. doi:https://doi.org/10.1111/apce.12342

Ahmad, S., Arshed, N., Salem, S., Khan, Y. A., Hameed, K., & Kam, S. (2022). Role of globalziation defining the incidence of entrepreneurship. *Plos one, 17*(3), e0265757. doi:https://doi.org/10.1371/journal.pone.0265757

Amin, A., Khan, R. U., & Maqsood, A. (2021). Financial development, entrepreneurship and financial openness: evidence from Asia. *Journal of Economic and Administrative Sciences, ahead-of-print*(ahead-of-print). doi:10.1108/JEAS-05-2021-0080

Aparicio, S., Urbano, D., & Audretsch, D. (2016). Institutional factors, opportunity entrepreneurship and economic growth: Panel data evidence. *Technological Forecasting and Social Change, 102*, 45-61. doi:https://doi.org/10.1016/j.techfore.2015.04.006

Arshed, N., Hameed, K., & Saher, A. (2022). Role of Globalization and Education Defining the Incidence of Entrepreneurship. *Journal of the Knowledge Economy*, 1-19. doi:https://doi.org/10.1007/s13132-022-01065-z

Arshed, N., Rauf, R., & Bukhari, S. (2021). Empirical contribution of human capital in entrepreneurship. *Global Business Review, 17*(3). doi:https://doi.org/10.1371/journal.pone.0265757

Ayyagari, M., Demirgüç-Kunt, A., & Maksimovic, V. (2011). Firm innovation in emerging markets: The role of finance, governance, and competition. *Journal of Financial and Quantitative Analysis*, *46*(6), 1545-1580

Baliamoune, L. M., Brixiová, Z., & Ndikumana, L. (2011). Credit constraints and productive entrepreneurship in Africa.

Beck, T., Demirgüç-Kunt, A., & Levine, R. (2009). Financial institutions and markets across countries and over time-data and analysis. *World Bank policy research working paper*, (4943).

Berger, A. N., & Udell, G. F. (1998). The economics of small business finance: The roles of private equity and debt markets in the financial growth cycle. *Journal of banking & finance*, *22*(6-8), 613-673.

Bongini, P., Iwanicz-Drozdowska, M., Smaga, P., & Witkowski, B. (2017). Financial Development and Economic Growth: The Role of Foreign-Owned Banks in CESEE Countries. *Sustainability, 9*(3), 335. doi:https://doi.org/10.3390/su9030335

Botsaris, C., & Vamvaka, V. (2016). Attitude Toward Entrepreneurship: Structure, Prediction from Behavioral Beliefs, and Relation to Entrepreneurial Intention. *Journal of the Knowledge Economy, 7*(2), 433-460. doi:https://doi.org/10.1007/s13132-014-0227-2

Cherif, M., & Dreger, C. (2016). Institutional determinants of financial development in MENA countries. *Review of Development Economics, 20*(3), 670-680. doi:https://doi.org/10.1111/rode.12192

Cunat, G. R. (2015). The Stock Market as an Alternative to Banks for the Financing of New Business Projects: Business Angels. In *New Challenges in Entrepreneurship and Finance* (pp. 129-139): Springer.

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

Ebong, K. U. (2022). The Role of Entrepreneurship for Sustainable Economic Development in Africa. *International Journal of Advanced Studies in Economics and Public Sector Management, 10*(1). doi:https://doi.org/10.48028/iiprds/ijasepsm.v10.i1.02

Elitcha, K. (2021). The moderating role of stock markets in the bank competition-entrepreneurship relationship. *Small Business Economics, 56*(4), 1333-1360. doi:https://doi.org/10.1007/s11187-019-00237-7

Fisman, R., & Love, I. (2003). Financial development and the composition of industrial growth. *Journal of finance, 58*(1), 267-302.

Fogel, K., Hawk, A., Morck, R., & Yeung, B. (2006). *Institutional obstacles to entrepreneurship*. In: Oxford University Press London.

Georgiou, M. (2009). Entrepreneurship and Stock Price Index. doi:https://doi.org/10.2139/ssrn.1482245

Ghosh, A. (2021). Banking sector openness and entrepreneurship. *Journal of Financial Economic Policy*. doi:https://doi.org/10.1108/jfep-03-2020-0042

Global Entrepreneurship Monitor Report. (2022). *GEM Global Report - Opportunity Amid Disruption*. Retrieved from https://gemconsortium.org/report/gem-20212022-global-report-opportunity-amid-disruption

Greene, W. H. (2012). *Econometric Analysis* (7th Ed.): Prentice Hall, Upper Saddle River.

Gunewardena, D., & Seck, A. J. R. o. D. E. (2020). Heterogeneity in entrepreneurship in developing countries: Risk, credit, and migration and the entrepreneurial propensity of youth and women. *Review of Development Economics, 24*(3), 713-725. doi:https://doi.org/10.1111/rode.12703

Gupta, G., & Mahakud, J. (2019). Alternative measure of financial development and investment-cash flow sensitivity: evidence from an emerging economy. *Financial Innovation, 5*(1), 1. doi:10.1186/s40854-018-0118-9

Hakimovna, U., & Muhammed, R. (2022). The role of banking and accounting in the development of small business and entrepreneurship. *International Journal of Socialo Science Interdisciplinary Research, 11*, 136-143.

Haltiwanger, J., Jarmin, R. S., & Miranda, J. (2013). Who creates jobs? Small versus large versus young. *Review of Economics and Statistics*, *95*(2), 347-361.

Klapper, L., Laeven, L., & Rajan, R. (2004). Barriers to entrepreneurship. *NBER Working Paper, 10380*, 1-61.

Klapper, L., Laeven, L., & Rajan, R. (2006). Entry regulation as a barrier to entrepreneurship. *Journal of financial economics*, *82*(3), 591-629.

Liñán, F., & Fernandez-Serrano, J. (2014). National culture, entrepreneurship and economic development: different patterns across the European Union. *Small Business Economics*, *42*, 685-701.

Michelacci, C., & Suarez, J. (2004). Business Creation and the Stock Market. *The Review of Economic Studies, 71*(2), 459-481. doi:https://doi.org/10.1111/0034-6527.00292

Mudugal, S. D. (2020). Role of Exim Bank for Development of International Business-A Study. *International Journal of Research Analytical Review, 7*(2), 528-535.

Ngo, M. N., & Nguyen, T. N. (2022). Financial development and business growth: A case of the Southern Key Economic Region. *Cogent Economics & Finance, 10*(1), 2099501. doi:https://doi.org/10.1080/23322039.2022.2099501

Nguyen, C. (2018). Demographic factors, family background and prior self-employment on entrepreneurial intention - Vietnamese business students are different: why? *Journal of Global Entrepreneurship Research, 8*(1), 10. doi:https://doi.org/10.1186/s40497-018-0097-3

Omoruyi, A., & Ahmed, U. (2014). Financial system development and economic growth the Nigerian stock market and bank perspective. *Asian Journal of Business Management, 6*(4), 155-172. doi:https://doi.org/10.19026/ajbm.6.5158

Phillips, W., Lee, H., Ghobadian, A., O'regan, N., & James, P. (2015). Social innovation and social entrepreneurship: A systematic review. *Group & Organization Management, 40*(3), 428-461.

Pradhan, R. P., Arvin, M. B., Hall, J. H., & Bahmani, S. (2014). Causal nexus between economic growth, banking sector development, stock market development, and other macroeconomic variables: The case of ASEAN countries. *Review of Financial Economics, 23*(4), 155-173. doi:https://doi.org/10.1016/j.rfe.2014.07.002

Reynolds, P. D., Hay, M., Bygrave, W. D., Camp, S. M., & Autio, E. (2000). Global entrepreneurship monitor 2000 executive report: Babson College. *Kauffman Center for Entrepreneurial Leadership, and London Business School*.

Robert, E., Christopher, S., & Nilolay, D. (2011). Institutions and Entrepreneurship Intent: A Cross-country Study *Journal of Developmental Entrepreneurship, 16*(02), 227-250. doi:https://doi.org/10.1142/S1084946711001811

Rudhumbu, N., du Plessis, E. C., & Maphosa, C. (2020). Challenges and opportunities for women entrepreneurs in Botswana: revisiting the role of entrepreneurship education. *Journal of International Education in Business, 13*(2), 183-201. doi:10.1108/JIEB-12-2019-0058

Rusu, V. D., Roman, A., Tudose, M. B., & Cojocaru , O. M. (2022). An Empirical Investigation of the Link between Entrepreneurship Performance and Economic Development: The Case of EU Countries. *Applied Sciences, 12*(14), 6867. doi:https://doi.org/10.3390/app12146867

Shah, I. A., Amjed, S., & Jaboob, S. (2020). The moderating role of entrepreneurship education in shaping entrepreneurial intentions. *Journal of Economic Structures, 9*(1), 19. doi:https://doi.org/10.1186/s40008-020-00195-4

Shahabadi, A., Moradi, A., & Rahwardarzadeh, M. R. (2021). The Effect of Entrepreneurship on Development of Banking Sector in Developing and Developed Selected Countries. *8*(2).

Singh, A. K. (2013). Entrepreneurship Development : Role of State bank of India in Mizoram. *Indian Journal of Management Science, 3*(4), 49.

Singh, R., Mahal, J., Kumar, A., & Chahal, V. (2020). Establishment of machinery bank for attracting rural youth for entrepreneurship development. *Journalk of Krishi Vigyan, 9*(9), 125-130. doi:10.5958/2349-4433.2020.00195.6

Tatarinov, V., & Fihurovska, I. (2019). Small Business as a Factor of Growth of Stock Market Capitalization. *Academy Review, 1*(50). doi:10.32342/2074-5354-2019-1-50-4

Tehseen, S., & Haider, S. A. (2021). Impact of Universities' Partnerships on Students' Sustainable Entrepreneurship Intentions: A Comparative Study. *Sustainability, 13*(9), 5025. doi:https://doi.org/10.3390/su13095025

Tian, H., Akhtar, S., Qureshi, N. A., & Iqbal, S. (2022). Predictors of entrepreneurial intentions: The role of prior business experience, opportunity recognition, and entrepreneurial education. *Frontiers in Psychology, 13*. doi:https://doi.org/10.3389/fpsyg.2022.882159

Vatavu, S., Dogaru, M., Moldovan, N.-C., & Lobont, O.-R. (2022). The impact of entrepreneurship on economic development through government policies and citizens' attitudes. *Journal of Economic Research- Ekonomska Istraživanja, 35*(1), 1604-1617. doi:https://doi.org/10.1080/1331677X.2021.1985566

Veleva, V. (2021). The role of entrepreneurs in advancing sustainable lifestyles: Challenges, impacts, and future opportunities. *Journal of cleaner production, 283*, 124658.

Wagner, J. (2006). Nascent entrepreneurs. In *The life cycle of entrepreneurial ventures* (pp. 15-37): Springer.

Wennberg, K., & Delmar, F. (2010). What do they think and feel about growth? An expectancy–value approach to small business managers' attitudes toward growth. *Entrepreneurship Theory and Practice, 34*(3), 493-516.

Wennekers, S., Van Stel, A., Thurik, R., & Reynolds, P. (2008). Erratum: Nascent entrepreneurship and the level of economic development (Small Business Economics (2005) 24: 3 (293-309. *Small Business Economics*, *30*(3).

Zahra, S. A., Gedajlovic, E., Neubaum, D. O., & Shulman, J. M. (2009). A typology of social entrepreneurs: Motives, search processes and ethical challenges. *Journal of business venturing, 24*(5), 519-532.

Zaman, K., Izhar, Z., Khan, M. M., & Ahmad, M. (2012). The relationship between financial indicators and human development in Pakistan. *Economic Modelling, 45*. doi:https://doi.org/10.1016/j.econmod.2012.05.013

Zhao, H., & Seibert, S. E. (2006). The big five personality dimensions and entrepreneurial status: a meta-analytical review. *Journal of applied psychology*, *91*(2), 259.