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ACADEMIC PAPER

Beyond the Borders: An Empirical Exploration of Trade Openness and Entrepreneurial Activities: Does Financial Development Plays Moderating Effect

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ABSTRACT

Opening trade horizon is pivotal to instigating entrepreneurial activities in this modern era of technological advancement. Trade openness fosters an atmosphere that allows entrepreneurs to thrive, innovate, and maintain long-term viability through the exchange of products and technologies. The study explores the effect of trading beyond the borders for entrepreneurial activities. The estimation techniques used for this research are OLS, Fixed-Effects (FE) and a two-step system GMM. The study uses unbalanced panel data collected on a yearly basis across the nations for the period of 23 years starting from 1999 to 2022. Results obtained from the entire sample indicate that trade openness consistently produced positive and significant effects on entrepreneurial activities and prompted new business density. The results are also robust with total early-stage entrepreneurial activities as a dependent variable. The baseline results obtained from the GMM demonstrate that if there is one unit change in trade openness, it will bring an 88.2% change in the dependent variable to promote entrepreneurial activities. The results also indicate that financial development moderates proposed relationship of trade openness and entrepreneurial activities positively and significantly. Entrepreneurs can take advantage of possibilities, efficiently utilize resources, and make significant contributions on a larger scale for economic development just because of the connection of economies globally. The study guides the policymakers to provide trading opportunities to entrepreneurs across international borders at the global scale.

KEYWORDS

Entrepreneurial Activities, Trade Openness, Labor Force Female Participation, Rule of Law.

INTRODUCTION

Trade openness beyond the border refers to how well a country's economy integrates with the global economy as a whole through the medium of international trade. Trade openness has the potential to influence entrepreneurial activities in various ways. Entrepreneurs can grow their companies globally and enter new markets with access to more international marketplaces. The study examines the effect of trading for entrepreneurship. According to studies like Malecki (2018), Sautet (2013), Colwell and Narayanan (2010), Bianchi (2010), Leeson and Boettke (2009), as well as West III et al. (2008), the entrepreneurs provide a path for economic progress global for the developing countries. Whereas, many individuals from foreign enterprises have a detrimental effect for local entrepreneurs, particularly those operating in industries with lower levels of competition. The connection between free trade and entrepreneurial spirit is nuanced and highly reliant on the surrounding environment. The concept of trade openness, defined by more significant international trade and fewer obstacles to cross-border business, has been a subject of considerable attention in an economy for policymakers and academics. Lafuente et al. (2020) assert that the advancement of entrepreneurship to the sole avenue for initiating businesses both domestically and globally. The correlation of trade openness with entrepreneurial activities, particularly its impact on the encouragement or discouragement of entrepreneurial ventures, has been extensively studied across multiple academic disciplines (Raghutla & Chittedi, 2020).

The study discusses the importance of opening new horizons of trade opportunities across the globe for developing entrepreneurial activities. Trade liberalization in developing countries can successfully boost entrepreneurship (Raghutla & Chittedi, 2020). Therefore, contemporary researchers can cooperate on the expansion of entrepreneurship and the promotion of trade openness. According to the findings of Rahman et al. (2023), increasing the degree to which commerce is open to additional countries results in a decrease in the expense of financial intermediary services and an improvement in the performance of financial institutions. According to Li (2021) the laws of the capital infrastructure, product market and the institutional frameworks significantly impact the development and molding of individuals' entrepreneurial activities. Trade freedom, trade spread and trade barriers are all factors having an impact on global entrepreneurship.

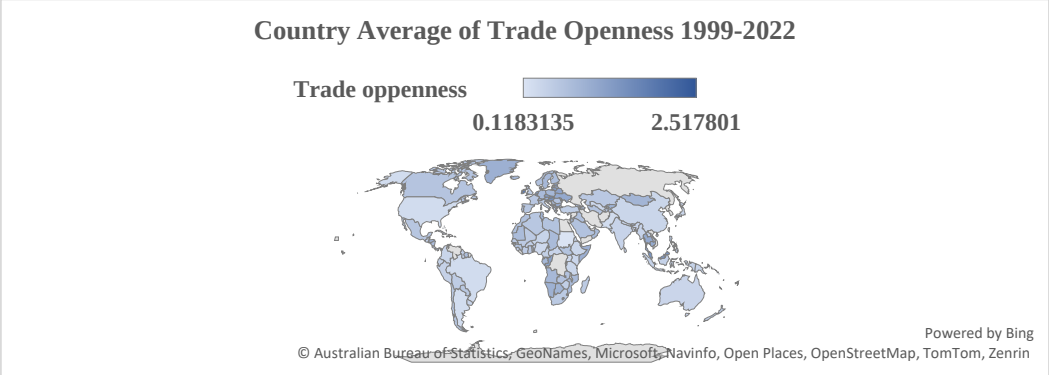

Figure 1: Average Trade Openness %age of Total GDP(US$)

The study aims to answer this question: Does trade openness instigate entrepreneurial activities to promote entrepreneurship on a worldwide scale? Magacho et al. (2018) explores that trade openness can give the company a competitive edge, resulting in more significant sales and market share. Regrettably, numerous entrepreneurial concepts fail to materialise due to insufficient education and guidance among prospective business owners, despite the substantial impact of business operations on job creation and economic growth. Covin and Miles (1999) established a correlation between entrepreneurs' originality and a company's competitive advantage. Tirupati (2008) shows that because it highlights the organization's skills, having an advantage over the competition can benefit both the company and its shareholders. In order to acquire and maintain market dominance, it is necessary to consistently create and take use of a unique competitive advantage. This advantage over other businesses can help organizations raise their earnings and gain a dominant position in their sector.

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Trade tariffs and non-tariff barriers such as quotas are two key examples for trade restrictions that could be diminished or eliminated by liberalization. Kiss et al. (2012) found that reducing trade barriers had a favorable effect on the prices of imported items. Covin and Miles (1999) emphasis that trade liberalization can encourage the establishment of new firms worldwide. According to Scholman et al. (2015), the level of economic openness in a country determines entrepreneurial prospects associated with cyclical performance of that country. According to research by Oyama et al. (2011), global specialisation becomes less uniform after trade liberalisation. Given the circumstances, the proportion of innovative enterprises in the giant nation increases and decreases. In contrast, in a small country, the proportion of entrepreneurial businesses decreases and then increases. This research is therefore emphasis the need of promoting trading activities beyond the border to fill the existing gap. So that the developing nations equipped with less resources and infrastructure to take initiatives of business organizations can benefit from trading across countries to take advantages of technological advancement for their economic development as well as for the well-being of their nation. The paper is organized in a way that section 2 designates the literature review and the development of hypotheses whereas section 3 is description of methodology. Furthermore section 4 discusses the results. Sections 5 and 6 emphasize practical implications and conclude the paper.

LITERATURE REVIEW

The overview of this relevant stream of existing studies intends to synthesize and interpret the research findings that investigate the connection between openness to trade and entrepreneurial activities. Each country progressively prioritizes novel and inventive corporate endeavors that transcend national boundaries to achieve economic progress. Moreover, there has been a rise in trade openness across nations. Hence, advancing global entrepreneurship presents a promising prospect for countries engaged in international trade. The research studies like Anderson et al. (2006), Cantele and Zardini (2018), Doner and Schneider (2000) and Rosenfeld (1997) emphasis that the Governments work tirelessly to ensure economic progress of their countries in developed economies. The sole choice for commencing or expanding a firm on a national and global scale is through entrepreneurship development (Lafuente et al., 2020). As a prerequisite for freer trade, everyone acknowledges that better financial infrastructure is critical to economic growth. By facilitating trade processes, reducing transaction costs, providing access to financial institutions, and streamlining the exchange of goods, a culture that has established its monetary infrastructure can efficiently divide saved resources, according to Levine (1997).

Previous empirical studies like Wen et al. (2021), Bist (2018), Guru and Yadav (2019) have shown understanding for the effect of financial development and economic growth. Furthermore Ekanayake and Thaver (2021), Khan et al. (2020) and Marcelin et al. (2021), studied that this understanding is fundamental in developing countries which is beneficial for trade. Also, Huggins et al. (2018), Peprah and Adekoya (2020) and Urbano et al. (2019) argue that entrepreneurial spirit is generally recognised as a key factor boosting the economy forward in the present day. The government facilitates the expansion of entrepreneurship by cultivating trade accessibility through liberal reforms (Dilanchiev & Sekreter, 2015). According to Gregory (2019), implementing financial controls in developing countries results in a fall in entrepreneurialism, whereas implementing comparable measures in established markets increases entrepreneurialism. According to Sultani and Faisal (2023) and Yang et al. (2022), the openness of trade can stimulate the growth of entrepreneurship by facilitating improved availability of a more excellent selection of products from which pick to input markets by enabling efficient resource allocation via the implementation of appropriate rules.

However, such research did not establish a connection between openness to trade and global entrepreneurship. However, Ramzan (2021), Obrimah and Wong (2022) are of the view that during previous few decades, the degree of liberalisation of international trade has increased, leading to the rise of the global economy's financial sector. There is influence of FDI inflows, financial sector development and trade openness on entrepreneurial activities among 15 nations with high and upper-middle income for the time period of 2001 to 2015 (Bayar et al., 2018). Amin et al. (2023) proposed that efficient resource allocation and streamlined transactions increase entrepreneurial activities nationwide. Furthermore, the study demonstrated that facilitating international transactions, lowering the number of laws, and raising

the amount of money that is available for entrepreneurial endeavors will both result in more creativity and the foundation of new businesses, as well as guarantee the growth of the entrepreneurial sector. The researchers Adusei (2016), Dinopoulos and Unel (2015), and Urbano et al. (2019) portray that the government is pressured to develop an environment encouraging to the efficient operation of the economy. Establishing a supportive business environment that encourages entrepreneurship and supports entrepreneurial endeavors creates this pressure. Investors are given the impression that the conditions and infrastructure necessary to participate in a particular market are present when a company is willing to open its doors to outsiders. It allows domestic and international enterprises to compete with one another. According to Sheikh et al. (2020), trade was found to be negatively correlated with the increase in green GDP, while it had a positive correlation with the difference of green and conventional GDP. Furthermore, many studies have been conducted recently to investigate the influence of openness to trade on many elements of the economy. Shahbaz (2012) researched to examine the impact of trading on economic growth for the long period of time. An investigation was conducted by Dal Bianco et al. (2017) and colleagues to determine the impact of trade openness, on the fall in output in emerging economies during the global crises. The importance of the Global Value Chain's involvement in global trade as a vital element of economic incorporation in the ECOWAS region was the subject of a study by Tinta (2017). In their 2018 study, Blanton et al. (2018) and colleagues investigated how economic openness and contribution in programs run by the IMF are two types of international financial involvement that affect the exponential growth of the informal sector.

Abou Elseoud and Alkawari (2020) researched how opening trade and financial markets influenced the growth of the banking sector in Gulf Cooperation Council (GCC) nations. From 2006 to 2016, B. Nguyen et al. (2021); T. T. Nguyen et al. (2021) researched the impact of national institutes and human resources on the density of entrepreneurial activity for 67 nations. Lai (2020), utilized a gravity model for the explanation of mutual payment streams among nations based on their respective currencies. Sigue (2020) studied the factors that determined the global attractiveness of the WAEMU economies. These research findings make it abundantly evident that the degree to which commerce is open substantially influences the economy, including the rate of growth of the economy and the entrepreneurs.

Nevertheless, more research is still needed on how trade openness influences these parameters and how these mechanisms may differ from country to country and area to region. According to Blanchard et al. (2009) and Javorcik (2004), foreign direct investments can improve socioeconomic conditions, increase revenues for the host country, and enhance working conditions for workers. It is accomplished by removing local businesses' monopoly on the market and passing on new technology. Through the implementation of a liberalized trade policy, low-cost manufacturers can boost their output to levels that are far higher than what is required in the domestic market (Adeel-Farooq et al., 2017; Awojobi, 2013; Barattieri et al., 2021; Bown & Crowley, 2016; Nannicini & Billmeier, 2011). According to Kolcava et al. (2019), the presence of multinational entrepreneurs may eventually benefit local entrepreneurship. It is especially true if multinational entrepreneurs export more goods overseas. This research discovered a correlation between trade liberalization and the rise of the gross domestic product and the socioeconomic condition. In this study, the relationship between trade openness and the development of global entrepreneurship is investigated. Specifically, the study focuses on the relationship between GDP growth (GR), financial development (FD), and political stability (PSI) with global entrepreneurship development (TEA and EIR).

Trade and globalization have a significant impact on a variety of areas of the economy, such as economic cycles, labor markets, and consumer alternatives (B. Nguyen et al., 2021; T. T. Nguyen et al., 2021). One of the most important contributors to the process of globalization, which may be defined as the integration of people and nations, is international trade. According to Jaiswal et al. (2022), entrepreneurs can reap benefits from trade openness by obtaining access to broader markets, extending their manufacturing capacity, and boosting market rivalry and innovation. However, these gains are not without their drawbacks. Research has revealed that companies that are primarily concerned with exports tend to have higher levels of productivity than other types of organizations. Additionally, commerce makes it possible for new technologies and knowledge to be disseminated worldwide, which is particularly beneficial to

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individuals and enterprises, particularly those of a smaller scale. Utilizing technical and managerial knowledge spillovers, as well as chances to boost productivity through scaling, these firms can take advantage of these opportunities. According to Broll et al. (2006), trade provides a platform for the transmission of ideas and technologies, which ultimately results in increased employment and higher earnings. When compared to other businesspeople, entrepreneurs are frequently characterized by their capacity to think creatively and strategically. According to Schumpeter and Redvers (1934), a well-known economist named Joseph Alois Schumpeter produced a novel theory that rethought the perspective of the entrepreneur based on the concept of creativity. Entrepreneurs can propel the stagnant economy to a new level of development by combining unique innovation and creativity with openness to trade. Entrepreneurs play a crucial part in the process of economic development, as they are the ones who are responsible for implementing the required changes to ensure continued progress. Consequently, the rise of entrepreneurialism is the driving force behind economic advancement. As a result of the fact that it entails investigating and capitalizing on opportunities that are available across international borders to propel growth and achieve a competitive advantage, internationalization has been recognized as an essential component of entrepreneurship (Broll et al., 2006). People who are considered to be entrepreneurs are persons who fulfill the duties of both a producer and an exchanger. The activities that they do can have a significant impact on the supply chain, which includes everything from raw materials to finished items for customers.

According to B. Nguyen et al. (2021) and T. T. Nguyen et al. (2021), Cantillon thought that every single person, from beggars to restaurant owners, could be considered an entrepreneur because they had access to unfixed sources of revenue. For entrepreneurs to effectively create and maintain their enterprises, resource-based entrepreneurship emphasizes the significance of resources that go beyond money and time alone. According to Abbas et al. (2022), the purpose of this theory is to emphasize the significance of an individual's personal, social, and financial resources, as well as to improve that person's capabilities. According to Abbas et al. (2022) and Gohar et al. (2022), trade openness is a policy that encourages international and transnational commerce of goods, services, money, technology, and information across national boundaries. There are instances in which two or more countries engage in the exchange of goods and services across international borders. Based on the above discussion we formulate the following hypotheses in this study to examine the impact of trade openness on entrepreneurial activities.

Hypothesis 1: Trade openness and entrepreneurial activities are positively associated.
Hypothesis 2: Financial development positively moderates the relationship of trade openness and entrepreneurial activities.

METHODOLOGY

The previous chapter reviewed the existing evidence on entrepreneurial activities through trading opportunities. We have done our best to conduct a comprehensive and critical literature review and presented the literature we found in chronological order. The current study's authors developed a coherent theory about the determinants of entrepreneurial initiatives due to their extensive review of the relevant literature. Meanwhile, we have provided a comprehensive overview of the various approaches and methods used in previous research on this topic. First of all, we have utilized both fixed and random effects, as well as the Hausman test, which indicates that a fixed effect would be beneficial for this particular research endeavor. Following that, to address the difficulties of endogeneity and serial correlation, we utilized a two-step generalized method of moments (GMM) estimate. This procedure was successful in resolving the endogeneity issues that were brought about by omitted variable biases and reservice causality. The results of OLS, FE, and GMM are shown in Tables 3 and 4.

Data and the Data Sources

The data of this study has been collected from three major sources: World Development Indicators database of the World Bank, International Labor Organization (ILO), and the International Monetary Fund (IMF). We used unbalanced panel to collect data from 217 countries for the time period of 1999 and 2022 to conduct our research. This time frame was selected since information regarding entrepreneurial activities and the other factors is easily accessible throughout this period. Table 1 displays the defined and measured dependent, independent and rest of the control variables. The summary statistics is presented in Table 2.

Table 1: Summary Statistics.

Variable Name	Obser	Average	St. Deviation	Minimum	Maximum
NewBusinessDensity	1958	3.496	4.728	.03	25.038
TRDOPN	4038	.811	.509	.025	2.518
CostofBusStartupPro	2958	44.088	74.872	.1	472.1
LaborFPRFemale	5632	49.657	14.609	5.922	87.123
ForeignDirectInvest	4191	4.906	6.729	-4.02	32.824
RuleofLaw	4259	49.24	28.951	.939	99.061
PoliticalStability	4243	49.24	28.987	.943	99.057
GDPCapita	4949	14366.529	19640.378	99.757	81683.453

Source: The Author's Calculation

Table 2: Matrix of Correlations.

Variables	1	2	3	4	5	6	7	8
1 NewBusinessDensity	1.000							
2 TRD_OPN	0.479	1.000						
3 CostofBusStartupPro	-0.323	-0.233	1.000					
4 LaborFPR_Female	0.234	0.051	0.070	1.000				
5 ForeignDirectInvest	0.478	0.493	-0.001	0.098	1.000			
6 RuleofLaw	0.486	0.401	-0.520	0.243	0.152	1.000		
7 PoliticalStability	0.406	0.476	-0.364	0.296	0.202	0.772	1.000	
8 GDP_Capita	0.391	0.318	-0.370	0.335	0.149	0.796	0.661	1.000

Source: The Authors Calculation

Research Approach

The research design is a deliberate option that you made to ensure that the various aspects of the study are consistent and make sense to one another. It also guarantees that the research challenge is resolved and the study objectives are accomplished. Verify the hypothesized connection between certain macroeconomic variables and entrepreneurial endeavors. The primary purpose of this research is to investigate the hypothesis. The second primary purpose of this research is to determine whether or not the moderators can strengthen the proposed links in the areas of prime objectives. In other words, hypothesis testing is carried out to explore the relationship of particular independent variables and moderating variable with dependent variable. According to Sekaran and Bougie (2016), it may build cause-and-effect correlations or relationships in specific situations.

Consequently, according to the argument presented by Sekaran and Bougie (2016), hypothesis testing typically elucidates the nature of the link between a collection of variables on which the author utilizes a technique for hypothesis testing. As a result, this study method contributes to a better comprehension of the connection or relationship between the variables. The most suitable research approach in finance and entrepreneurial finance is the quantitative research approach; in this study, we use the quantitative research approach.

Lagged Dependent Variable (Entrepreneurial Activities)

The "lag" dependent variable in econometric or time series research is the length of periods over which the prior values of a dependent variable influence its present value. The term "lag" is frequently used in these studies. Simply put, it signifies the temporal separation or latency between the current observation of the dependent variable and any last values that may have influenced it. In time series analysis, when investigating the influence of a variable's previous values on its present value, setting a lag of 3 indicates the examination of how the variable from three time periods ago affects its current value. In econometrics and time series analysis, these lags are widely employed to account for the temporal relationship between variables, capturing any dependencies and autocorrelations in the data. A suitable lag order is critical for effective modeling and forecasting in these analyses. This study denotes the lag-dependent variable as previous years' entrepreneurial activities.

Trade Openness (Independent Variable)

Trade encompasses the delightful practice of acquiring, vending, or interchanging products, services, or commodities among individuals, businesses, or nations. The process entails the exchange of ownership of entities or services in exchange for something valuable, such as currency, alternative goods, or more services. The sum of commodities and services that are exported and imported is referred to as trade, and it expressed as a percentage of the GDP. Whether it be inside a local market, across regions within a country, or even internationally between different nations, trade can take place in any of these three settings. It is a crucial idea in economics and plays an integral part in the economy of the entire world. It enables specialization, higher efficiency, and the fulfillment of a wide variety of needs and desires domestically and internationally. The proxy of trade openness for this study is obtained by using the sum of exports and exports as the ratio of GDP.

Econometric Model

Model 1: The equation below models the impact of trade openness on entrepreneurial activities. This equation also highlights the result of some control variables for this relationship.

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

$$\text{NewBusinessDensity}_{it} = \alpha_0 + \alpha_1 \text{TRD\_OPN}_{it} + \alpha_2 \text{FD}_{it} + \alpha_3 \text{TRD\_OPN}_{it} * \text{FD} + \alpha_4 \sum_{j=1}^{j} X j_{it} + \varepsilon_{it} \ldots\ldots\ldots\ldots\ldots (2)$$

Where New Business Density represents new business density used for entrepreneurial activities, i, t represents cross-sectional and time effects, respectively, for each country, α_0 is the intercept of the model, TRD_OPN is the proxy for trade openness, FD represents financial development index, $\sum_{j=1}^{j} Xj_{it}$ represents an array of control variables, including, cost of business startup procedures, labor force participation female participation rate, foreign direct investment, political stability, inflation, the rule of law, political stability, and GDP per capita. In contrast, ε_{it} is the error term representing the concept of ceteris paribus, which means that other factors may affect this relationship. Still, those are not included in the model. This first model shows the impact of economic growth on entrepreneurial activities with other control variables.

RESULTS

Baseline Results

The table below shows the baseline results. These results show the impact of trade openness on the dependent variable new business density. Table 3 Trade Openness and Entrepreneurial Activities. OLS, Fixed Effects, and Two-step System GMM Specifications: The dependent variable is Entrepreneurial Activities: New Business Density means new business registrations per 1,000 people ages 15-64 as per the World Bank, and the independent variable is Trade Openness measured as the ratio of imports plus exports to the total GDP in US$. The unbalanced panel data for this study is obtained from the three databases World Bank, IMF, and ILO, and merged in one file based on the year and country codes of 216 countries of the world. The period for this study is 23 years starting from 1999 to 2022. The t-values are reported in parentheses. ***, ** and * denote the significance of the respective variable at 1%, 5%, and 10%, respectively.

Table 3 presents the results of the relationship between trade openness and entrepreneurial activities. The pooled least square estimate (POLS) is used first because it serves as the first step in modeling panel data. Columns 1 and 2 show the positive and highly significant results for trade openness and entrepreneurial activities using OLS. Columns 3 and 4 present the fixed effect results, which are positive and insignificant results for the relationship established in Hypothesis 1. The cost of business startup procedures is negatively and highly significantly related to entrepreneurial activities across all the models.

It indicates that the low cost of business startup procedures promotes entrepreneurship, and the high cost of business startup procedures reduces the promotion of entrepreneurship. A cost-effective strategy always provides entrepreneurs with the opportunities to take the initiative. The labor force female participation rate, foreign direct investment, and the rule of law positively and significantly affect entrepreneurial activities across all the models. It shows that the increasing number of female participants in the labor force, an appropriate operationalization for the rule of law, and an increase in

foreign direct investment enhance entrepreneurial activities. Political stability has mixed results; it indicates that if the door of the international market is open for trading activities, then political stability doesn't matter; the entrepreneurs can promote entrepreneurial activities in all the economies, whether these are politically stable or not stable economies. GDP per capita growth rate is also positive and significant for the fixed effect models but insignificant for the OLS and GMM results for entrepreneurial activities across countries. It designates that per capita growth promotes entrepreneurial activities across countries. Gross domestic product per person also enhances the chances to boost entrepreneurship.

Table 3: Trade Openness and Entrepreneurial Activities.

Dependent Variable	**Ordinary Least Square**		**Fixed Effect**		**Two Step GMM**
New Business Density	**OLS**	**OLS**	**FE**	**FE**	**GMM**
	(1)	**(2)**	**(3)**	**(4)**	**(5)**
TRD_OPN	3.493***	0.807***	0.347	0.358	0.144***
	(17.341)	(3.502)	(1.372)	(1.289)	(3.250)
CostofBusStartupPro		-0.008***		-0.003*	-0.001**
		(-3.024)		(-1.815)	(-2.026)
LaborFPR_Female		0.046***		0.087***	0.002
		(5.937)		(4.056)	(0.940)
ForeignDirectInvest		0.186***		0.003	0.013***
		(12.189)		(0.353)	(5.184)
RuleofLaw		0.069***		0.023**	0.000
		(10.577)		(2.533)	(0.106)
PoliticalStability		-0.003		-0.008	0.002
		(-0.588)		(-1.521)	(0.824)
GDP_Capita		0.000		0.000***	0.000
		(0.769)		(3.229)	(1.569)
L.NewBusinessDensity					0.918***
					(83.179)
_cons	0.179	-4.022***	3.181***	-2.708**	-0.144
	(0.824)	(-8.799)	(13.054)	(-2.297)	(-1.340)
Observations	1777	1531	1777	1531	1406
R^2	0.1449	0.4146	0.1449	0.2624	-
F-Statistics	300.71***	154.07***	1.88	8.02***	-
Instruments Count					56
Groups Count					139
P-value Hansen test					0.125
Arellano Bond AR1					0.006
Arellano Bond AR2					0.695

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

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

The value of lag dependent variable is also positive and highly significant. We rely on GMM results, which are presented in column 5, and show the significance of these results for trading activities at a 1% significance level. Following the positive and highly significant results of the two-step system GMM, with the positive support of fixed effect and positive and significant support of pooled ordinary least

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squares, we find that a higher level of trade openness is associated with a higher level of entrepreneurial activities. We accept the Hypothesis and conclude that trade openness instigates entrepreneurial activities across the countries. The provision of more trading opportunities encourages entrepreneurs to enhance their entrepreneurial activities.

Table 4: Trade Openness and Entrepreneurial Activities: Moderator Financial Development.

Dependent Variable	**Ordinary Least Square**		**Fixed Effect**		**Two Step GMM**	
New Business Density	**OLS**	**OLS**	**FE**	**FE**	**GMM**	**GMM**
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
TRD_OPN	0.767***	0.772*	0.302	0.763	0.143***	-0.793***
	(3.281)	(1.670)	(1.069)	(1.597)	(3.012)	(-2.901)
FD	0.641	0.650	2.087*	3.601**	0.110	-1.725***
	(0.871)	(0.629)	(1.740)	(2.065)	(0.460)	(-2.806)
CostofBusStartupPro	-0.008***	-0.008***	-0.003*	-0.003	-0.001**	-0.002**
	(-3.174)	(-3.081)	(-1.653)	(-1.466)	(-1.982)	(-2.165)
LaborFPR_Female	0.052***	0.052***	0.085***	0.082***	0.003	0.004
	(6.505)	(6.493)	(3.869)	(3.730)	(1.312)	(1.594)
ForeignDirectInvest	0.186***	0.186***	0.003	0.002	0.017***	0.006*
	(11.923)	(11.399)	(0.327)	(0.282)	(6.098)	(1.781)
RuleofLaw	0.070***	0.070***	0.020**	0.019**	0.001	0.002
	(9.336)	(9.333)	(2.158)	(2.046)	(0.471)	(0.634)
PoliticalStability	-0.002	-0.002	-0.007	-0.008	0.001	0.004
	(-0.368)	(-0.367)	(-1.297)	(-1.386)	(0.409)	(1.092)
GDP_Capita	-0.000	-0.000	0.000***	0.000***	0.000	-0.000
	(-0.267)	(-0.260)	(3.313)	(3.521)	(0.282)	(-1.096)
TRD_OPN*FD		-0.011		-1.508		2.369***
		(-0.013)		(-1.196)		(4.296)
L.NewBusinessDensity					0.908***	0.878***
					(79.817)	(63.844)
_cons	-4.606***	-4.610***	-3.255***	-3.549***	-0.204	0.429
	(-9.385)	(-7.803)	(-2.592)	(-2.773)	(-1.527)	(1.566)
Observations	1498	1498	1498	1498	1375	1375
R Square (R^2)	0.4182	0.4182	0.2766	0.2569	-	-
F-Statistics/Wald Chi^2	133.81***	118.86***	6.85***	6.25***	70288.25***	30926.25***
Instruments Count					57	57
Groups Count					136	136
P-value of Hansen test					0.118	0.254
Arellano Bond AR1					0.007	0.006
Arellano Bond AR2					0.559	0.585

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

Table 4 shows the moderating role of Financial Development in the Nexus of Trade Openness and Entrepreneurial Activities. OLS, Fixed Effects, and Two-step System GMM Specifications: The dependent variable is Entrepreneurial Activities: New Business Density means new business registrations per 1,000 people ages 15-64 as per the World Bank, and the independent variable is Trade Openness measured as the ratio of imports plus exports to the total GDP in US$. The calculation of the Financial Development (FD) is shown in section 3.3.7 in detail and it is extracted from the IMF. The unbalanced panel data for this study is obtained from the three databases World Bank, IMF, and ILO, and merged in one file based on the year and country codes of 216 countries of the world. The period for this study is 23 years starting from 1999 to 2022. The t-values are reported in parentheses. ***, ** and * denote the significance of the respective variable at 1%, 5%, and 10%, respectively.

Table 4 presents the moderating role of financial development in the nexus of trade openness and entrepreneurial activities. The table displays regression findings from multiple models investigating the

link between various independent variables and the dependent variable, new business density. The GMM accounts for the endogeneity and serial correlation problem, and the GMM model revealed various patterns to present more reliable results. From the analysis of this table, significant connections were discovered for trade openness, cost of business startup procedures, labor force participation rate for female participants, foreign direct investment, rule of law, and GDP per capita. Notably, the lagged variable lag dependent variable revealed a highly significant coefficient, indicating that present new business density strongly depends on past values. Furthermore, unlike the prior models, the interaction term of trade openness and financial development (TRD_OPN*FD) emerged as highly connected to new business density within the GMM framework.

Additional Robustness

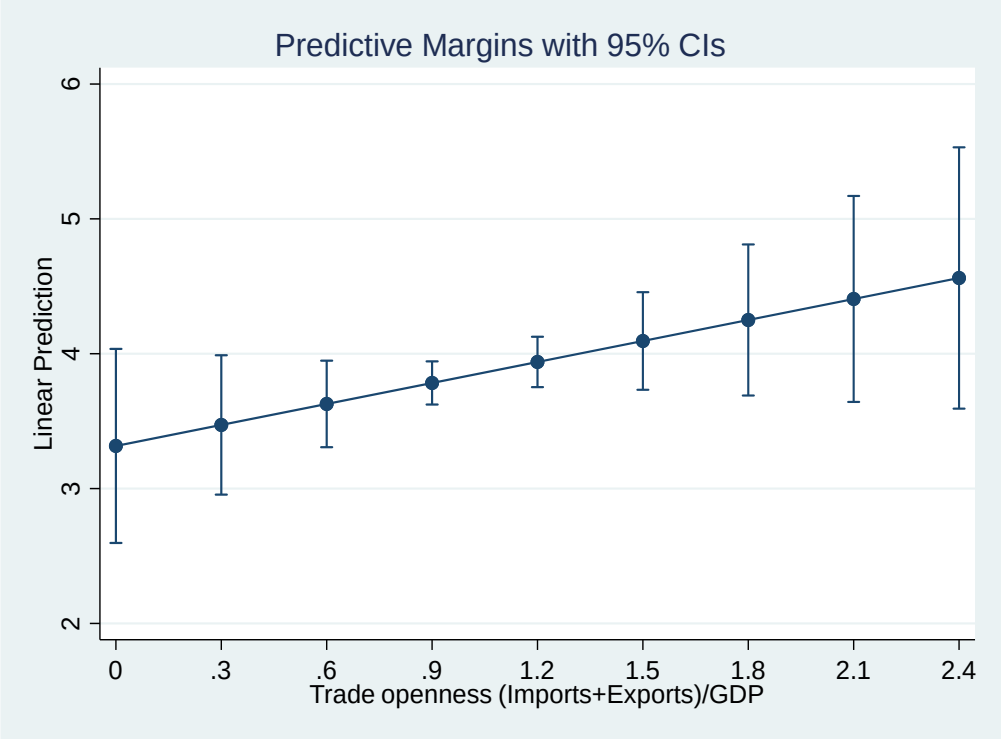
Table 5: Results of Trade Openness and Total Entrepreneurial Activities (TEA).

Dependent Variable	**Ordinary Least Square**		**Fixed Effect**		**Two Step GMM**
Total Entrepreneurial Activities	**OLS**	**OLS**	**FE**	**FE**	**GMM**
	(1)	**(2)**	**(3)**	**(4)**	**(5)**
TRD_OPN	-2.888***	-1.256***	0.793	-0.971	0.882***
	(-6.314)	(-2.645)	(1.233)	(-0.992)	(2.617)
CostofBusStartupPro		0.074***		-0.020	0.005
		(6.413)		(-1.428)	(0.618)
LaborFPR_Female		0.243***		0.296***	0.079***
		(13.009)		(4.247)	(8.457)
ForeignDirectInvest		0.082**		-0.033	0.010
		(2.454)		(-1.362)	(0.862)
RuleofLaw		-0.118***		0.007	-0.030***
		(-7.400)		(0.202)	(-3.682)
PoliticalStability		-0.010		-0.011	-0.061***
		(-0.719)		(-0.503)	(-8.581)
GDP_Capita		-0.000***		0.000***	0.000***
		(-3.462)		(3.450)	(4.017)
L.TotalEntActivities					0.724***
					(34.290)
_cons	13.889***	8.934***	10.758***	-4.482	3.201***
	(30.430)	(8.142)	(19.286)	(-1.096)	(6.053)
Observations	951	779	951	779	611
R Square (R^2)	0.0403	0.4586	0.0403	0.0050	-
F-Stats/Wald Chi^2	39.87***	93.29***	1.52	7.66***	21539.75***
Number of Instruments					69
Number of Groups					83
Hansen test (p-value)					0.430
Arellano Bond AR1					0.000
Arellano-Bond AR2					0.263

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

Table 5 shows the results for the additional robustness of this study. To obtain theses robust results the authors have changed the proxy of dependent variable from new business density to total entrepreneurial activities. the objective behind this is to examine the robust results for the baseline results.

Table 5 presents the results of connection for trade openness with entrepreneurial activities. The results of OLS are presented in column 1 and 2. Fixed effect results are presented in column 3 and 4, whereas Column 5 shows the results of a two-step generalized method of movement. The pooled least square estimate (POLS) is used first because it serves as the first step in modeling panel data. The findings for relationship of trade openness and entrepreneurial activities are mixed in OLS and FE whereas these results are positive and highly significant in GMM. Which shows partial support for the robustness of trade openness and total entrepreneurial activities.



The cost of business startup procedures, the labor force female participation rate, Foreign direct investment, rule of law, GDP per capita, political stability and the other control variables have mixed impacts on entrepreneurial activities. Across all models, the significance level of F-statistics and Wald chai square is quite high. The high and significant value of F-stats reveals the overall fit of multiple models, and the high value of Wald chai square shows that all the predictors of each model have significant impact on entrepreneurial activities. According to the findings of the two-stage GMM, the quantity of instruments is smaller than the quantity of groups. Arellano-Bond AR (1) is assumed to have a significant value, while AR (2) is assumed to have an insignificant value, which is found true in these results. The Hansen test's p-value is similarly statistically significant, supporting the validity of this study's findings. Using the fixed effect and GMM results, we found that entrepreneurial activity tends to rise in line with economic growth after controlling for other factors. The value of lagged variable is also positive and statistically highly significant. We rely on GMM results, which are presented in column 5, and show the significance of these results for trading activities at 1% level of significance. Considering the positive and statistically highly significant results of GMM, we conclude that trade openness instigates total entrepreneurial activities across the countries. The provision of more trading opportunities encourages entrepreneurs to enhance their entrepreneurial activities and the results are robust as explained in Table 4.

Practical Implications

There are practical implications of the study for entrepreneurs having entrepreneurial mindset worldwide. The study guides the policy makers, researchers, entrepreneurs and academia and organizations. Policymakers should focus on enhancing financial development to maximize the benefits of trade openness on entrepreneurial activities. Strengthening financial institutions can provide better credit access and risk management for new businesses. Entrepreneurs should explore international markets, taking advantage of trade openness while leveraging financial development for funding, risk management, and business sustainability. Entrepreneurship is the best source to take innovative initiatives to create jobs, to boosts productivity, to introduce new markets and to balance a country's trade structure. Trade liberalization in developing countries can effectively foster entrepreneurship. This study therefore guides the policymakers and researchers to collaborate on entrepreneurship growth and to find the ways for trading and to promote trade openness across countries at global level.

CONCLUSIONS

The findings of the study depict that trading across the border produces opportunities for the entrepreneurs to take initiatives and promote their business activities both in the domestic and international markets. The results show a constructive and statistically significant effect of trade openness on total entrepreneurial activities. The findings also indicate that financial development moderates the proposed relationship. These findings of the paper direct towards the conclusion that government officials should place greater emphasis on assisting entrepreneurs by providing them with opportunities to operate across international borders.

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