Stages of Entrepreneurship in the International Arena: The Role of Access to Capital and Developmental Support

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Abstract

Background and Objective: Research addresses shortcomings in studies between a mature and developing economy within stages of development. Prior research has largely been homogenous with emphasis on overall development by country. This research isolates selected countries and stage – intentions, early stage, and established – of development. The main objective is to measure access to capital and developmental support in each stage of entrepreneurial development.

Methods: The model considers four independent variables that measure financing, infrastructure, openness of the economy, and governmental support. A change variable isolates effects before and after the 2008 Financial Crisis. Secondary data were obtained from Global Enterprise Monitor (GEM) and analyzed by regression analysis for years 2001-2020.

Results: Access to capital was a positive variable in the model, with the largest coefficient observed in early stage entrepreneurship for each level of economic development. Governmental support was inversely correlated.

Conclusions: Findings indicate that financial access is crucial in early stages of development, while governmental support appears to have unintended consequences of stalling entrepreneurial development.

Contribution / Value: The value of the research extends prior studies in isolating the significance of the model in predicting each stage of entrepreneurship, but also in differentiating mature economy from developing economy.

Keywords: entrepreneurship, international business
JEL Classification: A10, F00

Introduction and Objective

Entrepreneurship may be considered across a wide spectrum and under thorough examination in terms of progression from a general idea to an established firm. Often this process involves many fits and starts and frequently ends in abandonment (Gelderen et al, 2005). To the extent that access to capital is available and various levels of support both internally and at a macroeconomic level exist, entrepreneurship has an opportunity to flourish.

This analysis takes the idea that these stages of development exist and can be measured internationally and according to type of economy development – either developing or mature. Stages of entrepreneurial development in this analysis are defined as Entrepreneurial Intentions (Nga and Shamuganathan, 2010), Early Stage Entrepreneurship (Stam, 2008; Mocnik and Sirec, 2016), and Established Entrepreneurship (Barringer and Bluedorn, 1999). Each category is developed by Global Entrepreneurship Monitor (GEM) and explained in the Methods section to follow. The analysis is a panel study from 2001 to 2020 that is conducted by pooling three of the largest countries identified as a mature economy and three of the largest countries identified as a developing economy. Pooling reduces the likelihood of single country bias with the potential for data outliers.

The main objective of the project is to test if a difference exists between the type of entrepreneurial development (intention, early-stage, or established) relative to the degree of development within an economy. Considering a range of years (2001-2020) in the analysis offers an opportunity to deepen the understanding of the 2007-2009 Financial Crisis in studying the aspects of entrepreneurship and measuring if effects change after a severe economic event. Access to capital is a crucial ingredient to the wherewithal for firms to form and expand, but also creates conflicts between intentions and early stage optimism with how banks process information (De Meza and Southey, 1996). The expectation is that a positive relationship exists with higher levels of access for each category of entrepreneurship, especially to the extent that development is more certain (Buera et al, 2015).

Each economy is different and capital, while a major support level for development is not the only factor from which a business idea is made into a venture, and development of the firm burgeons. Borrowing from Busenitz et al (2000), including measures of infrastructure, market openness, and government support in the model better identifies these interrelationships surrounding support for entrepreneurship in terms of competitive advantages at the institutional level within a country. The inclusion of a measure of a developing and a mature economy into the model is predicated on findings by Atolia and Prasad (2011), where market friction inhibits diversification of entrepreneurial risk. We anticipate a developing economy to represent more risk but higher relative wealth opportunity.

This research extends prior research where these ideas are largely considered homogenously. A positive, linear relationship is generally accepted between levels of financing and business formation as firms experience various stages of development. Business cycles occur and entrepreneurship waxes and wanes. Do the same relationships that existed before the 2007-2009 Financial Crisis exist afterwards in a mature and well as a developing economy? To the extent that a country is economically developed versus less developed is important to this analysis. This model applies a multiple regression approach to these concepts and extends scholarship beyond an emphasis on traditionally domestic (U.S.) firms to measure each phenomenon internationally.

Literature Review

The proposed research offers an opportunity to expand the understanding for the role of capital and business development, especially to the extent that a measure of a firm's stage of development could be impacted. The relationship between capital and entrepreneurship is well established (Robb and Robinson, 2014; Slavec and Prodan, 2012), with access to financing a foundational component for any business idea to be brought to market and become a viable entity. This model introduces the idea that a relationship exists but considers if the relationship holds the more mature a business becomes with other sources of earnings to support operations and other expenses (Yongwook and Woo, 2014). To the extent that innovation positively correlates with entrepreneurial activity (Chatterji et al, 2014) how decision-makers and policy developers consider support for emerging firms relates to not only the success of the firm but also is indicative of economic development within the host country.

Entrepreneurship has been explored in many forms and capacities within a loosely defined algorithm. For this reason there are wide variations in its meaning and application as relating to business and economic development (Cunningham and Lischeron, 1991). Stages of entrepreneurial development may be considered in organizing not only the initiative behind individual decision making, but also further development in those thought processes as an idea develops into a business. Nga and Shamuganathan (2010) consider personality traits as a function of start-up intentions. Their intent was to show the value of social entrepreneurship based on education and sustainable values. Innovation is a major characteristic for early stage entrepreneurs, but of secondary importance. Stam (2008) finds that the initiative and persistence to make change happen is the foundation for innovation. Taking myriad ideas and forming a workable pattern for interconnecting these opportunities is a basis for innovative success in early stage efforts. Mocnik and Sirec (2015) consider growth aspirations internationally and find that differences exist by region for innovation and growth. Innovative products and services appear to stimulate growth in Western European countries only in comparison. For established entrepreneurship a relationship can be explored through strategic management processes. A positive relationship was identified between entrepreneurship and planning, to the extent that the locus and flexibility of planning parallel strategic controls (Barringer and Bluedorn, 1999).

Access to capital often is a barrier to business success. Financial frictions exist based on productivity differences, where reductions in financial constraints are associated with entry of less productive firms (Buera et al, 2015). Firms discover innovative approaches to financing to propel development (Paik and Woo, 2014). Venture capital firms invest more heavily in early stage development as opposed to later stage development, including during economic downturns when risk may be greater.

Whether entrepreneurship has an effect on economic development largely surrounds the dynamics of business formation; opportunity-based entrepreneurs emerge to exploit potential opportunities and other forms form out of necessity as relatively few employment sources are available (Amoros et al, 2016). Government spending is generally considered to be positively related to entrepreneurial activity, but regulations may have different impacts relative to the country's level of economic development. To the extent that a country is developed versus less developed is an area for examination of not only the type of entrepreneurial activity (intention, early stage, or established), but also if such relationships hold when analyzed with a country's development characteristics (Alvarez et al, 2014) in controlling for possibility of outliers when more developed economies are expected to be positively related to thriving entrepreneurship.

In considering a period that encompasses massive economic upheaval associated with the 2007-2009 Financial Crisis ample before and after points are available for analysis. That a relationship exists between business formation and the business cycle (Koellinger and Thurik, 2012) is established and offers a foundation to further analyze such relationships in this model.

Methods

The model utilizes ordinary least squares regression in identifying statistical significance of the variables in the model. The independent variables utilized are financing, infrastructure, openness, and governmental support. A change variable (2008) captures changes associated with the Financial Crisis. The source for each independent variable is Global Entrepreneurship Monitor (GEM) https://www.gemconsortium.org/data. According to GEM, financing is the availability of financial resources - equity and debt - for small and medium enterprises (SMEs) (including grants and subsidies); infrastructure is ease of access to physical resources - communication, utilities, transportation, land or space - at a price that does not discriminate against SMEs; openness represents the extent to which new firms are free to enter existing markets; and governmental support is the extent to which public policies support entrepreneurship - taxes or regulations are either size-neutral or encourage new and SMEs. These variables were chosen in an attempt to extend the homogeneity of prior research of these categories.

The model considers mature economy and developing economy and utilized three dependent variables for each economy. The dependent variables are entrepreneurial intentions, early stage entrepreneurship, and established entrepreneurship. Mature or developing economy is represented by the following countries as identified by World Economic Situation and Prospects (WESP) https://www.un.org/development/desa/dpad/resources.html?target=data. Countries selected for mature economy are United States, Germany, and United Kingdom; developing economy countries are Brazil, India, and South Korea[1]. Each dependent variable is measured for both mature and developing economy, with results expressed in Tables 1-6 to follow.

Results

The results within this model consider the relationships between various stages of entrepreneurial activity as expressed within following six tables. Entrepreneurial intentions, early stage entrepreneurship, and established entrepreneurship are evaluated as dependent variables for both mature and developing economies. Financing, infrastructure, openness, governmental support, and change are considered as independent variables. Each model supported the measured relationships with a reasonable coefficient of determination ranging from a low of 16.74 percent to a high of 39.64 percent in explaining regression line fit between independent variables and dependent variable.

Higher levels of financing indicate positive support for entrepreneurial intentions in a mature economy at the $p < .001$ level of statistical significance. Openness, conversely, is associated with less support for such firms and is inversely correlated in the model. Strong

[1] United Nations changed status of South Korea from developing economy to developed economy in July 2021; analysis only includes years 2001-2020, when country was designated as developing.

statistical significance for the variable, change, indicates a positive trend from 2009 to 2020 as the world economy emerged from the 2008 Financial Crisis. Table 1 Entrepreneurial Intentions (Mature Economy) provides these results.

Table 1
Entrepreneurial Intentions (Mature Economy)

Variable	Coefficient	t-statistic	p-value	Adjusted R-square
				0.3964
Intercept	1.8906	0.3578	0.7219	
Financing	3.0737	3.4665	0.0010	
Infrastructure	1.9753	1.3358	0.1872	
Openness	-2.9753	-1.9210	0.0600	
Governmental Support	-1.1729	-0.8942	0.3752	
Change	2.9929	4.0382	0.0002	

Dependent Variable: Entrepreneurial Intentions

Financing is a very strong, positive factor for early stage entrepreneurship in a mature economy. The coefficient for the variable is 5.0811 and $p < .0001$. Change variable is statistically significant and positive, with early stage entrepreneurial efforts intensifying after the financial crisis ended and in subsequent years. Unlike entrepreneurial intentions, openness is not significant in this model. Table 2 Early Stage Entrepreneurship (Mature Economy) provides these results.

Table 2
Early Stage Entrepreneurship (Mature Economy)

Variable	Coefficient	t-statistic	p-value	Adjusted R-square
				0.3319
Intercept	2.4827	0.3487	0.7287	
Financing	5.0811	4.2528	0.0001	
Infrastructure	1.4971	0.7513	0.4557	
Openness	-3.1197	-1.4949	0.1408	
Governmental Support	-2.5128	-1.4218	0.1608	
Change	2.1965	2.1994	0.0321	

Dependent Variable: Early Stage Entrepreneurship

Table 3 Established Entrepreneurship (Mature Economy) indicates that financing and change continue to be positive variables for entrepreneurship. Governmental support is inversely correlated with established entrepreneurship. Infrastructure and openness are also inversely related but are not significant and could have occurred as a result of chance.

Table 3				
Established Entrepreneurship (Mature Economy)				
Variable	Coefficient	t-statistic	p-value	Adjusted R-square
				0.3687
Intercept	9.0705	2.8744	0.0058	
Financing	1.1934	2.2537	0.0283	
Infrastructure	-0.2726	-0.3086	0.7588	
Openness	-0.5761	-0.6229	0.5360	
Governmental Support	-1.7423	-2.2243	0.0303	
Change	1.4697	3.3206	0.0016	

Dependent Variable: Established Entrepreneurship

Tables 4, 5, and 6 depict results for developing economy. For entrepreneurial intentions in a developing economy only one variable in the model, governmental support, was significant ($p < .05$) and it was an inverse relationship. Infrastructure was almost significant at $p < .10$, with a large coefficient representing a relatively large increase in entrepreneurial intentions. Table 4 offers these results for entrepreneurial intentions (Developing Economy).

Table 4				
Entrepreneurial Intentions (Developing Economy)				
Variable	Coefficient	t-statistic	p-value	Adjusted R-square
				0.2436
Intercept	16.1811	1.7919	0.0787	
Financing	-0.6084	-0.1017	0.9194	
Infrastructure	11.7943	1.6275	0.1094	
Openness	-3.7287	-0.4536	0.6520	
Governmental Support	-5.6205	-2.1988	0.0322	
Change	0.5612	0.1944	0.8466	

Dependent Variable: Entrepreneurial Intentions

Financing is a positive factor in early stage entrepreneurship ($p < .05$). Conversely, infrastructure ($p < .10$) and governmental support ($p < .001$) are negative or inverse factors. No other variable in the model is statistically significant. Table 5 Early Stage Entrepreneurship (Developing Economy) summarizes these results.

Table 5				
Early Stage Entrepreneurship (Developing Economy)				
Variable	Coefficient	t-statistic	p-value	Adjusted R-square
				0.3342
Intercept	26.4692	7.2771	0.0000	
Financing	7.4460	3.0902	0.0032	
Infrastructure	-5.2310	-1.7920	0.0787	
Openness	-3.0891	-0.9328	0.3551	
Governmental Support	-4.1737	-4.0536	0.0002	
Change	0.0134	0.0115	0.9908	

Dependent Variable: Early Stage Entrepreneurship

Governmental support ($p < .05$) is the only variable significant in the model for established entrepreneurship in a developing economy. The relationship is inverse and indicates more government support produces fewer established entrepreneurs. Likewise, infrastructure has a negative correlation but is barely significant ($p < .10$). No other variable in the model is significant. See Table 6 Established Entrepreneurship (Developing Economy) for these results.

Table 6				
Established Entrepreneurship (Developing Economy)				
Variable	Coefficient	t-statistic	p-value	Adjusted R-square
				0.1674
Intercept	22.1500	5.7614	0.0000	
Financing	3.3954	1.3332	0.1881	
Infrastructure	-5.0347	-1.6318	0.1085	
Openness	0.6168	0.1762	0.8608	
Governmental Support	-2.9853	-2.7430	0.0082	
Change	1.2327	1.0029	0.3204	

Dependent Variable: Established Entrepreneurship

Conclusions

Intuition suggests that a mature economy with a developed framework for business development would naturally support innovation as a basis for entrepreneurship from collaborative efforts. Firms operating in a mature economy experience benefits of infrastructure and a developed financial services system and market for access to capital. Governmental support may or may not be ephemeral but is contingent on a multitude of factors that define the extent of openness within an economy (Hartley, Sørensen, & Torfing, 2013). To the extent that wealth is concentrated, stages of entrepreneurship may not flourish as planned in developing economies (Nelson, 1977).

This study tests if a difference exists between the type of entrepreneurial development (intention, early-stage, or established) relative to the degree of development within an economy, while controlling for access to capital, structural aspects of an economy, and the extent that government policies support entrepreneurship.

Findings indicate that financing and access to capital are a positive, significant variable for entrepreneurial development in a mature economy and each stage of entrepreneurial activity. This relationship does not appear to hold when considered from the aspect of a developing economy, with the exception of Early Stage Entrepreneurship. These findings are consistent with Robb and Robinson (2014), and Slavec and Prodan (2012) but extend that study by controlling for type of economy and entrepreneurial activity. Access to capital is found to be a stronger predictor of entrepreneurship when an economy has the wherewithal to support businesses. Mocnik and Sirec (2015) find that innovation and growth are stronger in Western European countries, but do not control for types of activity. The fact that capital flows are not as relevant when an economy is less developed does not dispute the necessity of capital, but rather a developing economy may depend more on initiative and persistence (Stam, 2008) when less economic structure exists.

Governmental support is inversely correlated with entrepreneurial activity. This finding is surprising in that definitional measures intuitively indicate that the variable should produce a positive correlation. Likely, the role of government support may be ruinous as undue burdens of regulations are warranted. That these effects are occurring is consistent with the significance of the variable for all types of economic activity in a developing economy with fewer levels of support.

Change variable measures the extent that entrepreneurial activity varies as a function of economic crises. In this model change is only statistically significant for Mature Economy. With effects strongest for Entrepreneurial Intentions as compared to Early Stage Entrepreneurship and Established Entrepreneurship, respectively, results suggest that the support offered by an established economy is a determinant of business activity after economic malaise. That such relationship does not exist for Developing Economy suggests that an equivalent support system does not exist.

Contributions and Value

This research contributes to a study of economic development by classifying stages of development by type of economy. While prior studies identify growth opportunities (Mocnik and Sirec, 2015) as a measure of growth opportunities in regions, inadequate research differentiates categories of development. Although financing is a factor in propelling development (Paik and Woo, 2014), with early stage development a larger driver for capital, this study finds that capital appears to be a significant factor in entrepreneurial development for firms in a mature economy but not in developing countries.

These findings add value to the research contribution by isolating that type of economy is the foundation of support for firm development rather than development of the firm within one of the identified stages. Market friction in a developing economy exists as an impediment to entrepreneurship (Atolia and Prasad, 2011), but the risk that this study identified is not supported with higher levels of development. The contribution of this research further isolates the type of economy as a predictor of development after an economic crisis. Firms that are less developed or vaguely more than an intention show relatively stronger development after a crisis, but primarily in a mature economy rather than an overall function of business cycle (Koellinger and Thurik, 2012).

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