

# **Does Entrepreneurial Activity Assist in the Alleviation of Poverty?**

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*Poverty is a major issue across the world with governments and organizations such as the World Bank and the IMF increasingly looking for ways to reduce its impact. Despite this, almost 2.5 billion people still live in poverty. Entrepreneurial Activity can reduce poverty and can be boosted through the help of Entrepreneurship Facilitators such as Government, Incubators, and Financial Institutions. This study examines the relationship between Entrepreneurial Activity and poverty alleviation using Feasible Generalized Least Square (FGLS). The study found a positive and significant relationship between Entrepreneurial Activity and poverty alleviation as measured by the changes in Human Development Index (HDI) in all 104 countries studied over a 12 year period, and that the presence of good Entrepreneurial Facilitators improves the capacity of Entrepreneurial Activity. It suggests that governments need better business related regulations to motivate entrepreneurs and create ease of doing business.*

*Keywords: ease of doing business, entrepreneurial activity, poverty, moderator model, panel FGLS model*

## **INTRODUCTION**

It has long been realized that poverty is a major issue that every country faces. In its severe form, it is a major retarding factor in the economic growth and development of the country (Bruton et al., 2013). Even developed countries face major poverty challenges. However, according to World Bank (2016, para. 2), the World achieved the Millennium Development Goal of reducing poverty rate to half of the set target by 2015.

Countries suffer from different forms of poverty, leading to differences in the definition of poverty in developed, developing and underdeveloped countries. Over the last three decades, governments and international organizations such as the World Bank and IMF have been trying to reduce poverty (Stiglitz, 2002). By improving health services, investing on education, improving the quality of legislation, governments can motivate people to become an entrepreneur, which is a factor in reducing the ratio of extreme poverty in a country (Alvarez & Barney, 2014; Sachs, 2005). Entrepreneurship offers different workable techniques and methods to break the cycle of poverty (Hussain et al., 2014).

Entrepreneurship is one of the oldest human activities. Focused on identifying new opportunities and using those opportunities in a new business venture, usually for monetary gain (Landstrom, 2007), entrepreneurship can help in economic development and alleviate poverty by creating more jobs, allowing more people to become entrepreneurs and improving the standard of life by providing better access to basic goods and services (Arshed et al., 2019; Mead & Liedholm, 1998). Entrepreneurial Activities have both financial and non-financial benefits. Non-financial benefits include individual satisfaction, entrepreneurial learning experience, successful creation and expansion of new ventures, increases in employee numbers, improving the standards of living and improving employment rates (Bhagwati & Srinivasan, 2002; Luke, Verreynne, & Kearins, 2007). Whereas, some of the financial benefits of entrepreneurial activities in organizations and businesses are, revenue generation, wealth accumulation, profitability, GDP growth, increase in taxation and welfare (Luke et al., 2007, p. 325).

Countries strive to improve the financial well-being of their public and explore the effectiveness of several indicators for achieving this goal (Okpara, 2011). This study examines Entrepreneurial Activity and Entrepreneurship Facilitators (Government, Incubators, and Financial Institutions) and their role in poverty alleviation by comparing the situation in high-income, high medium-income, medium-income and low-income countries, as per the United Nations Development Program definition (UNDP, 2018). To answer these questions, secondary data for Entrepreneurial Facilitators, Entrepreneurial Activities, and Economic Factors and Poverty (instrumented via Human Development Index (HDI)) for the period of 2005 to 2016 are used.

This paper has five sections, following the introduction, Section 2 provides a literature review. Section 3 reviews data and methodology, Section 4 describes the results and their analysis. Section 5 provides a conclusion.

## **LITERATURE REVIEW**

### **Background**

As discussed earlier, poverty is a major challenge faced by most countries. This section provides further examination of the concept of poverty. For example, “A person is in poverty if, a person is suffering with hunger, he does not have any shelter, at the time of sickness he is not able to see a doctor, he does not have any access to the schools, he doesn’t know how to read and he does not have any job.” (Todaro & Smith, 2012, p. 23). However, each country sets their own poverty line depending on their economic situation and government policies. Countries use certain tools to determine their poverty line such as Low-Income Cut-offs (LICO), Basic Needs Parameters, Market Basket Measure, Absolute Measure and Relative Measure (Parliament of Canada, 2008).

Moreover, entrepreneurship helps to change the business environment of a country which ultimately plays a positive role in the wellbeing of the general population of a country, especially those living below the poverty line. The creation and promotion of new ventures and business activities in a country can reduce the reliance of that country on foreign direct investment (FDI) (Mitra et al., 2011). Such entrepreneurial activities allow people to become economically independent and stimulate them to have income empowerment (Adenutsi, 2009; Arshed et al., 2020).

### **The Issue of Poverty**

Poverty adversely affects the lives of many individuals and the economy of every country to some degree. Definitions of poverty varies in the economy of every country. According to Bruton, Ketchen, & Ireland (2013), almost 2.5 billion people are living below the poverty line, surviving at the income of US \$2 or less a day. However, according to Lant, Klasen, Alkire, Lenhardt, and Letouzé (2013), setting the level of poverty at \$1.25 a day is not appropriate level, arguing for a poverty level of \$10 a day. Singer (2006) argues the best way to alleviate poverty and assist people is to give them access to the basic human capital, i.e. education, health, shelter. Many argue that this objective can be achieved by starting new ventures and business activities through entrepreneurship.

The definition of poverty in developed countries is different from that used in developing countries. For example, in developing countries the meaning of poverty is “lack of shelter, lack of food, lack of health and lack of education facilities.” (Singer, 2006, p. 226). According to Lamnam and MacIntyre (2016), there are two ways through which poverty has been defined in developed countries, “Level of resources needed to purchase a family’s basic needs” (Lamnam & MacIntyre, 2016, p. 3) and “A situation in which someone is relatively worse off than other members of society” (2016, p. 2).

It has also been argued that “There are three different categories of poverty in which people are living i.e. poverty caused by disease, poverty caused by some tragic incident and poverty caused by the system” (W. Goldsmith & Blakely, 1991, p. 18). However, a different point of view argues that “The concentration on individual characteristics as a cause of poverty is misdirected.” (Rank, 2004, p. 79).

Recently, scholars have investigated possible root causes of poverty and have offered some theories to mitigate it. While scholars from a variety of business-related disciplines such as economics, finance and management have been investigating poverty for many years, entrepreneurship scholars have recently started to pay increased attention to poverty offering different approaches and methodologies to alleviate poverty (Arshed et al., 2017; Bruton et al., 2013; Tambunan, 1994).

In developed countries where people have access to basic goods and resources, unemployment is the situation in which a person does not enjoy the prevalent standard of life in that country (D’haese et al., 2008). Thus two main reasons which might cause a person to be unemployed are lack of proper education and skills and lack of opportunity. Lack of proper education and required skills restrict a person to apply for limited categories of jobs and face high competition. Lack of opportunity means a person has education and skills but few job opportunities are available in the market for those skills (Shahid et al., 2009). Table 1 shows definitions proposed to understand poverty in developed, developing and underdeveloped countries.

**TABLE 1  
DEFINITIONS OF POVERTY**

<b>Authors</b>	<b>Year</b>	<b>Definitions</b>
<b>Underdeveloped Countries</b>		
Todaro and Smith	(2012, p. 23)	“A person is in poverty if, a person is suffering with hunger, he does not have any shelter, at the time of sickness he is not able to see a doctor, he does not have any access to the schools, he doesn’t know how to read and he does not have any job.”
<b>Developing Countries</b>		
Singer	(2006, p. 226)	“Lack of shelter, lack of food, lack of health and lack of education facilities.”
<b>Developed Countries</b>		
Lamnam and MacIntyre	(2016, p. 2)	“A situation in which someone is relatively worse off than other members of society.”
Lamnam and MacIntyre	(2016, p. 3)	“Level of resources needed to purchase a family’s basic needs”

Two types of poverty which can be observed in most countries (developed and developing) are absolute poverty and relative poverty. According to Hussain, Bhuiyan and Bakar (2014, p. 560), “absolute poverty is explained as lack of resources to meet the physical needs for survival and relative poverty is explained as being worst off than average.”

Sutter, Bruton, and Chen (2019) argued that more work needed to be done in the specific domain of the role of entrepreneurship as a solution for extreme poverty. They differentiate remediation, reform and revolution in research prospective.

## **The Contribution of Entrepreneurship**

Evidence exists that governments and financial institutions have long tried to address the problem of poverty specifically from an educational perspective (Arshed et al., 2018; Kolvereid & Moen, 1997). However, historically researchers paid less attention to poverty in context of entrepreneurship. Schumpeter (1942) developed the idea of creative destruction which is the process of destroying something by bringing something new at its place. Shane and Venkataraman (2000) discussed the opportunities utilized by entrepreneur or an individual to create future goods and services. Rindova, Barry, and Ketchen (2009) gave a slightly different perspective of entrepreneuring as the effort by an individual to bring new cultural, social and economic environment. McMullen (2011) identified that a market-based approach can help a person to overcome poverty. New business enterprises and innovation play a vital role for the development of economic growth and alleviating poverty (Schumpeter, 1934; Acs, 2006; Sombart, 2013).

Schumpeter proposed the “creative destruction” concept to explain the market dynamics where firms or individuals engage each other in a competition. Such competition is good for economic benefit (Schumpeter, 1934). An efficient business environment enhances the productivity of the firms which will create more jobs and economic growth (Ahlstrom, 2010). Schumpeter discussed ineffective allocation of investments, “Add successively as many mail coaches as you please, you will never get a railway...” (Schumpeter, 1934, p. 64). New business enterprises and innovation plays a vital role for the development of economic growth and alleviating poverty (Schumpeter, 1934; Sombart, 2013).

One factor inhibiting research to investigate poverty alleviation through entrepreneurship is that most of the scholars who worked in this field came from developed countries (Europe and North America) where poverty has never been seen as central issue. Thus their theories may not explain the extent and depth of poverty rampant in developing and under developed countries. Kareem (2015), who comes from a developing country, discussed different success factors through entrepreneurship, arguing “The more common factors of entrepreneurship to alleviate poverty include psychological factors (intelligence, creativity, motivation for autonomy and affiliation), individual factors (education, knowledge of the market and business, family background and age), socio-cultural factors (tensions in the society, religious values in society and social structure), and opportunity factors (economic opportunities, guided entrepreneurship, current programs of entrepreneurial training, peer group assistance and access to finance)” (p5). Kareem also explains some reinforcing factors which help a person to become a successful entrepreneur i.e. self-motivation for achievement, business related skills, an understanding of the market forces, self-confidence, social and government policies.

Discussing entrepreneurship channels, Shane (2008) explains that entrepreneurship helps countries to develop mechanisms for economic growth, creating employment, and generating business opportunities. Chiles, Bluedorn, and Gupta (2007) stress that entrepreneurs should learn new skills and enhance their capacity to serve people in a better way. These entrepreneurial activities lead to the acquisition and use of new technologies, enrich the administrative strategies and help organizations fulfill the needs of their customers effectively (Draft & Marcic, 2006). Entrepreneurship alleviates poverty by creating more jobs, allowing people to have self-employment, empowerment to the middle class and enhance the country’s economy (Si et al., 2015). Another channel of entrepreneurship and poverty alleviation is “social entrepreneurship”, which “...encompasses the activities and processes undertaken to discover, define, and exploit opportunities in order to enhance social wealth by creating new ventures or managing existing organizations in an innovative manner” (Zahra, Rawhouser, Bhawe, Neubaum, & Hayton, 2008, p. 118) and utilizing the skills of the entrepreneur or an individual and resources of the area to overcome several problems faced by developed and developing countries (Santos, 2012).

Studies have demonstrated that better Entrepreneurial Activity enhances economic growth (Acs & Storey, 2004; Audretsch & Keilbach, 2004; Karlsson et al., 2004; Schramm, 2004; Wennekers & Thurik, 1999) with others finding that better economic development will increase the level of Entrepreneurial Activity (Carree et al., 2007; Grilo & Irigoyen, 2006; Hessels et al., 2008).



## **Determining the Influence of Entrepreneurial Activity on Poverty Alleviation**

### *Introduction*

In determining the impact of Entrepreneurial Activity on poverty, there is a need for appropriate dependent variable to measure poverty and to investigate its relationship with Entrepreneurial Activity. Often, Gross National Income (GNI) is proposed as a measure of poverty (Todaro & Smith, 2003).

However, GNI has significant weaknesses and is not a good indicator to measure the standard of living, which plays an important role in the development of Entrepreneurial Activity (Capelli and Vaggi, 2013).

An alternative measure potentially offering a better fit is the Human Development Index (HDI). HDI is comprised of education, health and standard of life which makes it a better choice to be used as a proxy to measure poverty.

### *The Human Development Index (HDI)*

The United Nation Development Programme's Human Development Index (HDI) is an aggregated number using:

- Long and healthy life (life expectancy at birth)
- Knowledge (expected years of education)
- A decent standard of living (GNI per capita PPP \$) (UNDP, 2018)

UNDP collects worldwide data and publishes an annual HDI report (UNDP, 2018). According to Sen (2000), a person having both better income and capability can improve their standard of living. Sen also claims that better health and education will help people to overcome poverty and enjoy better quality of life.

The UNDP identified four types of economies, segmented by their HDI value (UNDP, 2018).

- High-Income Countries (an HDI value of 0.800 and above)
- High Medium-Income Countries (0.700 – 0.799)
- Medium-Income Countries (0.550 – 0.699)
- Low-Income Countries (Below 0.550)

According to Todaro and Smith (2003), high-income (HDI) countries enable people to have better life, education, and health. Similarly high level income brings productivity in a country which raises the economic growth. According to Georgiou (2009a), entrepreneurial activities such as Trade Openness, services in hospitals, economic growth and education can improve HDI.

## **Entrepreneurship Facilitators and Their Role in Alleviating Poverty**

The concept of facilitators and their role in poverty alleviation is frequently discussed. Some have considered government as a facilitator to alleviate poverty (VanSandt & Sud, 2012), other scholars have described financial institutions as facilitators to alleviate poverty (Dadhich, 2001). Some have used the term facilitators for anything which can help a country to create more jobs, increase in GDP, improve the standard of living and reduce poverty (Pearce, 1993; Rogerson, 1999).

### *Entrepreneurship Facilitators*

For this study, those institutions that facilitate and motivate entrepreneurs in the process of starting, expanding or running businesses are known as Entrepreneurship Facilitators, including Government, Incubators, and Financial Institutions (Bruton et al., 2013). They also discussed the role of Entrepreneurship Facilitators as institutions which are responsible to seek the solutions of poverty and enhance economic development (Carland et al., 1984). Entrepreneurship Facilitators can play a vital role in creating a suitable environment for a person to become an entrepreneur.

A main role for Entrepreneurship Facilitators is helping people living in poverty to gain new knowledge and skills to establish novel goods and services (Mitra et al., 2011). They can also allow individuals to mobilize key factors such as technology, labor and capital which can enhance the economy of the country. Entrepreneurship Facilitators can help the country generate employment by developing

skills of people to overcome obstacles in their ways to have new start-up ventures or business activities (Yassin & Abdel, 2013).

According to Jones, Coviello, and Tang (2011) factors that can play a role of facilitators are:

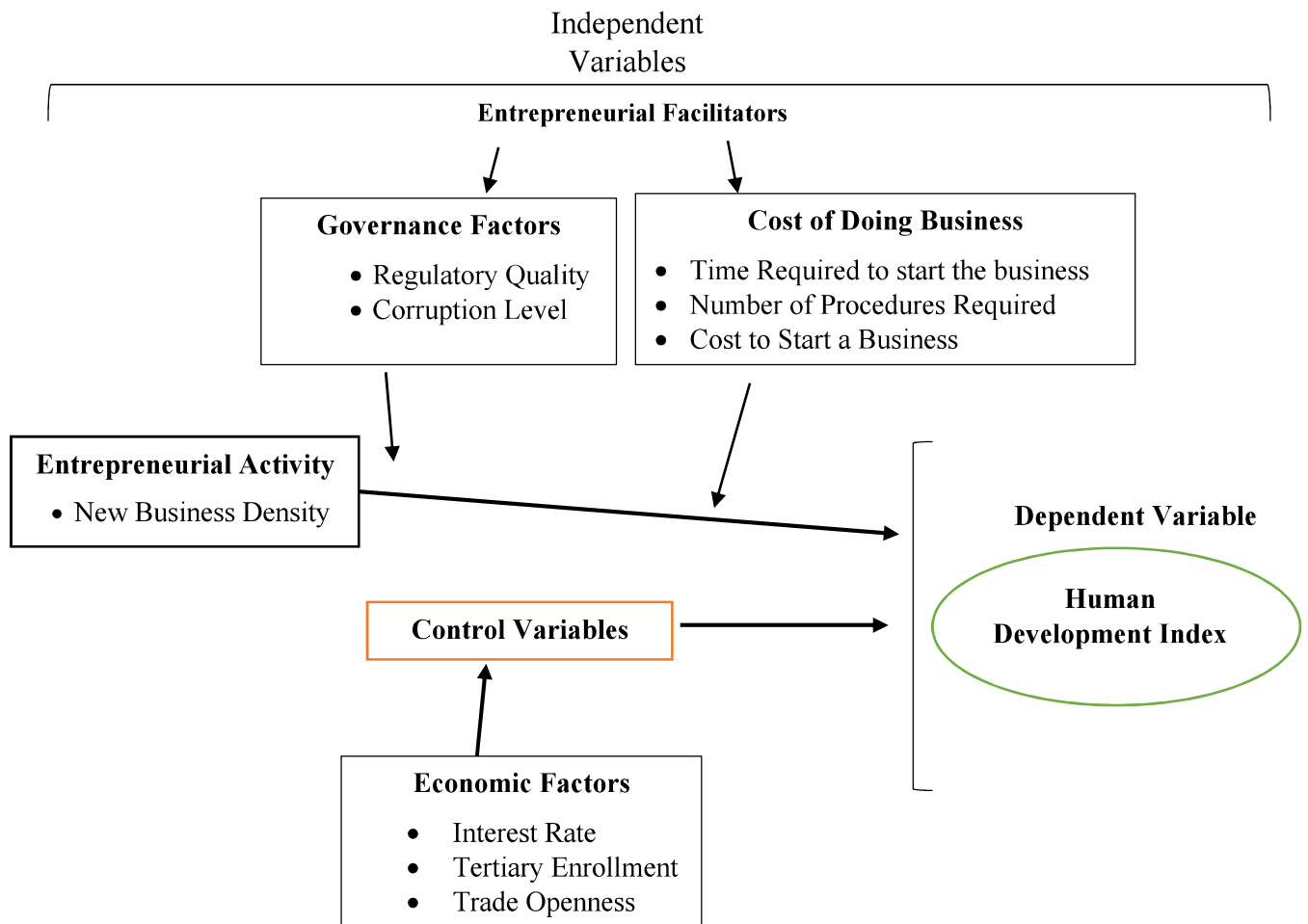
- Access to finance
- Human capital
- Regulatory quality
- Property rights

*Developing a Theoretical Model*

Figure 1 presents the theoretical model developed for the study to evaluate the effect of Entrepreneurial Activity on Human Development Index (HDI). This builds on an initial model developed by Grant, Aziz, and Arshed (2019). It further estimates possible moderators, such as Governance Factors and Cost of Doing Business, which may increase social gains from entrepreneurship.

The model recognizes that the success of an entrepreneurial activity depends on internal and environmental factors. Environmental factors play a vital role for business enterprises to thrive. A conducive business environment helps the entrepreneurial process to be successful by providing needs at right time (Jain & Ali, 2013, p. 124). Better institutional structure also allows an individual to make effective decisions which will enhance Entrepreneurial Activity (Levie & Autio, 2011; Stenholm, Acs & Wuebker, 2013).

**FIGURE 1  
THEORETICAL MODEL**



### *The Facilitators*

“Governance Factors” includes Regulation Quality and Control for Corruption, which can play a vital role in the development of Entrepreneurial Activity in a country (Nistotskaya & Cingolani, 2016). There is a direct link between the quality of bureaucracy and the implementations of rules and regulation in a society. If the bureaucracy is honest and bureaucratic hurdles are minimum, the level of corruption will likely be lower which will facilitate the process of starting or registering a new business (Bjørnskov & Foss, 2010; Nistotskaya & Cingolani, 2016).

**Good Regulatory Quality** allows people to have better health and education facilities (La Porta et al., 1999; Rothstein & Teorell, 2008; United Nations, 2000; World Bank, 1997) and more businesses will likely be registered. Nistotskaya and Cingolani (2016) examined the impact of quality of governance and corruption Level on number of business registered in both developed and developing countries finding that most developed countries have a good quality of governance and low levels of corruption. Thus the rate of businesses registered in developed countries is higher than the rate of businesses registered in developing countries. Economic growth will likely take place because of higher rates of businesses registered and good governance (Aidis, Estrin, & Mickiewicz, 2008; Bjørnskov & Foss, 2010; Klapper, Laeven, & Rajan, 2006; Nyström, 2008). Acemoglu and Robinson (2013) said, “encouraged participation by the great mass of people in economic activities that make the best use of their talent and skills” by providing “a level playing field that gives them the opportunity to do so” (Acemoglu & Robinson, 2013, p. 74, 76).

However, if a government has unnecessary regulations that can create hurdles for people in starting a business such as the procedures to register business, approval from provincial or federal administrations, high taxes, access to finance etc. then the role of corruption in that nation may be supportive in enhancing the entrepreneurial activities (Hanif et al., 2019; Hassan et al., 2020; Leff, 1964).

**Control for Corruption** also influences Entrepreneurial Activity. Bad governance and high levels of corruption may reduce entrepreneurial activity or encourages people to operate their businesses in an illegal way where they don't pay taxes or fulfill the required procedure of registering their business (Friedman et al., 2000; Johnson et al., 1998; Klapper et al., 2010).

According to Mauro in 1995, with increased levels of corruption, fewer people will invest in businesses which will lower the economic growth of that country. So, developed countries, typically have much lower level of corruption, and proper channels that facilitate the initiation of business and simplified process for registering a business (World Bank, 2016b).

Thus effective regulatory quality and control for corruption are argued to increase entrepreneurial activities and then contribute to improve the standard of life for people in a country (Guasch & Hahn, 1999; Jalilian et al., 2007).

Cost of Doing Business can be influenced by three things: Time Required to Start the Business; Number of Procedures Required; and Cost to Start a Business. **Time Required to Start the Business** can demotivate entrepreneurs. Branstetter, Lima, Taylor and Venâncio (2014) found that ill-conceived government policies can hold back people from starting a business or demotivate people because of increase in time required to start the business which can hinder healthy entrepreneurial activities. Such policies can constraint the economic development of a nation. Also increasing

Furthermore, if a government has unnecessary regulations those regulations will create hurdles for people in starting a business such as **Number of Procedures Required to Start or Register a Business**. Developed countries tend to have more business friendly finance-support system in shapes of soft loans, grants and excellent business conducive environment for people to become an entrepreneur as compared to developing countries where people face a liquidity shortage problem along with cumbersome bureaucratic procedures (Chen & Mintz, 2005).

Easy access to finances will reduce **Cost to Start a Business** which motivates people to start new enterprises and this has proved effective for the development of economies. Such steps on the part of governments can enhance entrepreneurial activities (Yunus, 2007).

When the Cost to Start a Business increases, it may demotivate entrepreneurs and fewer entrepreneurs will start a business. Cost of Starting a business can be high if entrepreneurs have bear long documentations and procedures to register their businesses.

### **Controlling Economic Factors**

The first Economic Indicator in this study is **Interest Rate**. The dynamics of Interest Rate are dual in nature, from the demand side it works as cost of borrowing while from the supply side it represents opportunity cost of not investing excess capital. Higher Interest Rates may hinder the entrepreneurship process if the entrepreneur hopes to access capital from the market, while it may motivate the entrepreneur if he is the main financier.

The traditional flow model of trade explains that investors will arbitrage if domestic Interest Rate increases relative to foreign Interest Rate, which may increase capital inflow (Fleming, 1962; Mundell, 1962). This capital inflow (probably FDI) has potential to decrease poverty (Uttama, 2015; Zaman et al., 2011).

Further having awareness and skills increases the probability of success (Kolvereid & Moen, 1997). Thus, development of human skills, as measured by **Tertiary Enrollment** plays a vital role. Mankiw, Romer, and Weil (1992) argue that education can contribute to poverty alleviation. Deyshappria (2018) added that, for a sample of 119 countries, increasing secondary skilled labor decreased the level of poverty significantly. A study on SAARC economies by Arshed et al. (2018) indicated that education has potential to reduce income inequality (relative poverty) but it depends on the level and demand of different skill level of labor.

**Trade Openness** has an important role in globalization, and brings more opportunities for the entrepreneur. Bringing an increase in demand, flow of ideas and capital. So in studying the effect of entrepreneurship on poverty, the interaction of Trade Openness must be controlled for in analysis. Many studies have examined the link between Trade Openness and poverty (Bergh & Nilsson, 2011; Dollar, 1999; World Bank, 2002), with Santarelli and Figini (2002) finding that expansion of trade leads to growth which may alleviate poverty.

The next section describes the study research objective and questions. To answer the research questions, a methodology has been developed to do an investigation on all country income groups (high-income, high medium-income, medium-income and low-income countries).

### **Research Objective & Research Questions**

This study explores the role of entrepreneurship in the poverty alleviation of different types of economies while considering the moderating role of entrepreneurship facilitators. The specific research questions are:

- (1) Can entrepreneurship activity alleviate poverty as measured by HDI across all country income groups?
- (2) Do Entrepreneurship Facilitators moderate the entrepreneurship and poverty relationship for all country income groups?
- (3) What is the effect of controlling factors on poverty?

## **METHODOLOGY**

### **Research Hypothesis**

This study investigates the role of Entrepreneurship Facilitators in alleviating poverty in high-income, high medium-income, medium-income, and low-income countries. Specifically, to answer the questions as stated in the previous section, the current study tests the following hypotheses.

*H<sub>1o</sub>: There is no significant relationship between Entrepreneurial Activity and poverty.*

*H<sub>1a</sub>: There is significant relationship between Entrepreneurial Activity and poverty.*

*H<sub>2a</sub>: Entrepreneurial Facilitators (i.e. Governance Factors and cost factors) have no significant impact on the relationship between Entrepreneurial Activity and poverty.*

*H<sub>2a</sub>: Entrepreneurial Facilitators (i.e. Governance Factors and cost factors) have significant impact on the relationship between Entrepreneurial Activity and poverty*

*H<sub>3a</sub>: Controlling variables have no significant impact on the relationship between Entrepreneurial Activity and poverty.*

*H<sub>3a</sub>: Controlling variables have significant impact on the relationship between Entrepreneurial Activity and poverty.*

**Data and Sample**

The annual time series data of all the variables were collected for the period of 2005 to 2016, Table 2 shows the definitions of variables used and their sources.

**TABLE 2  
VARIABLES AND DATA SOURCES**

<b>Variables (Symbol)</b>	<b>Definitions</b>	<b>Sources</b>
HDI	Measure of development (Index)	Human Development Reports (UNDP)
New Business Density (NBD)	Registration per 1000 people ages 15-64	World bank’s entrepreneurship survey and database
Cost of New Business (CNB)	% of GNI per capita	Doing Business Reports
Number of Procedures Required for a Start-up (PRS)	Number of procedures required	Doing Business Reports
Time Required to Start a Business (TRSB)	Number of days required to start a business	Doing Business Reports
Control for Corruption (CFC)	Perceptions of the extent to which public power is exercised for private gain (-2.5 to 2.5)	Worldwide governance indicators
Regulatory Quality (RQ)	Perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development (-2.5 to 2.5)	Worldwide governance indicators
Interest Rate (IR)	Long run bond rate per annum	World Development Indicators
Tertiary Enrollment (TE)	% gross	World Development Indicators
Trade Openness (TO)	Total trade (% of GDP)	World Development Indicators

**Functional Form**

The functional form used for this research is  $Poverty_{it} = f(Entrepreneurial\ Activity_{it}, Entrepreneurial\ Facilitators_{it}, Economic\ Factors_{it})$ , where,

- Poverty is measured using Human Development Index (HDI) denoting social inclusion or poverty alleviation in the economy

- Entrepreneurial Activity is new business registered density in the economy.
- Entrepreneurial Facilitators have two subcategories I) Cost of Doing Business is average of Time Required to Start the Business, Number of Procedures Required and Cost to Start a Business and II) Governance Factors comprises Regulatory Quality and Control for Corruption.
- Economic Factors include Interest Rate, Tertiary Enrollment and Trade Openness.
- $i$ = is countries in different income group i.e. high-income, high medium-income, medium-income and low-income groups
- $t$ = is years 2005 to 2016

### Estimation Equation, Specification and Approach

To fulfill the research objectives, this study estimates the following model, where Entrepreneurial Activity is EA, Entrepreneurial Facilitators is EF, and Economic Factors is ECO.

$$HDI_{it} = \alpha_0 + \alpha_1 EA_{it} + \alpha_2 EF_{it} + \alpha_3 ECO_{it} + \varepsilon_{it} \quad (1)$$

Human Development Index (HDI) and Governance Factors are in index form, whereas all other non-index form variables are transformed using natural log. This process of natural log linearizes the model, makes coefficients comparable and reduces changes of heteroskedasticity (Arshed et al., 2018).

While Entrepreneurial Facilitators (Cost of Doing Business and Governance factors) have no direct link with poverty, each of them define the capacity of Entrepreneurial Activity to alleviate poverty. Hence both of these Entrepreneurship Facilitators are included in this study as moderators (Hayes, 2017). Since the study uses panel data, where each variable changes across countries and time, to make the model stable one of the pillars (out of time or cross section) must be made fixed. Under this approach, four major types of models were considered for this study, as shown in Table 3 (Greene, 2003; Gujarati, 2009). Panel Generalized Least Squares (Feasible Generalized Least Square) was chosen. The data is too big and to remove heterogeneity, Feasible Generalized Least Square (FGLS) has been used because the data is too big and to remove heterogeneity. Also, this model robust any remaining error even after solving general errors. And panel data has been made to solve multicollinearity.

$$HDI_{it} = \alpha_0 + \alpha_1 EA_{it} + \alpha_2 EF_{it} + \alpha_3 ECO_{it} + \varepsilon_{it} \quad (2)$$

**TABLE 3**  
**COMPETITIVE MODELS**

Model name	Assumption used
Pooled OLS	This model assumes that all the cross-sections are same while data only changes in time.
Fixed Effect Model	This model assumes that all the cross-sections are quantitatively different which can be controlled / measured using different intercepts
Random Effect Model	This model assumes that all the cross-sections are randomly different which can be controlled using different intercepts
Panel Generalized Least Squares	This model assumes that underline cross-sections behave similarly but their standard deviations are different

### RESULTS AND THEIR ANALYSIS

As discussed earlier, the annual time-series data of Human Development Index (HDI) were collected for the period of 2005 to 2016 from United Nations Development Programme (UNDP, 2018). Human

Development Index (HDI) is used as a proxy to measure poverty in both all countries in the world and their sub-group such as: high-income, high medium-income, medium-income and low-income countries.

As Figure 1 shows, the dependent variable is Human Development Index (HDI) and the independent variable is Entrepreneurial Activity. Entrepreneurial Facilitators are used as a moderator in between Entrepreneurial Activity and HDI. Moreover, Economic Factors is used as a control variable. Table 4 shows the total number of countries in each country income group. Also, based on availability of data the countries which have been used in analysis are shown below:

**TABLE 4**  
**SEGMENTATION OF COUNTRY GROUPS AND ITS ANALYSIS**

<b>Segmentation by Group</b>	<b>Total</b>	<b>Used in Analysis</b>	<b>%</b>
High-Income	59	43	73.0
High Medium-Income	53	29	54.7
Medium-Income	39	19	48.7
Low-Income	38	13	34.2
Total	189	104	55.0

The estimation equation is used for all counties, High-Income, High Medium-Income, Medium-Income and Low-Income Income groups. Table 5 shows the estimation results overall and for each country income group. The significant Wald test shows that the overall Entrepreneurial Activity model is a fit. The intercept value is significant and positive, indicating that all country income groups have positive trend of HDI after controlling for the independent variables used in this study.

**TABLE 5**  
**ESTIMATION RESULTS**

<b>HDI</b>		<b>All Countries</b>	<b>High-Income</b>	<b>High Medium-Income</b>	<b>Medium-Income</b>	<b>Low-Income</b>
Full Variable Name	Code Name	Coefficient (Prob.)	Coefficient (Prob.)	Coefficient (Prob.)	Coefficient (Prob.)	Coefficient (Prob.)
New Business Density	NBD	0.04 (0.00)	0.01 (0.01)	0.01 (0.02)	0.03 (0.00)	0.04 (0.00)
New Business Density * Cost of Doing Business	NBD * COST	-0.01 (0.00)	-0.01 (0.00)	-0.01 (0.00)	-0.01 (0.03)	-0.01 (0.00)
New Business Density * Governance Factors	NBD * GOV	0.004 (0.00)	0.01 (0.00)	0.01 (0.02)	0.01 (0.00)	0.004 (0.42)
Trade Openness	OPEN	0.01 (0.00)	-0.01 (0.00)	-0.01 (0.00)	0.03 (0.00)	-0.005 (0.27)
Tertiary Enrollment	EDU	0.10 (0.00)	0.003 (0.50)	0.02 (0.00)	0.06 (0.00)	0.05 (0.00)
Interest Rate	IR	-0.04 (0.00)	-0.03 (0.00)	-0.02 (0.00)	-0.01 (0.00)	0.01 (0.00)
	Const.	0.42 (0.00)	0.93 (0.00)	0.74 (0.00)	0.33 (0.00)	0.37 (0.00)
		<b>Regression Statistics</b>				
	Obs.	798	365	230	125	78
	Countries	104	43	29	19	13
	Wald	25640 (0.00)	1595.6 (0.00)	402.6 (0.00)	930.1 (0.00)	515.7 (0.00)

This analysis shows that Entrepreneurial Activity for all country groups has the potential to affect poverty by increasing HDI. Entrepreneurial Activity has a higher poverty alleviating effect in medium and low-income countries. This may be because an entrepreneur is able to tap into new resources (Nistotskaya & Cingolani, 2016) which brings them out of poverty.

This study uses two facilitators as moderators:

- **Cost of Doing Business:** all five models in Table 5 show that higher cost hinders the capacity of the entrepreneur to move out of poverty. These results are similar to Gnyawali and Fogel (1994), Evans and Jovanovic (1989), Muravyev, Talavera, & Schäfer (2009), Nistotskaya & Cingolani (2016), and Cohen and Soto (2007).
- **Governance:** all models, other than the low-income country group, show a supporting role of governance in the entrepreneur poverty alleviation relationship. Thus, if a country has good governance and less corruption, more businesses might be registered (Aidis, Estrin, & Mickiewicz, 2008; Bjørnskov & Foss, 2010; Klapper et al., 2006; Nistotskaya & Cingolani, 2016; Nyström, 2008; Stenholm et al., 2013). In low-income countries the rate of business registered might be lower, because of bad governance and corruption fewer people may start a business or they use illegal ways to prevent themselves from paying taxes and operating their businesses.

The analysis shows that an increase in Trade Openness has a positive effect on HDI for overall group and medium country group while it has negative effect for high and high medium-income countries. This suggests that with trade openness investors and entrepreneurs might try to move from high-income to low-income countries for higher return which is also known as “catchup effect”.

Tertiary Enrollment has a positive effect on the increase in HDI in all five models. Higher education makes individuals more productive, creative and innovative. Moreover, it allows people to learn new knowledge and skills and improve the quality of their life. These results are similar to Davidsson and Honig (2003), Minniti and Lévesque (2010), Goldsmith and Kerr (1991), Ogundele, Akingbade, and Akinlabi (2012), Wang and Wong (2004) and Hussain, Bhuiyan, and Bakar (2014).

Interest Rate plays as a multipronged indicator, at one end it is the cost of borrowing, other end it is the opportunity cost of not investing in that country. For all groups, Interest Rate has negative effect on HDI while for the case of low-income countries it is positive effect. In All Countries, High-Income, High Medium-Income and Medium-Income Countries the negative effect of Interest Rate on HDI shows that an increase in Interest Rate will demotivate entrepreneurs, as the cost of borrowing will increase it will increase the Cost to Start a Business. Whereas, in Low-Income Countries, increase in Interest Rate will have positive effect on HDI and it is not clear why this should be the case, perhaps because of lack of availability of data.

## Discussion

The results show a positive and significant relationship between Entrepreneurial Activity and HDI. In all countries, when more businesses are registered then this will likely provide more jobs and create more opportunities for people to overcome their poverty and move the country towards development. By improving Regulation Quality and Control for Corruption, governments can ensure property rights which will facilitate entrepreneurs and motivate them to start new businesses or expand their existing businesses. The Cost of Doing Business estimated using Time Required to Start a Business, Number of Procedures Required and cost of starting a business, shows negative moderating effect whereby increase in cost reduces the capacity of entrepreneur to alleviate out of poverty.

High-income and high medium-income countries are already developed in terms of infrastructure and capital, so likely investment returns are lower whereas, medium-income countries are developing and they have high return based investment opportunities available. Hence when borders open (Trade Openness increases) investors including entrepreneurs may change their focus from developed countries for higher returns in developing countries. This is called catch up effect by diminishing returns in developed countries (The Economic Times, 2018).



Education and training helps people to learn new knowledge and skills which in turn helps them to improve the quality of life of their masses. The components which develop the process of entrepreneurial activities are high motivation and good educational background.

The role of Interest Rate is somewhat ambiguous, as, for the case of high-income countries, it is hindering HDI while for the low-income countries it is positively associated with development. This may indicate towards the outcome of Trade Openness, where capital is flowing from high-income countries to low-income countries to avail better returns.

### **Summary**

Overall study results show a positive and significant impact of Entrepreneurial Activity on poverty as measured by changes in HDI in all countries in the world and in each of the subsets studied. Moreover, Entrepreneurship Facilitators increase the effectiveness and capacity of Entrepreneurial Activity to reduce poverty. Also, better Government Regulations and Control for Corruption help entrepreneurs to start their businesses which will enhance entrepreneurial activities and increase HDI. Furthermore, controlling factors such as Trade Openness, Tertiary Enrollment, and Interest Rates have significant effect on poverty.

This suggests that governments should improve the quality of their regulations and reduce the procedures for registering a business. This should help reduce the Corruption Level and allow entrepreneurs to more easily fulfill the documentation requirements. Moreover, consistency in economic growth will attract foreign investors. Furthermore, investing on education and improving the quality of legislation can motivate people to become entrepreneurs an important step in reducing the ratio of extreme poverty in a country.

### **CONCLUSION**

This study demonstrates a significant and positive relationship between Entrepreneurial Activity and Poverty Reduction as measured by changes in the Human Development Index (HDI). The results also showed that Entrepreneurial Facilitators: Cost of Doing Business as measured by average of Time required to start the Business, Number of Procedures Required, and Cost to Start a Business, have significant impacts on the relationship between Entrepreneurial Activity and poverty alleviation as measured by HDI. Governance Factors, as measured by average of Regulatory Quality and Control for Corruption, have significant impacts in both all countries in the world and their sub-groups except low-income countries, on the relationship between Entrepreneurial Activity and poverty alleviation as measured by HDI.

The merits of entrepreneurial activity can be far reaching, benefiting individuals and society as a whole. This study investigated the impact of Entrepreneurial Activity proxied by New Business Density, Entrepreneurial Facilitators proxied by Cost of Doing Business and Governance Factors such as Regulatory Quality and Control for Corruption and Economic Indicators including Interest Rate, Tertiary Enrollment, and Trade Openness on the dependent variable such as poverty measured by HDI. This analysis was done for high-income, high medium-income, medium-income, low-income and overall.

This is a new and in-depth piece of work, using changes in the Human Development Index (HDI) to measure poverty reduction, providing a more comprehensive and comparative indicator able to respond to the research questions. This study provides policy makers with a new dimension for achieving social sector development (poverty alleviation) by channelizing the entrepreneurship and paving their way to successful businesses. The work done supports the challenges raised by Sutter et al. (2019) who call for new insights in the investigation of entrepreneurship as a solution to extreme poverty. It provides empirical data that may be useful to those investigating the topic in a variety of research domains.

### Limitation and Future Work

This study limits the different types of entrepreneurship to a single dependent variable – HDI. However, researchers might also explore the effects of different types of entrepreneurship on poverty alleviation.

This study demonstrated that Human Development Index (HDI) is a better indicator than Gross National Income (GNI) to measure poverty. Further work might examine the use of other measures such as, Legatum Prosperity Index (LPI) and Global Multidimensional Poverty Index (GMPI) or the creation of new index. Also other dependent variables and consideration of further facilitators and Economic Factors can also be used to see an impact on poverty reduction.

### REFERENCES

- Acemoglu, D., & Robinson, J.A. (2013). *Why Nations Fail: The Origins of Power, Prosperity, and Poverty*. Crown Publishers.
- Acs, Z.J., & Storey, D. (2004). Introduction: Entrepreneurship and Economic Development. *Regional Studies*, 38(8), 871–877. <https://doi.org/10.1080/0034340042000280901>
- Adenutsi, D.E. (2009). Entrepreneurship, job creation, income empowerment and poverty reduction in low-income economies. *Munich Personal RePEc Archive (MPRA)*, 29569, 1–21.
- Ahlstrom, D. (2010). Innovation and Growth: How Business Contributes to Society. *The Academy of Management Perspectives*, 24(3), 11–24.
- Aidis, R., Estrin, S., & Mickiewicz, T. (2008). Institutions and entrepreneurship development in Russia: A comparative perspective. *Journal of Business Venturing*, 23(6), 656–672. <https://doi.org/10.1016/j.jbusvent.2008.01.005>
- Alvarez, S.A., & Barney, J.B. (2014). Entrepreneurial Opportunities and Poverty Alleviation. *Entrepreneurship Theory and Practice*, 38(1), 159–184. <https://doi.org/10.1111/etap.12078>
- Arshed, N., Alamgir, S., & Aziz, O. (2017). Structural Determinants of Poverty in Pakistan. *International Journal of Economics and Financial Research*, 3(1), 1–7.
- Arshed, N., Anwar, A., Hassan, M.S., & Bukhari, S. (2019). Education stock and its implication for income inequality: The case of Asian economies. *Review of Development Economics*, 23(2), 1050–1066. <https://doi.org/10.1111/rode.12585>
- Arshed, N., Anwar, A., Kousar, N., & Bukhari, S. (2018). Education Enrollment Level and Income Inequality: A Case of SAARC Economies. *Social Indicators Research*, 140(3), 1211–1224. <https://doi.org/10.1007/s11205-017-1824-9>
- Arshed, N., Hassan, M.S., & Aziz, O. (2020). Does Income Inequality Lead to Education Inequality? *UMT Education Review (UER)*, 3(1), Article 1. <https://doi.org/10.32350/uer.31.03>
- Audretsch, D.B., & Keilbach, M. (2004). Entrepreneurship and regional growth: An evolutionary interpretation. *Journal of Evolutionary Economics*, 14(5), 605–616. <https://doi.org/10.1007/s00191-004-0228-6>
- Bergh, A., & Nilsson, T. (2011). *Globalization and Absolute Poverty – A Panel Data Study*. (SSRN Scholarly Paper ID 2363784). Social Science Research Network. Retrieved from <https://papers.ssrn.com/abstract=2363784>
- Bjørnskov, C., & Foss, N. (2010). Economic Freedom and Entrepreneurial Activity: Some Cross-Country Evidence. In *Entrepreneurship and Culture* (pp. 201–225). Springer, Berlin, Heidelberg. [https://doi.org/10.1007/978-3-540-87910-7\\_10](https://doi.org/10.1007/978-3-540-87910-7_10)
- Branstetter, L., Lima, F., Taylor, L.J., & Venâncio, A. (2014). Do Entry Regulations Deter Entrepreneurship and Job Creation? Evidence from Recent Reforms in Portugal. *The Economic Journal*, 124(577), 805–832. <https://doi-org.ezproxy.lib.ryerson.ca/10.1111/eoj.12044>
- Bruton, G.D., Ketchen, D.J., & Ireland, R.D. (2013). Entrepreneurship as a solution to poverty. *Journal of Business Venturing*, 28(6), 683–689. <https://doi.org/10.1016/j.jbusvent.2013.05.002>

- Capelli, C., & Vaggi, G. (2013). *A better indicator of standards of living: The Gross National Disposable Income* (No. 062; DEM Working Papers Series). University of Pavia, Department of Economics and Management. Retrieved from <https://ideas.repec.org/p/pav/demwpp/demwp0062.html>
- Carland, J.W., Hoy, F., Boulton, W.R., & Carland, J.A.C. (1984). Differentiating Entrepreneurs from Small Business Owners: A Conceptualization. *Academy of Management Review*, 9(2), 354–359. <https://doi.org/10.5465/AMR.1984.4277721>
- Carree, M., Stel, A.V., Thurik, R., & Wennekers, S. (2007). The relationship between economic development and business ownership revisited. *Entrepreneurship & Regional Development*, 19(3), 281–291. <https://doi.org/10.1080/08985620701296318>
- Chen, D., & Mintz, J.M. (2005). *How To Become Seductive: Make Canada More Investment-Friendly*.
- Chiles, T.H., Bluedorn, A.C., & Gupta, V.K. (2007). Beyond Creative Destruction and Entrepreneurial Discovery: A Radical Austrian Approach to Entrepreneurship. *Organization Studies*, 28(4), 467–493. <https://doi.org/10.1177/0170840606067996>
- Cohen, D., & Soto, M. (2007). Growth and human capital: Good data, good results. *Journal of Economic Growth*, 12(1), 51–76. <https://doi.org/10.1007/s10887-007-9011-5>
- Dadhich, C.L. (2001). Micro finance—A panacea for poverty alleviation: A case study of oriental Grameen project in India. *Indian Journal of Agricultural Economics*, 56(3). Retrieved from <https://search.proquest.com/openview/b72fe3436288dc71019764b81d1b9810/1?pq-origsite=gscholar&cbl=46948>
- Davidsson, P., & Honig, B. (2003). The role of social and human capital among nascent entrepreneurs. *Journal of Business Venturing*, 18(3), 301–331. [https://doi.org/10.1016/S0883-9026\(02\)00097-6](https://doi.org/10.1016/S0883-9026(02)00097-6)
- Deyshappria, R. (2018). Globalization-Poverty Nexuses: Evidences from Cross-Country Analysis. *Empirical Economic Review*, 1(1), 25–48.
- D’haese, M., De Ruijter De Wildt, M., & Ruben, R. (2008). Business incomes in rural Nicaragua: The role of household resources, location, experience and trust. *Entrepreneurship & Regional Development*, 20(4), 345–366. <https://doi.org/10.1080/08985620701868231>
- Dollar, D.C., & Collier, P. (1999). *Can the World Cut Poverty in Half? How Policy Reform and Effective Aid Can Meet International Development Goals*. The World Bank. <https://doi.org/10.1596/1813-9450-2403>
- Draft, R.L., & Marcic, D. (2006). *Understanding Management* (5th ed.). Thomson Learning Inc.
- Fleming, J.M. (1962). Domestic Financial Policies Under Fixed and Under Floating Exchange Rates. *Staff Papers*, 9(3), 369–380. <https://doi.org/10.2307/3866091>
- Friedman, E., Johnson, S., Kaufmann, D., & Zoido-Lobaton, P. (2000). Dodging the grabbing hand: The determinants of unofficial activity in 69 countries. *Journal of Public Economics*, 76(3), 459–493. [https://doi.org/10.1016/S0047-2727\(99\)00093-6](https://doi.org/10.1016/S0047-2727(99)00093-6)
- Georgiou, M.N. (2009). *Entrepreneurship and Human Development Index—A Panel Data Analysis for Western Europe, Japan and the United States (1980-2006)* (SSRN Scholarly Paper ID 1523605). Social Science Research Network. Retrieved from <https://papers.ssrn.com/abstract=1523605>
- Gnyawali, D.R., & Fogel, D.S. (1994). Environments for Entrepreneurship Development: Key Dimensions and Research Implications. *Entrepreneurship Theory and Practice*, 18(4), 43–62. <https://doi.org/10.1177/104225879401800403>
- Goldsmith, R.E., & Kerr, J.R. (1991). Entrepreneurship and adaption-innovation theory. *Technovation*, 11(6), 373–382. [https://doi.org/10.1016/0166-4972\(91\)90019-Z](https://doi.org/10.1016/0166-4972(91)90019-Z)
- Goldsmith, W., & Blakely, E. (1991). *Separate Societies: Poverty and Inequality in U.S. Cities*. Temple University Press.
- Grant, K.A., Aziz, O., & Arshed, N. (2019). The Impact of Entrepreneurial Activity on Poverty Alleviation. *39th International Scientific Conference on Economic and Social Development*, pp. 215–224. Retrieved from [http://www.esd-conference.com/upload/book\\_of\\_proceedings/Book\\_of\\_Proceedings\\_esdLisbon2019\\_Online.pdf](http://www.esd-conference.com/upload/book_of_proceedings/Book_of_Proceedings_esdLisbon2019_Online.pdf)
- Greene, W. (2003). *Econometric Analysis*. Pearson Education India.

- Grilo, I., & Irigoyen, J.-M. (2006). Entrepreneurship in the EU: To Wish and not to be. *Small Business Economics*, 26(4), 305–318. <https://doi.org/10.1007/s11187-005-1561-3>
- Guasch, J.L., & Hahn, R.W. (1999). The Costs and Benefits of Regulation: Implications for Developing Countries. *The World Bank Research Observer*, 14(1), 137–158. <https://doi.org/10.1093/wbro/14.1.137>
- Gujarati, D.N. (2009). *Basic econometrics*. McGraw Hill.
- Hanif, N., Arshed, N., & Aziz, O. (2019). On interaction of the energy: Human capital Kuznets curve? A case for technology innovation. *Environment, Development and Sustainability*. <https://doi.org/10.1007/s10668-019-00536-9>
- Hassan, M.S., Bukhari, S., & Arshed, N. (2020). Competitiveness, governance and globalization: What matters for poverty alleviation? *Environment, Development and Sustainability*, 22(4), 3491–3518. <https://doi.org/10.1007/s10668-019-00355-y>
- Hayes, A.F. (2017). *Introduction to Mediation, Moderation, and Conditional Process Analysis ... - Andrew F. Hayes—Google Books*. Retrieved from [https://books.google.ca/books?hl=en&lr=&id=8ZM6DwAAQBAJ&oi=fnd&pg=PP1&dq=Introduction+to+Mediation,+Moderation,+and+Conditional+Process+Analysis&ots=20EbpJUm1B&sig=QvL7vR45Kvu-FUglsVWI0D0\\_ZAw#v=onepage&q=Introduction%20to%20Mediation%2C%20Moderation%2C%20and%20Conditional%20Process%20Analysis&f=false](https://books.google.ca/books?hl=en&lr=&id=8ZM6DwAAQBAJ&oi=fnd&pg=PP1&dq=Introduction+to+Mediation,+Moderation,+and+Conditional+Process+Analysis&ots=20EbpJUm1B&sig=QvL7vR45Kvu-FUglsVWI0D0_ZAw#v=onepage&q=Introduction%20to%20Mediation%2C%20Moderation%2C%20and%20Conditional%20Process%20Analysis&f=false)
- Hessels, J., van Gelderen, M., & Thurik, R. (2008). Entrepreneurial aspirations, motivations, and their drivers. *Small Business Economics*, 31(3), 323–339. <https://doi.org/10.1007/s11187-008-9134-x>
- Hussain, M.D., Bhuiyan, A.B., & Bakar, R. (2014). Entrepreneurship Development and Poverty Alleviation: An Empirical Review. *Journal of Asian Scientific Research*, 4(10), 558–573.
- Jain, R., & Ali, S.W. (2013). A Review of Facilitators, Barriers and Gateways to Entrepreneurship: Directions for Future Research. *South Asian Journal of Management*, 20(3), 122–163.
- Jalilian, H., Kirkpatrick, C., & Parker, D. (2007). The Impact of Regulation on Economic Growth in Developing Countries: A Cross-Country Analysis. *World Development*, 35(1), 87–103. <https://doi.org/10.1016/j.worlddev.2006.09.005>
- Johnson, S., Kaufmann, D., & Zoido-Lobaton, P. (1998). Regulatory Discretion and the Unofficial Economy. *The American Economic Review*, 88(2), 387–392.
- Jones, M.V., Coviello, N., & Tang, Y.K. (2011). International Entrepreneurship research (1989–2009): A domain ontology and thematic analysis. *Journal of Business Venturing*, 26(6), 632–659. <https://doi.org/10.1016/j.jbusvent.2011.04.001>
- Kareem, R.O. (2015). Impact of Entrepreneurship on Poverty Alleviation. *Journal of Business Administration and Education*, 7(1), 1–16.
- Karlsson, C., Friis, C., & Paulsson, T. (2004). *Relating entrepreneurship to economic growth*. The Emerging Digital Economy: Entrepreneurship Clusters and Policy. Springer-Verlag.
- Klapper, L., Laeven, L., & Rajan, R. (2006). Entry regulation as a barrier to entrepreneurship. *Journal of Financial Economics*, 82(3), 591–629. <https://doi.org/10.1016/j.jfineco.2005.09.006>
- Klapper, L., Raphael, A., & Mauro F., G. (2010). Entrepreneurship and Firm Formation Across Countries. In *International Differences in Entrepreneurship* (pp. 129–158).
- Kolvereid, L., & Moen, Ø. (1997). Entrepreneurship among business graduates: Does a major in entrepreneurship make a difference? *Journal of European Industrial Training*, 21(4), 154–160. <https://doi.org/10.1108/03090599710171404>
- La Porta, R., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R. (1999). The quality of government. *The Journal of Law, Economics, and Organization*, 15(1), 222–279. <https://doi.org/10.1093/jleo/15.1.222>
- Lammam, C., & MacIntyre, H. (2016). An Introduction to the State of Poverty in Canada. *Fraser Institute*, p.43.
- Landstrom, H. (2007). *Pioneers in Entrepreneurship and Small Business Research*. Springer.

- Lant, P., Klasen, S., Alkire, S., Lenhardt, A., & Letouzé, E. (2013). *Eradicating global poverty: A noble goal, but how do we measure it?*
- Leff, N.H. (1964). Economic Development Through Bureaucratic Corruption. *American Behavioral Scientist*, 8(3), 8–14. <https://doi.org/10.1177/000276426400800303>
- Levie, J., & Autio, E. (2011). Regulatory Burden, Rule of Law, and Entry of Strategic Entrepreneurs: An International Panel Study. *Journal of Management Studies*, 48(6), 1392–1419. <https://doi.org/10.1111/j.1467-6486.2010.01006.x>
- Luke, B., Verreynne, M-L., & Kearins, K. (2007). Measuring the benefits of entrepreneurship at different levels of analysis. *Journal of Management & Organization*, 13(4), 312–330. <https://doi.org/10.1017/S1833367200003576>
- Mankiw, N.G., Romer, D., & Weil, D.N. (1992). A Contribution to the Empirics of Economic Growth. *The Quarterly Journal of Economics*, 107(2), 407–437. <https://doi.org/10.2307/2118477>
- Mauro, P. (1995). Corruption and Growth. *The Quarterly Journal of Economics*, 110(3), 681–712. <https://doi.org/10.2307/2946696>
- McMullen, J.S. (2011). Delineating the Domain of Development Entrepreneurship: A Market-Based Approach to Facilitating Inclusive Economic Growth. *Entrepreneurship Theory and Practice*, 35(1), 185–193. <https://doi.org/10.1111/j.1540-6520.2010.00428.x>
- Mead, D.C., & Liedholm, C. (1998). The Dynamics of Micro and Small Enterprises in Developing Countries. *World Development*, 26(1), 61–74. [https://doi.org/10.1016/S0305-750X\(97\)10010-9](https://doi.org/10.1016/S0305-750X(97)10010-9)
- Minniti, M., & Lévesque, M. (2010). Entrepreneurial types and economic growth. *Journal of Business Venturing*, 25(3), 305–314. <https://doi.org/10.1016/j.jbusvent.2008.10.002>
- Mitra, J., Abubakar, Y.A., & Sagagi, M. (2011). Knowledge creation and human capital for development: The role of graduate entrepreneurship. *Education + Training*, 53(5), 462–479. <https://doi.org/10.1108/00400911111147758>
- Mundell, R.A. (1962). The Appropriate Use of Monetary and Fiscal Policy for Internal and External Stability. *Staff Papers*, 9(1), 70–79. <https://doi.org/10.2307/3866082>
- Muravyev, A., Talavera, O., & Schäfer, D. (2009). Entrepreneurs' gender and financial constraints: Evidence from international data. *Journal of Comparative Economics*, 37(2), 270–286. <https://doi.org/10.1016/j.jce.2008.12.001>
- Nistotskaya, M., & Cingolani, L. (2016). Bureaucratic Structure, Regulatory Quality, and Entrepreneurship in a Comparative Perspective: Cross-Sectional and Panel Data Evidence. *Journal of Public Administration Research and Theory*, 26(3), 519–534. <https://doi.org/10.1093/jopart/muv026>
- Nyström, K. (2008). The institutions of economic freedom and entrepreneurship: Evidence from panel data. *Public Choice*, 136(3–4), 269–282. <https://doi.org/10.1007/s11127-008-9295-9>
- Ogundele, O.J.K., Akingbade, W.A., & Akinlabi, H.B. (2012). Entrepreneurship training and education as strategic tools for poverty alleviation in Nigeria. *American International Journal of Contemporary Research*, 2(1), 148–156.
- Okpara, J.O. (2011). Factors constraining the growth and survival of SMEs in Nigeria: Implications for poverty alleviation. *Management Research Review*, 34(2), 156–171. <https://doi.org/10.1108/01409171111102786>
- Parliament of Canada. (2008). *Measuring Poverty: A Challenge for Canada (PRB 08-65E)*. Retrieved from <https://lop.parl.ca/content/lop/researchpublications/prb0865-e.htm#a1>
- Pearce, J. (1993). NGOs and social change: Agents or facilitators? *Development in Practice*, 3(3), 222–227. <https://doi.org/10.1080/096145249100077381>
- Rank, M. R. (2004). *One Nation, Underprivileged: Why American Poverty Affects Us All*. Oxford University Press.
- Rindova, V., Barry, D., & Ketchen, D. J. (2009). Entrepreneurship as Emancipation. *Academy of Management Review*, 34(3), 477–491. <https://doi.org/10.5465/AMR.2009.40632647>

- Rogerson, C.M. (1999). Local economic development and urban poverty alleviation: The experience of post-apartheid South Africa—ScienceDirect. *Habitat International*, 23(4), 511–534. [https://doi.org/10.1016/S0197-3975\(99\)00019-3](https://doi.org/10.1016/S0197-3975(99)00019-3)
- Rothstein, B., & Teorell, J. (2008). What Is Quality of Government? A Theory of Impartial Government Institutions. *Governance*, 21(2), 165–190. <https://doi.org/10.1111/j.1468-0491.2008.00391.x>
- Sachs, J. (2005). *The End of Poverty: Economic Possibilities For Our Time*. Penguin Press.
- Santarelli, E., & Figini, P. (2002). *Does globalization reduce poverty? Some empirical evidence for the developing countries*. <https://doi.org/10.6092/unibo/amsacta/633>
- Santos, F.M. (2012). A Positive Theory of Social Entrepreneurship | SpringerLink. *Journal of Business Ethics*, 111(3), 335–351. <https://doi.org/10.1007/s10551-012-1413-4>
- Schramm, C.J. (2004). Building Entrepreneurial Economies. *Foreign Affairs*, 83(4), 104–115. <https://doi.org/10.2307/20034050>
- Schumpeter, J.A. (1934). *The theory of economic development: An inquiry into profits, capital, credit, interest, and the business cycle*. Harvard University Press.
- Schumpeter, J.A. (1942). *Capitalism, Socialism and Democracy*. Routledge.
- Sen, A. (2000). A Decade of Human Development. *Journal of Human Development*, 1(1), 17–23. <https://doi.org/10.1080/14649880050008746>
- Shahid, Y., Deaton, A., Dervis, K., & Easterly, W. (2009). *Development Economics through the Decades: A Critical Look at 30 Years of the World Development Report*. The World Bank. <http://hdl.handle.net/10986/2586>
- Shane, S.A. (2008). *The Illusions of Entrepreneurship: The Costly Myths That Entrepreneurs, Investors, and Policy Makers Live By*. Yale University Press.
- Shane, S.A., & Venkataraman, S. (2000). The Promise of Entrepreneurship as a Field of Research. *Academy of Management Review*, 25(1), 217–226. <https://doi.org/10.5465/AMR.2000.2791611>
- Si, S., Yu, X., Wu, A., Chen, S., Chen, S., & Su, Y. (2015). Entrepreneurship and poverty reduction: A case study of Yiwu, China. *Asia Pacific Journal of Management*, 32(1), 119–143. <https://doi.org/10.1007/s10490-014-9395-7>
- Singer, A. E. (2006). Business Strategy and Poverty Alleviation. *Journal of Business Ethics*, 66(2–3), 225–231. <https://doi.org/10.1007/s10551-005-5587-x>
- Sombart, W. (2013). *Krieg und Kapitalismus*. BoD – Books on Demand.
- Stenholm, P., Acs, Z.J., & Wuebker, R. (2013). Exploring country-level institutional arrangements on the rate and type of entrepreneurial activity. *Journal of Business Venturing*, 28(1), 176–193. <https://doi.org/10.1016/j.jbusvent.2011.11.002>
- Stiglitz, J.E. (2002). *Globalization and its Discontents* (Vol. 500). W.W. Norton & Company.
- Sutter, C., Bruton, G.D., & Chen, J. (2019). Entrepreneurship as a solution to extreme poverty: A review and future research directions. *Journal of Business Venturing*, 34(1), 197–214. <https://doi.org/10.1016/j.jbusvent.2018.06.003>
- Tambunan, T. (1994). Rural small-scale industries in a developing region: Sign of poverty or progress? *Entrepreneurship & Regional Development*, 6(1), 1–13. <https://doi.org/10.1080/08985629400000001>
- The Economic Times. (2018). *Catch Up Effect - What is Catch Up Effect ? Catch Up Effect meaning, Catch Up Effect definition*. The Economic Times. Retrieved from <https://economictimes.indiatimes.com/definition/catch-up-effect>
- Todaro, M.P., & Smith, S.C. (2003). *Economic development* (8th ed). Addison Wesley.
- Todaro, M.P., & Smith, S.C. (2012). *Economic Development* (11th ed.). George Washington University.
- UNDP. (2018). *Human Development Index (HDI) | Human Development Reports*. Retrieved from <http://hdr.undp.org/en/content/human-development-index-hdi>
- United Nations. (2000). *United Nations Millennium Declaration*. General Assembly.
- Uttama, N.P. (2015). Foreign Direct Investment and the Poverty Reduction Nexus in Southeast Asia. In *Poverty Reduction Policies and Practices in Developing Asia* (pp. 281–298). Springer Singapore. [https://doi.org/10.1007/978-981-287-420-7\\_15](https://doi.org/10.1007/978-981-287-420-7_15)

- VanSandt, C.V., & Sud, M. (2012). Poverty Alleviation through Partnerships: A Road Less Travelled for Business, Governments, and Entrepreneurs. *Journal of Business Ethics*, 110(3), 321–332.
- Wang, C.K., & Wong, P-K. (2004). Entrepreneurial interest of university students in Singapore. *Technovation*, 24(2), 163–172. [https://doi.org/10.1016/S0166-4972\(02\)00016-0](https://doi.org/10.1016/S0166-4972(02)00016-0)
- Wennekers, S., & Thurik, R. (1999). Linking Entrepreneurship and Economic Growth. *Small Business Economics*, 13(1), 27–56. <https://doi.org/10.1023/A:1008063200484>
- World Bank. (1997). *International Bank for Reconstruction and Development*. World Development Report.
- World Bank. (2002). *Globalization, growth, and poverty: Building an inclusive world economy* (No. 23591, p.1). The World Bank. Retrieved from <http://documents.worldbank.org/curated/en/954071468778196576/Globalization-growth-and-poverty-building-an-inclusive-world-economy>
- World Bank. (2016a). *Poverty*. World Bank. Retrieved from <http://www.worldbank.org/en/topic/poverty/overview>
- World Bank. (2016b). *Doing Business 2017—Equal Opportunity for All—World Bank Group*. The World Bank. Retrieved from <http://www.doingbusiness.org/reports/global-reports/doing-business-2017>
- Yassin, S.A., & Abdel, H.A. (2013). Entrepreneurship Development and Poverty Reduction: Empirical Survey from Somalia. *American International Journal of Social Science*, 2(3), 108–113.
- Yunus, M. (2007). *Banker To The Poor*. Penguin Books India.
- Zahra, S.A., Rawhouser, H.N., Bhawe, N., Neubaum, D.O., & Hayton, J.C. (2008). Globalization of social entrepreneurship opportunities. *Strategic Entrepreneurship Journal*, 2(2), 117–131. <https://doi.org/10.1002/sej.43>
- Zaman, K., Rashid, Dr. K., Khan, Dr. M.M., & Ahmad, M. (2011). Panel Data Analysis of Growth, Inequality an Poverty: Evidence From SAARC Countries. *Journal of Yasar University*, 21(6). Retrieved from <https://journal.yasar.edu.tr/wp-content/uploads/2012/09/5-khalid-zaman.pdf>