ECONOMIC GLOBALIZATION:
THE ROLE OF CORRUPTION, ENTREPRENEURSHIP, ECONOMIC FREEDOM, AND HUMAN CAPITAL

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This dissertation is dedicated to my parents who have never failed to support my dreams and aspirations. I could never have made it without you.
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ECONOMIC GLOBALIZATION: THE ROLE OF CORRUPTION, ENTREPRENEURSHIP, ECONOMIC FREEDOM, AND HUMAN CAPITAL

CHARLES BRYANT

ABSTRACT

Since the turn of the century, globalization has been the topic of much controversy. Some academics, joined by the World Trade Organization, strongly support the positive economic impacts of globalization, but the increased employment and increased standard of living often cited as evidence, is not universally accepted. The economic, social and political impacts of globalization have been argued extensively in the media, however, little is in fact known about the antecedents of the economic side of globalization. This dissertation creates a framework from which to study economic globalization and to analyze the antecedent effects of select macro-economic factors: corruption, human capital, economic freedom, and entrepreneurial activity. The methodology and tests incorporated into this work provide a foundation upon which economic globalization can be better understood and better managed by policy-makers.
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CHAPTER I
INTRODUCTION

Globalization is arguably one of the most popular concepts used to describe the economic interconnectedness of nations (World Trade Organization, 2008). The economic, social and political impacts of globalization have been argued extensively in both the literature and by governmental commissions (Calomiris, 2000; Holm & Sorenson, 1995; Meltzer, 2000; Mikesell, 2001; Sachs, 2000; Sorensen, 2002; Weithöner, 2006), and even protested at the World Trade Organization (WTO) meetings. Embedded in the disagreement, there is substantial research indicating the positive benefits of being economically integrated. Recent research on the benefits for nation states becoming more globally connected indicates positive economic benefits for both the host and home economies (Akhter, 2004; Akinola, 2012; Chang & Lee, 2011).

A review of the extant literature on globalization reveals three units of analysis that have been researched: Firm level, industry level, and national level (Akhter, 2004). At the national level, the level with which this research is concerned, globalization
incorporates political, social, and economic interactions (Holm & Sorenson, 1995). Harris (1993) defined national level globalization as “the increasing internationalization of the production, distribution, and marketing of goods and services”. Akhter (2004) conceptualized economic globalization as “a process that results in increasing integration of a country’s economy with the rest of the world”. Economic globalization comprises globalization of markets, production, technology, industries and corporations. Furthermore, developed countries are integrating with developing countries by means of foreign direct investment (FDI), reduction in trade barriers, and changes in political landscape.

According to the extant literature, the two primary factors impacting economic interconnectedness of a nation are: (1) foreign direct investment and (2) international trade (Akhter, 2004; Rugman & Verbeke, 2004; Rugman, 2001). This research builds on this concept by defining economic globalization of a nation as a multidimensional construct comprised of international trade, (as measured by the exports of goods and services) and investment (as measured by inward FDI).

One of the challenges facing national leaders and policy makers is to increase the level of economic globalization by increasing international trade and FDI inflows (Akhter, 2004). Due to liberalization and globalization, a country’s economy is much more associated with such country specific factors as investment in human capital, corruption, economic freedom, and entrepreneurial activity. A nation’s, integration into the global economy largely depends on its sustained economic growth, which is inextricably connected to such internal factors as human capital investment, economic freedoms, the entrepreneurial climate, and the level of corruption.
Thus, motivated by these issues, conducting a study on the effects of human capital investment, corruption, economic freedoms, an entrepreneurial activity on the economic globalization of a nation is of great significance in this globalized era. However, there is a lack of research regarding the relationships between and among these economic factors. This research attempts to close that gap.

This paper offers an empirical investigation of the impact of human capital investment, corruption, economic freedom, and entrepreneurial activity on the economic globalization of a nation. Both the direct and indirect impacts of these factors on economic globalization of a nation are investigated herein and the results of each relationship are detailed appropriately. Finally, a holistic framework for analyzing these factors is proposed and tested using panel-level, fixed-effects modeling.

**A. Background**

Research into economic growth has long been centered on understanding the relationship between macroeconomic factors and the overall impact on national level economic performance. Researchers have focused on a myriad of macro factors including economic freedom, corruption, human capital, and entrepreneurship and how each of these influence national level economic performance. Much of the research has shown positive relationships, yet many of the models have been relatively simple, incorporating a small number of factors leading to a limited measure of economic performance. Additionally, a majority of the models have been empirically tested using cross-sectional data analysis and linear regression techniques, which reveal more about the correlation between the factors and performance than indicating causation.
The research undertaken in this dissertation offers a more holistic approach to empirical testing of macroeconomic factors leading to economic performance. The model proposed within aims to test not only the relationship between several economic constructs leading to economic performance, but also to use panel data with fixed-effects modeling, which can lead to a better understanding of causality.

The goal of this work is two-fold: (1) to construct and test a framework that incorporates multidimensional macroeconomic constructs leading to national level economic globalization and (2) to investigate the role of government policy in helping or hindering national economic globalization.

B. Research Objectives (Research Gaps & Research Questions)

Empirical investigations into the factors impacting a nation’s entrepreneurial activity are relatively new in social science research. Yet, building on economic theory from as far back as Adam Smith (1776) and David Ricardo (1817), a nation’s ability to create innovative new products based on comparative advantage, has been a primary driver to economic growth and prosperity (Shiozawa, 2007). Additional research into entrepreneurial success factors has more narrowly focused on specific entrepreneurial areas such as opportunity driven or necessity driven (Reynolds, Bygrave, Autio, Cox, & Hay, 2002). Some researchers have found a positive relationship between economic freedom and entrepreneurial activity (Díaz-Casero, Diaz-Aunion, & Sanchez-Escobedo, 2012; Mcmullen, Bagby, & Palich, 2008) but the influence of corruption on this relationship has not been determined. The initial part of this research delves into the impact(s) of a nation’s corruption and economic freedom on the level and development of entrepreneurial activity.
Additional research into the factors impacting a nation’s entrepreneurial activity has been concentrated on the level of national investment in human capital (primarily education). Building on human capital theory (Becker, 1960, 1975; Mincer, 1958; Schultz, 1961), several empirical studies have examined the relationship between human capital investment and entrepreneurial activity and have generally found the relationship to be positive (De Clercq, Lim, & Oh, 2013; Levie & Autio, 2008; Van De Ven, 1993; Whitley, 1999). However, how that relationship behaves in the presence (or lack or presence) of economic freedom has not been determined. The second part of this research delves into the impact of a nation’s human capital investment and economic freedom on the level and development of entrepreneurial activity. Thus the research questions at hand are:

Q1a: Do national levels of corruption and economic freedom (e.g. trade openness, property rights freedom, fiscal freedom, monetary freedom) impact the nation’s entrepreneurial activities (e.g. total activity, opportunity-motivated activity, necessity-motivated activity)?

Q1b: Do national levels of human capital investment and economic freedom (e.g. trade openness, property rights freedom, fiscal freedom, monetary freedom) impact the nation’s entrepreneurial activities (e.g. total activity, opportunity-motivated activity, necessity-motivated activity)?

Investigations into the factors impacting a nation’s propensity for economic growth have been a constant focus of empirical research. The early research in this field has been built on the theoretical work of Adam Smith (1776), David Ricardo (1817) and other extensions of comparative advantage. However, comparative advantage (Ricardo,
1817) and the more recent extensions (Jones, 1961; Shiozawa, 2007) are largely restricted economic models in which exogenous economic factors are assumed. Building on the theoretical work of the export-led-growth hypothesis (Thirlwell, 1979), more recent work has expanded the focus of the output variable from that of economic growth to a more general concept of economic globalization. Entrepreneurship theory and some empirical research have indicated a link between entrepreneurship activity and economic growth, (with most studies indicating a positive relationship), however, the research into the relationship between entrepreneurial activity and national-level economic globalization is missing. Akhter (2004) investigated the economic globalization construct in relation to human development, yet no research to date has investigated the economic globalization in relation with entrepreneurial activity and economic freedom. The next part of this research delves into the impact(s) of national level entrepreneurial activity (total activity, opportunity-motivated activity, and necessity-motivated activity) and economic freedom on national-level economic globalization. The research question at hand is:

Q2: Do national levels of entrepreneurial activities (e.g. total activity, opportunity-motivated activity, necessity-motivated activity) and economic freedoms (e.g. trade openness, property rights freedom, fiscal freedom, monetary freedom) influence a nation’s economic globalization?

Additional research into the factors impacting economic growth has focused on the antecedent relationship with economic freedom. Empirical research into the relationship between economic freedom and economic growth has been established by Carlsson & Lundström, (2002) Cole (2003) Webster (2012) and others, but how economic freedom impacts national level globalization has been ignored in the literature.
Akhter (2004) studies the relationship between economic globalization and human development, but no research to date has investigated the economic globalization and the relationship to entrepreneurial activity and human capital. The forth part of this research delves into the impact(s) of national level entrepreneurial activity (total activity, opportunity-motivated activity, and necessity-motivated activity) on national-level economic globalization. The research question at hand is:

Q3: Do national levels of entrepreneurial activities (e.g. total activity, opportunity-motivated activity, necessity-motivated activity), directly influence a nation’s economic globalization?

Lastly, this research investigates the ability to build a general macro-economic framework that accurately models many underlying macro relationships in order to better explain economic globalization. The research question at hand is:

Q4: Can a general econometric framework be developed to examine the underlying macro-economic relationships in order to better explain economic globalization?

The preceding objectives form the core of this research and will serve as a systematic guide to the approach undertaken in the following sections. The next section defines the economic factors, upon which this work is built.

C. Economic Factors that impact economic growth of a nation

Having established the objectives of this research in the previous section, this section details and defines the relevant economic factors comprising the majority of this project. Realizing that many definitions of economic effects exist in the literature, this
section concentrates the most pertinent definitions for accomplishing the inherent research objectives of this work.

**Economic globalization**

According to the WTO World Trade Report, *Trade in a Globalizing World* (World Trade Organization, 2008), globalization typically “refers to international integration in commodity, capital, and labor markets” (Bordo, 2002). Akhter (2004) conceptualized economic globalization as “a process that results in increasing integration of a country’s economy with the rest of the world.” The two primary economic factors comprising globalization are (1) foreign direct investment and (2) trade (Akhter, 2004; Rugman & Verbeke, 2004; Rugman, 2001). This dissertation builds on this concept by defining economic globalization of a nation as a multidimensional construct comprised of trade (as measured by the exports of goods and services) and investment (as measured by inward FDI).

**Institutions**

This dissertation focuses on two national-level institutional factors: corruption and entrepreneurial activity. Both of these are reflections of the underlying social, political, and economic environments and thus are undergirded by national institutions and supported by institution theory.

Several definitions of institutions have been offered up in the recent literature and a brief definition review will set the stage for understanding institution theory and how it influences this work. North (1990) defined institutions as: “The rules of the game in a society or, more formally, the humanly devised constraints that shape human interaction”, (p.97). In a later work, North altered his own definition slightly by defining institutions
as: “humanly devised constraints that structure political, economic and social interaction”, (North, 1991). Institutions, according to North (1991), “create order and reduce uncertainty in exchange”. R. W. Scott (2005) defined institutions somewhat differently as “regulative, normative, and cognitive structures and activities that provide stability and meaning to social behavior” (P.97). This definition varies slightly but is aligned with North (1990) that institutions are both formal and informal in nature (R. W. Scott, 2013). Additionally, Peng, Wang, & Jiang, (2008) defines the role of institutions as governing “societal transactions in the areas of politics (corruption and transparency), law economic liberalization and regulations), and society (ethical norms and attitudes toward entrepreneurship)” (Peng et al., 2008).

**Corruption**

Corruption has many definitions and can be viewed differently depending on the context. For the purpose of this study, the following definition is used as the basis for this work

Corruption is operationally defined as the abuse of entrusted power for private gain. TI further differentiates between "according to rule" corruption and "against the rule" corruption. Facilitation payments, where a bribe is paid to receive preferential treatment for something that the bribe receiver is required to do by law, constitute the former. The latter, on the other hand, is a bribe paid to obtain services the bribe receiver is prohibited from providing. (Transparency International, 2014)
Entrepreneurial Activity

Entrepreneurship has been defined by various researchers and economists from several different perspectives. Schumpeter (1911, 1934) identified entrepreneurship with innovation when defining his concept of “creative destruction.” Kirzner (1997) closely followed Hayek (1968, 2002) in aligning entrepreneurship with alertness to new opportunity. Knight (1921) defined entrepreneurship as the ability of “those who seek to profit by actively promoting adjustment to change”. Knight explicitly connects entrepreneurial activity with firm start-up.

Given these historical definitions, this present work relies on the work of Wennekers & Thurik (1999) who define entrepreneurship as “the perception and creation of new economic opportunities” combined with “decision-making on the location, form and use of resources” (p.46).

D. Development of the Research

The layout of this research proceeds as follows. The following chapter presents a comprehensive literature review of all of the macroeconomic factors, antecedents, and outcomes used herein; the third chapter presents the conceptual model and hypotheses development for the research; the fourth chapter presents the methodology, measurement, data collection and reliability and validity of the variables; the fifth chapter presents the overall results and discussion, and finally the conclusion is presented with potential policy implications.
CHAPTER II
LITERATURE REVIEW

The literature review for this dissertation covers the most seminal and influential theoretical and empirical research for each of the factors studied. It is understood that this dissertation does not include every text that investigates these factors, but it is the intent to include the most recent and salient work to provide both a theoretical and empirical basis for research into the relationships.

A. Economic globalization

The literature review for this dissertation begins by providing a review of the multidimensional construct used as the model dependent variable. Existing literature suggests that this latent construct is comprised of two primary factors (inward FDI and exports). The use of this construct is based on the work of (Akhter, 2004), who focused on the economic perspective of globalization and defined it as “the increasing cross-country integration of economic systems through trade and investments”. It is further supported by the work of (Rugman & Verbeke, 2004, 2008; Rugman, 2001). The
following sections provide an in-depth review of existing literature on both FDI and trade.

*Foreign Direct Investment:*

Much of the theoretical work in the field of Foreign Direct Investment (FDI) stems from the economics foundation laid by Bain (1956) and Coase (1937). According to Dunning & Rugman (1985), the seminal work by Hymer (1960) fundamentally changed the focus of international investment away from neo-classical economics, which assumed the motivation for international investment to be interest rate differentials, and toward the MNE as the foundation for FDI (P.229)

For the purpose of this work, the focus is in the motivations for FDI as would be required to better understand economic globalization. Thus, this dissertation will rely primarily on the work by Dunning (1980, 1988, 1993).

Dunning’s Eclectic Paradigm for International Involvement (commonly referred to as the OLI paradigm) combines three independent components for FDI motivation: Ownership (O), Location (L), and Internalisation (I) (Dunning, 1980). Dunning states that ownership advantages come in the form of both physical advantages such as technology as well as intangible advantages such as knowledge management. He also incorporated into his ownership advantages benefits he termed “Transaction Cost Advantages” – advantages that accrue to an MNE through the process of being international - such as knowledge of global markets and the benefits of risk-diversification (Dunning, 1993). The locational (or country specific) advantages included in Dunning’s OLI paradigm connected ownership endowments to the “endowments specific to the countries in which they operate” (Dunning, 1980 p.10). These location specific endowments, which are
categorized into three groups (Economic, Political, and Social), provide comparative advantages due to the host country’s specific characteristics. MNE’s gain these location specific endowments when they acquire ownership in specific countries. These advantages then may appear to be ownership advantages. However, Dunning establishes location endowments as separate from but connected to ownership endowments - a relationship which Dunning clearly states is “more complex than once thought” (Dunning, 1980 p.10).

Internalization (I) is the third theory integrated into the OLI paradigm and, according to Dunning (1980), answers the question of “why” an MNE would elect to use its ownership advantages instead of selling or leasing these to a firm in the local market. MNEs will internalize production rather than externalize it when market imperfections create an opportunity the MNE can exploit by utilizing its own internal resources. These market imperfections can include uncertainty regarding price and availability of supplies, as well as high costs of enforcing property rights.

Dunning sought to connect ownership and internalization theories with location advantages using the idea that once an MNE decided to internalize certain ownership advantages, the MNE needed to decide on the location of that process. This decision is influenced by the natural endowments of the country, but also by the institutional, legal, political, and cultural environments (Dunning, 1993). The economies of both host country and home country investment have been shown to be responsive to the investment. The advantages come primarily through the indirect channel of enterprises investing capital and technology from home country to host country. Dunning’s Eclectic Paradigm for International Involvement (Dunning, 1980) indicates that much of the
advantage is through a firm’s ability to exploit imperfections in national markets by internalizing location and ownership advantages. These advantages then are implicitly transferred to the home and/or host country. Many distinctive features of FDI in terms of ownership advantages for foreign firms can be seen in the transfer of superior technology (Johnson, 1970), the better capabilities for production differentiation (Caves, 1971), and under-utilization of entrepreneurial and managerial capacity (McManus, 1972; Wolf, 1977). Thus, FDI has been shown to be a powerful participant in economic growth for both host country and home country. This growth can be seen in the overall GDP, GDP per capita, unemployment, exports, imports, and efficiency gains.

In the world of FDI, the investment comes in various forms and is driven by various motivations. The primary means for injecting FDI into an economy is through one or more of the following: Joint-Ventures (JVs) with existing local firms, mergers and acquisitions (M&As), equity buyouts, greenfield investment, or the expansion of an existing affiliate in the local country.

According to a survey of emerging market investors conducted by the World Bank (2003), 40% of investors prefer to acquire a firm in the host country through 100% acquisition. This provides not only a culturally knowledgeable subsidiary but also, and possibly more importantly, control over management while maintaining intellectual property and competitive advantage. The same report notes that if acquisition activity is not convenient or possible, the secondary preference (22% of firms) is through greenfield investment which provides the same advantages of management control and intellectual property, but which may lose the advantages of a local management team. It is important to note that this form of FDI carries with it the highest level of control as well as the
highest level of risk. The World Bank report notes that the tertiary preference (13% of firms) of FDI is through expansion of a local affiliate, if available. This allows for subsidiary expansion to gain market share and simultaneously maintain the existing level of control.

These forms of foreign investment are all preferred over JVs with host country firms, yet many investors note that government regulatory pressures, policies and/or the nature of the market make the JV option more attractive. In this case, investors prefer a partner firm that already holds a dominating market position or one that can ease the entry of the investor through alliances and experience. This is especially true for high involvement sectors such as the extraction sector which has high entry costs and long-term payoff horizon.

Why then do firms invest abroad? In general, it must be understood that firms invest abroad to take advantage of locational and ownership advantages that are offered in foreign markets (Dunning, 1980, 1988). These can range from advantages in upstream production or downstream activities in the value chain. Additionally, firms will internalize these locational advantages through the use of vertical and horizontal integration to increase their ownership advantages to further induce competitive advantage (Dunning, 1995). This section defines motivations for investors both in general terms and in terms of specific determinants involved in selecting markets for investment. In general terms, motivations are categorized as:

**Market-Seeking: Technology Intensive**

This concerns manufacturing and services and is largely driven by revenue-generation pressures. This motivation for FDI can be seen in large economies, both
developed and emerging, where a growing middle-class has increasingly greater demands for consumer goods.

**Efficiency-Seeking: Typically Labor Intensive, Export-oriented**

This concerns manufacturing and is driven largely by cost pressures. This type of foreign investment can be seen most recently throughout Asia (especially India and China) where there exists vast stores of inexpensive labor.

**Natural-Resource Seeking**

This concerns extraction of natural resources and is largely driven by global demand pressures - thus, it is generally export oriented. Emerging markets hold many vast stores of natural resources and MNCs are generally willing suitors. For example, since the early years of Russia’s independence, natural resources have been the primary motivation for FDI in terms of volume (USD). According to the Energy Information Administration (EIA), this sector accounts for 30% of FDI in Russia and is responsible for 60% of Russia’s export revenues. (U.S. Energy Information Administration, 2008)
The three categories in figure 1 above broadly categorize the scope of foreign investment motivations. Additionally, there are other, more defined drivers that impact foreign investors when it comes to deciding on a specific location. These factors serve to direct inward FDI to a specific emerging market or geographic area. These factors contribute information useful in determining the location among a list of potential recipients. A World Bank report states it this way, “certain general host country characteristics consistently decide which countries attract the most FDI, and that the better these are understood, the more foreign investment countries are likely to receive” (World Bank, 2003). According to the IMF/WB working group, (2003) the characteristics fall broadly into two sets of factors:
(1) Growth Factors: Factors that provide the foundation for growth in a foreign country. These include factors such as market size, growth prospects, tax regime, and infrastructure

(2) Institutional Factors: Factors that facilitate inward FDI. These include factors such as regulatory factors and government policies

Growth Factors

“Growth factors” is the first of the two broadly defined destination determinants that serve to attract FDI. Within this category, several growth factors stand out as leading the pack. This section touches on three of these that have the most dramatic causal effects: Market Size and Growth Potential, Tax Regime, and Infrastructure.

1) Market Size and Growth Potential

Stemming from the primary directive that the most important destination determinate for FDI is potential host country market access, the local market size and potential for strong growth is directly correlated. A large majority of emerging market investors emphasize the size of the domestic market – as measured by per capita GDP – to be key in determining the specific host country for their investment (Westin, 1999; Ahrend, 2000 and 2002; Brock, 1998 and 2005; Bradshaw, 2002 and 2007; Broadman 2001; Manaenkov 2000; Fabry 2000). This directive allows investors not only access to specific global resources, but more importantly, to the local developing market. In many cases, investors find their investments are motivated by the opportunity to gain access to the local market and the related vertical industries, as opposed to investing to reduce manufacturing costs. Ahrend (2000) shares Manaenkov’s (2000) view that in addition to the size of the market, it is also
important that the local market have potential for strong growth. Investors look to rising per capita GDP as an indicator for market size and potential growth as it implicitly defines an emerging middle-class.

2) Host Country Tax Regime and FDI

A 2003 World Bank report indicated that a predictable and stable tax system is a requirement for consistent inward foreign investment. Tax incentives are not cited as critical, but certain industry investors look for tax incentives to help offset the relatively large up-front costs. Specific to the extraction sector, investors cite that fixed costs for specific extractive industries are relatively high and investments are generally front-loaded, therefore tax incentives are not only welcomed, but also sought (World Bank, 2003). The primary target regarding the tax regime, especially in sectors where investment is generally large and front-loaded, is assurance of an equitable return on investment over the long run. In emerging markets, this is as much a part of political policy as it is a specific tax question.

3) Infrastructure and FDI

Each “growth factor” has merit in attracting FDI; however, industries within certain sectors, especially export-oriented extraction industries, are primarily dependent on a strong infrastructure to increase the value of their investment (Brock, Broadman, & Recanatini 2000). Infrastructure includes both the physical building blocks of industry (roads, electricity, water, transportation, and telecommunication), as well as the right mix of an inexpensive and talented labor force.

a) Building blocks: A 2003 report from the World Bank indicates that the availability of basic building block infrastructure is more important in attracting
inward FDI than the cost of the infrastructure. A host country lacking this basic infrastructure is challenged to attract inward FDI due to, among other things, the fact that “infrastructure constraints impede the ability of investors to use these countries as export platforms to serve regional and global markets” (World Bank, 2003).

b) Labor Force: A skilled and wage-adjusted labor force cannot be overlooked as a primary infrastructure component regarding attracting inward FDI (World Bank, 2003). Efficiency-seeking investment is, by definition, driven by competitive pressures, thus productivity considerations are a primary concern. However, low-cost labor is not necessarily equivalent to skilled, wage-adjusted labor, and investors cite the latter as more important to productivity than the general cost of labor. This is especially true for efficiency-seeking investment, but all else being equal, the same general principle holds in export seeking extraction industries.

Having detailed the primary determinants and the motivations for inward FDI, the following section details the second factor comprising economic globalization: Exports or openness to trade.

**Trade Theory**

The theories of international trade begin with the work of Adam Smith and provide support for the economic globalization construct. Smith, (1776) in his book *The Wealth of Nations*, set forward the idea of a nation trading with a foreign country for the commodities which could be produced cheaper in the foreign country. For Smith, payment for these goods would be supported with goods produced more efficiently and less expensively in the home country. This concept was fully developed by David
Ricardo in 1817 in his famous “Law of Comparative Advantage.” Using a 2-country, 2-commodity model, he showed that trade between two countries will be beneficial for both even when one country has an absolute advantage in producing both products. Thus, by focusing on relative costs, he concluded that each country will gain by specializing in the good where it has comparative advantage and trading for the other good. The theory of comparative advantage shifts its focus away from absolute cost advantage and instead is based on relative costs advantage and opportunity costs.

Ricardo’s classical theory of comparative advantage was modeled as a 2-country, 2-commodity model. Thus it doesn’t in itself provide the theoretical support required for the economic globalization construct. Therefore the more recent work of Jones (1961) and Shiozawa (2007) is referenced for a more generalized international trade theory. Jones (1961) expanded the basic Ricardian theory of comparative advantage to model either a 2-country, many commodity case, or a many-country, 2 commodity case. But it wasn’t until Shiozawa's (2007) work that the model was extended to include intermediate inputs and trade. Larudee (2012) extended this later version of Ricardian theory to allow for the inclusion of trade costs in international trade. These later models, that include trade in intermediate inputs and trade costs, provide necessary support for the economic globalization construct.

Stemming from the theory of comparative advantage, more recent research has developed the export-led growth hypothesis (ELG). This hypothesis is based on Thirlwell’s law which states that “if long-run balance of payments equilibrium is a requirement for a country, its growth of national income can be approximated by the ratio of the growth of exports to the income elasticity of demand for imports” (Thirlwell,
Also referred to as export-oriented industrialization, the hypothesis posits that a country can increase economic growth by increasing the exports for which the country has a comparative advantage. Thus, the export-led growth hypothesis attempts to show unidirectional causality running from the country’s exports to GDP growth. There are two fundamental factors supporting this hypothesis: (1) Keynesian theory suggests that income injections from the exports into the circular flow will create an increase in output via the multiplier effect; and (2) increasing exports increases foreign exchange receipts, which in turn allows for increases in the import of intermediate inputs (Ozturk & Acaravci, 2010). Logic then holds that when seeking to limit importation of foreign intermediate factors (i.e., market protecting action), large and adverse effects on exportation of final goods may occur (Kasahara & Lapham, 2013).

As an economic policy used by many developing countries, export-led growth strategies take shape in the forms of devaluation of the local currency against major trading partners, reduced tariffs and explicit government support for export sectors. Often, this can be seen as “trade openness” as opposed to import substitution, the latter of which can be seen viewed as “market protecting” in nature (Abual-Foul, 2004; Awokuse, 2003; Fountas, 2000; Kosekahyaoglu, 2006; Maneschiöld, 2008; Ozturk & Acaravci, 2010; Xu, 2000).

This causal link between exports and growth has been debated in the literature. The causality stresses that export growth is the key determinant of increases in output and is centered on positive externalities of the export sector, strong specialization, and a dynamic competitive environment (Kunst, Robert & Marin, 1989). The ELG hypothesis posits that causality runs unidirectional from increased exports to increased output;
however, empirical evidence does not always support this unidirectional causal link. Some research has found evidence of reverse causality, leading from increased output to increased exports (Mishra, 2011; Nain & Ahmad, 2010; Panas & Vamvoukas, 2002; Shan & Sun, 1998a), bi-directional causality (Maneschiöld, 2008; Shan & Sun, 1998b), or no causal link at all (Bajo-Rubio & Díaz-Roldán, 2012; Moosa, 1999).

Notwithstanding the above stated inconsistencies in the literature, the preponderance of empirical research testing the export-led growth hypothesis supports the unidirectional causal flow from real exports to real GDP growth. In 2000, Fountas used time-series testing methods to examine the ELG hypothesis over 40 years (1950-1990) in Ireland. Using Granger causality tests, evidence was found to strongly support the long-run relationship between exports and growth. However, this relationship only existed for the period 1981-1994, not for the previous period (Fountas, 2000).

Xu (2000), who analyzed 74 economies (both developed and developing) using a multivariate vector-autoregression framework, found a positive and significant relationship between increasing primary exports on both industrial exports and GDP growth. The relationship was robust for both short-term and long-term tests, and more than two-thirds of the 74 countries analyzed showed evidence of a positive and significant relationship between exports and growth. These results strongly support the export-led growth hypothesis especially in primary export growth.

Similarly, Awokuse (2003) used vector error corrected models and vector autoregression methods as prescribed by Toda & Yamamoto (1995) to test for Granger causality from exports to output growth in Canada. This study used quarterly time-series data on Canada from 1961 – 2000. The results of the study indicate strong support for
the export-led growth hypothesis suggesting that changes in real exports precede changes in real GDP.

Additional support for the export-led growth hypothesis is found in studies focused on the country of Jordan. Using three different vector autoregression models on time-series data from 1976-1997, Abual-Foul (2004) investigated the causal relationship between real exports and output. The results give empirical support to the export-led growth hypothesis by providing evidence of a unidirectional causation from exports to output.

In order to test the export-led growth hypothesis, Kosekahyaoglu (2006) conducted a comparative analysis on Turkey and seven “newly developing countries.” This work examines the relationship between trade (identified as exports and imports) and income using Granger causality analysis. An underlying importance of this work lies in the historical relevance that Turkey had followed an “import substitution” regime based on protectionism from 1960 – 1980 before “switching” to a policy regime focused on export-growth. This study is a time-series study analyzing Turkey (1980-2005), the Czech Republic, Hungary, Poland (1992-2005), Argentina, Brazil, India (1980-2004), and China (1984-2005). The results of this analysis indicate strong support for the export-led growth hypothesis. For all countries except Argentina and Brazil, there is a unidirectional causal relationship running from exports to national income. However, for Poland, India, and China, the results also indicate a conflicting causality between imports and growth.

Further and similar to the above empirical tests, Maneschiöld (2008) tested the export-led growth hypothesis on time-series data from Argentina, Brazil, and Mexico
using cointegration and vector autoregression causality techniques. For these empirical tests, the relationship between exports and GDP growth was positive and significant, and causality was found to be either bi-directional or unidirectional from exports to GDP growth.

Similar tests using the Toda & Yamamoto (1995) procedure for testing Granger causality in vector autoregression methodologies were performed by Ozturk & Acaravci (2010). These authors used quarterly times series data from 1989 – 2006 for Turkey. The results strongly support the export-led growth hypothesis and also find causality to be unidirectional from real exports to real growth. The results were found to be robust in both the short-run and long-run.

The above mentioned studies are primarily focused on the relationship between total real exports and real output (GDP). However, in order to resolve some of the conflicting results, some researchers have looked at non-linear relationships and others have as segregated manufacturing exports from total exports.

By looking for a non-linear relationship between exports and growth in GDP, Lim & Ho (2013) took a slightly different and more complex approach when testing in the ASEAN-5 countries. They investigated yearly time-series data for Malaysia (1970-2008), Thailand (1953-2008), the Philippines (1958-2008), Indonesia (1962-2008) and Singapore (1965-2008), and in a somewhat different approach from much of the research on the export-led growth hypothesis, posited a nonlinear positive relationship. They used nonparametric unit root testing (Breitung, 2002) and nonparametric cointegration testing (Breitung, 2001), in addition to Granger causality tests. The results are two-fold: (1) They find evidence of a nonlinear relationship between exports and GDP for Malaysia,
Thailand, Indonesia, and Singapore, and (2) they found a unidirectional non-linear causality from exports to GDP for Thailand and the Philippines.

Jiranyakul (2010) focused this study on the effects of manufacturing exports as opposed to total exports. This study used autoregressive distributed lag tests as proposed by Pesaran, Shin, & Smith (2001) to test for cointegration and two unit root tests (Augmented Dickey-Fuller and Phillips-Perron). This work provides evidence that not only are exports positively and significantly related to increased GDP, but manufacturing exports specifically are found to be positive and significant in determining increased output. The results indicate support for the export-led growth hypothesis by finding that an increase of one percent in real exports caused a 0.510 percent increase in real GDP. When looking specifically at manufacturing related exports, the relationship was also significant with a one percent increase in real manufacturing exports causing a 0.469 percent increase in GDP. Finally, this study indicates support for the hypothesis that long-term increased exports cause increased GDP.

In further examining the relationship of exports or manufacturing exports to increased GDP, Siliverstovs & Herzer (2006) utilized Granger causality analysis in the Toda & Yamamoto (1995) framework and augmented vector autocorrelation methods on yearly time series data from Chile for the period spanning 1960-2001. As in Jiranyakul (2010), this study does not focus on total exports. Instead, the authors decompose total exports into primary exports and manufactured goods. The results establish: (1) a positive and unidirectional causality from manufactured exports to net-of-exports GDP, and (2) the failure of primary exports to Granger causality of GDP. This study fully supports the
export-led growth hypothesis in finding that manufacturing exports, but not necessarily primary exports, lead to increased GDP.

Huang & Wang (2007) performed the Granger causality test using methodologies from both Toda & Phillips (1993) and Toda & Yamamoto (1995) on time series data from four Asian economies: Korea, Taiwan, Hong Kong, and Singapore. The results varied when using the Toda & Phillips method as opposed to when using the Toda & Yamamoto method. When using the Toda & Phillips method, the results indicate support for the export-led growth hypothesis for Korea and Taiwan. However, when using the Toda & Yamamoto method, these results are not supported. The authors conclude that (1) the procedure from Toda & Philips is more powerful when working with small sample sizes than is the method from Toda & Yamamoto, and (2) that when using the Toda & Phillips method, manufacturing sector exports are positively causal to increased GDP.

Chandra Parida & Sahoo (2007) used panel data from four south Asian countries: Bangladesh, India, Sri Lanka, and Pakistan for the period spanning 1980 – 2002 to study the relationship between exports and GDP. Specifically, this study focuses on both export-led and manufacturing export-led growth. As in Jiranyakul (2010), these authors utilize both ADF and PP unit roots tests, as well as panel coinegration tests and Granger causality tests. They find that (1) the export-led growth hypothesis is strongly supported in these countries by this data, and (2) that manufacturing exports specifically support the export-led growth hypothesis.

Given the overwhelming evidence in support of the export-led growth hypothesis in the recent literature, the level of exports is included in the Economic globalization construct. The strength of this construct will be tested using factor analysis.
B. Corruption

Regardless of the type of foreign investment, the motivations involved, or the determinants, all foreign investment contains a measure of risk, especially when it comes to investing in a less stable nation state.

This section of the paper focuses on a major obstacle to attracting increased foreign investment into emerging markets – corruption. A general consensus from the literature available is that the primary deterrents to increased inward FDI relate to poor tax laws and inconsistent enforcement of them, poor property rights protection, and poor trade policy, while largely discounting the impact of corruption (Mody, 1999; Hines, 1995; Brock, 2000; Ahrend, 2000). However, many other studies listed corruption as a primary deterrent (Mauro, 1995; Mauro, 1997; Knack, et.al., 1995; Rodrick, 1997; Kauffman, 1996; Westin, 2000; Wei, 2000). According to Wei (2000), the discrepancy regarding the impact of corruption on FDI flows may be found in the way the econometric study was conducted. In his review of Wheeler & Mody (1992), where corruption was found to have an insignificant impact on inward FDI flows, Wei states that corruption wasn’t explicitly measured. Rather, an aggregate risk variable was introduced, which included corruption along with other highly correlated variables, thus hiding the true impact of corruption (Wei 2000). The discrepancy in the review of existing literature can seemingly be attributed to the clandestine nature of corruption, leading researchers to use indices as a measure, when the indices are in fact simply reflecting anecdotal evidence.

Additionally, it is clear is that often studies have seemingly ignored the imbedded corruption within the tax laws, property protection rights, and trade policies (Fabry,
This may be largely due to the difficulty in identifying imbedded corruption as it exists within the primary determinants to FDI. This point is made clear regarding Russia specifically by Fabry (2000), indicating that the economic power of the oligarchs may be the main reason why emerging markets fail to enforce a clearly-defined system of property rights. Additionally, Westin (1999) noted regarding property protection that the tax paid is largely determined by the connections one has in the government.

Finally, corruption can impact an economy in two broad ways: economically by reducing growth, and politically by contributing to unfair wealth distribution, leading to political instability (Wei 2000). Political instability is generally seen to further reduce attractiveness of the investment climate leading to a further reduction in growth.

Building on research on the determinants of FDI research, Voyer & Beamish (2004) note that the trust and commitment that are necessary for building international operations are compromised in the presence of corruption. As such, they extend the utility of the OLI paradigm by introducing the notion of corruption and associated effects on FDI. Further, Boddewyn (1988) notes that an MNE can reduce the uncertainty associated with foreign operations by better understanding the issue of corruption. Finally, Habib & Zurawicki (2002) identify corruption as exerting a strong influence on inward FDI -- thus impacting the locational decision (L) from Dunning’s OLI paradigm.

To understand the impact that corruption has on investment, corruption must first be better understood. In this work, the focus is to investigate corruption at a national level and its impact on economic globalization. Transparency International summarizes the economic impact of corruption as:
Corruption constitutes a major obstacle to democracy and the rule of law. Accountable political leadership cannot develop in a corrupt climate...Corruption leads to the depletion of national wealth... Furthermore, it hinders the development of fair market structures and distorts competition, thereby deterring investment. (Transparency International, 2010)

Germaine to this study, social science researchers have studied the practical impacts of corruption on economies and developed insights, on which this study builds.

Mauro (1997) lists major consequences that result from (public) corruption.

- Corruption lowers investment and retards economic growth
- Talent is misallocated
- Reduces the effectiveness of aid flows
- Governments loose tax revenue
- Adverse budgetary issues
- Quality of infrastructure and public services
- Distorted composition of government expenditure

Ana Eiras (2003) researched the topic of corruption as a direct result of a lack of economic freedom. In the paper, Eiras used key indicators from the Heritage Foundation to reveal that economic freedom is the key to reducing corruption. The study emphasizes the pivotal issue that corruption is a symptom of a lack of economic freedom, but it is not the root cause. This lack of economic freedom comes in the forms of over regulation, lack of a rule of law, and a large public sector. According to Eiras, diminishing economic freedom and a lax rule of law, creates opportunities for bribery. Corruption
comes in both the public sector and the private sector. In the public sector, if economic freedom is lacking, officials are most apt to accept bribes, and if the rule of law is missing, these officials have no incentive to curtail the corrupt activity. In the private sector, if economic freedom diminishes, people are more apt to create an informal economy. Both of these actions are certainly perceived as immoral and corrupt, yet according to Eiras, both are a result of economic freedoms that don’t exist. The real problem is government actions and over regulation. Eiras (2003) notes that, “Economic freedom with a strong rule of law will foster a culture of investment, job creation, and institutional respect – all essential factors in massively improving the living standards of ordinary people” (p.1).

Mauro (1995) studied the impact of host country corruption on growth. The purpose of his research was to identify the channels through which corruption and other institutional factors affect economic growth and to quantify the magnitude of the effects. He used OLS regression to find that corruption, measured by the Business International (BI) index, lowered private investment and thereby reduced economic growth. He found that corruption is strongly and negatively correlated with the investment rate regardless of bureaucracy of the host country. Additionally, he found that corruption lowers the profit on invested capital (and would therefore agree with Al-Sadig (2009) that corruption is a tax on profits).

Mauro (1997) agreed with the foundational point of Eiras (2003). In his research, Mauro used publicly available data sources to create a statistical analysis of public sector corruption. Mauro investigated the possible causes of corruption in the public sector and
followed with potential consequences. He lists five primary regulatory causes and two additional causes that are not associated with government regulations.

Regulatory: Trade restrictions, Government subsidies, Price controls, Multiple exchange rate and foreign exchange allocation schemes, Low wages in the civil service

Non-regulatory: Natural resource endowments, Sociological factors

To these primary causes, Mauro (1997) follows with consequences that result from the corruption. He lists several consequences in general:

Consequences: Corruption lowers investment and retards economic growth; Talent is misallocated and reduces the effectiveness of aid flows; Governments lose tax revenue; Adverse budgetary issues, Reduced quality of infrastructure and public services, Distorted composition of government expenditure.

Mauro adds to this list of consequences ideas about the extent to which corruption affects investment and economic growth and provides insight into how corruption influences governments’ spending decisions. According to the study, Mauro’s regression shows that corruption is negatively linked to the level of investment and economic growth and further found that an improvement of a single standard deviation increases investment by more than 4% points and the annual growth rate of per capita GDP by more than .5%. Additionally, Mauro concluded that bribes can be more readily collected on certain types (larger over smaller) of government projects and that corruption leads to high capital expenditures on white elephant projects. Interestingly, government spending on defense or transportation shows little or no correlation with corruption. Finally, Mauro
noted that the direction of causality is not evident. In other words, it is possible that variables can perform as both cause and effect, depending on the situation.

Voyer and Beamish (2004) conducted an econometric study in which they analyzed nearly 30,000 Japanese investments in 59 countries. The objectives of their study were to (1) examine the extent to which corruption exists and how it impacts FDI in an economy, and (2) to analyze if the type of economy (emerging / industrialized) made an impact on the level of Japanese investment in light of the level of corruption. They found that the inclusion of a corruption index (CPI) into the model increased the predictive power of GDP per capita – so Japanese FDI is correlated with host-level corruption. Secondly, they found that the type of economy is significant as a predictor of Japanese FDI. For industrialized economies, the perceived level of corruption was not significant. However, the perceived level of corruption became significant in emerging economies where the strength of law was unreliable.

Peng and Beamish (2008) discussed the inconclusive studies regarding the impact of corruption on FDI. Habib & Zurawicki (2002), Mauro (1995), Voyer & Beamish (2004), Wei (2000), and Wu (2004) all found that corruption had a negative impact on inward FDI. However, Delios et. al (2005), Hines (1995), and Wheeler & Mody (1992) could not confirm a negative relationship between corruption and inward FDI. Further complicating the study is Robertson and Watson (2004) who implied that changes in FDI may actually cause corruption. Peng & Beamish (2008) point out an interesting point to all of these studies is that even in light of corruption, MNE’s may not have altered their FDI decisions.
Wei (2000) investigated the impact of corruption on the ability of an economy to attract FDI. He found that increasing tax on foreign MNCs or increasing the perceived level of corruption both significantly reduced inward FDI. The study found that each point on a corruption index correlated to a .89% change in inward FDI. He also studied the impact of the US FCPA and its impact on US investors. He found that in spite of the US FCPA, US investors were no more averse to corruption than investors in countries without a FCPA.

Al-Sadig (2009) studied the impacts of corruption on a host country’s inward FDI. He found that corruption is a tax on profits and that a 1-pt increase in the corruption level (as measured by ICRG) reduces per capita FDI by 11% to 20%. However, he also found that the presence of quality institutions has a greater impact on inward FDI than does corruption. Therefore, he concludes that a host country may have greater perceived corruption and still attract FDI if the quality of its institutions were perceived as high.

Benassy-Quere (2007) studied the institutional determinants of FDI. She built a model that defined FDI in terms of the gravity model (economic size and geographic distance) and the quality of institutions in the host country. Her data came from the French ministries Institutional Profiles database and the Frazier Institute database (for economic freedom). She found that the GDP per capita and the institutions variable both had significant and positive impacts on bilateral FDI. She notes that ease of entry, bankruptcy laws, and lack of corruption fall into this category. She also found that capital concentration by MNEs is also a significant factor in determining FDI.

Habib & Zurawicki (2002) did an econometric study in which they analyzed both the impact of corruption on bilateral FDI flows and the impact of the absolute difference
in home / host country corruption levels on foreign investment. Their study suggests that the level of perceived corruption as measured by the CPI is indeed significant and negative in regards to bilateral FDI flows. The study also suggests that the greater the absolute difference in perceived corruption levels from home country to host country significantly impacts the level of bilateral investment between the two countries. This later point suggests that the investor has gained experienced in managing the level of corruption in the home country and is somewhat comfortable in managing the same level of corruption in a foreign country. However, greater levels of perceived corruption in the host country (vis-à-vis the home country) create an unfamiliar investment environment that negatively impacts the decision to invest.

C. Institutional Theory

Institutions have been the topic of study in various fields since Emile Durkeim’s “social facts as things. (1982, 1895)” However the rise of institution theory for organizational analysis is relatively new – with pioneering work in “new institutionalism” coming from Meyer (1977), Meyer & Rowan (1977), North (1978), and Dimaggio and Powell (1983), and a formal name coming in 1987 at a UCLA conference hosted by Lynne Zucker, (Dimaggio & Powell, 1991). In this regard, new institution theory is a relatively new theory for international business researchers and has, in the past three decades, endured some minor changes and some major adjustments as well. This literature review establishes both the traditional core of institution theory as well as the more recent neo-institution theory. It begins by establishing a working definition of institutions and then moving forward to provide a more comprehensive review of institution theory as it pertains to organizational analysis in general and to international
What are Institutions? Several definitions have been offered up in the recent literature and a brief definition review will set the stage for understanding institution theory for this work. North (1990) defined institutions as: “The rules of the game in a society or, more formally, the humanly devised constraints that shape human interaction” (North, 1990). In a later work, North altered his own definition slightly by defining institutions as: “humanly devised constraints that structure political, economic and social interaction” (North, 1991, p.10). Here, he sets forth the idea that institutions consist of both informal constraints, which can include sanctions, taboos, customs, traditions, and codes of conduct, as well as formal rules which can include constitutions, laws, and property rights. Institutions, according to North (1991), “create order and reduce uncertainty in exchange” (p.10). Here, North used a game theory example and historical trade complexities to illustrate in detail that constraints are required in economic exchanges to promote cooperation amongst the players. These constraints provide an incentive structure for exchanges where specialization and division of labor are employed. But North points out that defining and enforcing exchange agreements in an increasingly complex trade environment, requires substantial resources. Additionally, in the light of economic exchanges, where there exists asymmetric information and unknown agent performance, transaction costs and productions costs are substantial. Thus, as supported by Dimaggio and Powell (1991), neo-institutionalism takes the transaction cost as the primary unit of analysis, (Dimaggio & Powell, 1991). Institutions and efficient (effective) enforcement mechanisms are primary determinants of transaction and production costs of exchange – thus institutions directly determine profitability.
As in his 1978 work, North (1991) focused his work on the evolving nature of institutions (both formal and informal), and highlights the specific role of institutions in the performance of economies. He further describes these ever evolving institutions (constraints) as the “glue” that connects economic past, with the present, and the future.

Scott (1995) defined institutions somewhat differently as “regulative, normative, and cognitive structures and activities that provide stability and meaning to social behavior”. This definition is directly allied with North’s (1990) argument that institutions are both formal and informal in nature (Scott, 2013). Additionally, Peng, et al. (2008) defines the role of institutions as governing “societal transactions in the areas of politics (corruption and transparency), law economic liberalization and regulations), and society (ethical norms and attitudes toward entrepreneurship)”, (Peng et al., 2008).

The theory of institutions in the form of Neoinstitutionalism is the foundation for this work. However, it is imperative to note that neoinstitutionalism is rooted in “old institutionalism” which was originally developed by Philip Selznick in 1948. Selznick attempted to establish that rational formal structures (trade unions, political parties, corporations), coupled with organizations (created to accomplish defined goals within an organization), make up the structural expression of rational action. However, these formal organizations are never actually able to explain the non-rational decisions made by organizational leaders (Selznick, 1948). This work will focus on the similarities and differences of these two approaches that are pertinent to the constructs contained within this work. A more complete comparison of the two approaches can be found in Zucker (1987) and in Dimaggio & Powell (1991) – summarized in Table I below.
Table I
The Old and the New Institutionalisms

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<th>New</th>
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<tr>
<td>Conflicts of interest</td>
<td>Central</td>
<td>Peripheral</td>
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<tr>
<td>Source of inertia</td>
<td>Vested interests</td>
<td>Legitimacy imperative</td>
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<td>Structural emphasis</td>
<td>Informal structure</td>
<td>Symbolic role of formal structure</td>
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<tr>
<td>Organization embedded</td>
<td>Local community</td>
<td>Field, sector, society</td>
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<tr>
<td>Nature of embeddedness</td>
<td>Co-optation</td>
<td>Constitutive</td>
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<tr>
<td>Locus of institutionalization</td>
<td>Organization</td>
<td>Field or Society</td>
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<tr>
<td>Basis of critique of utilitarianism</td>
<td>Theory of interest</td>
<td>Theory of action</td>
</tr>
<tr>
<td>Evidence for critique of utilitarianism</td>
<td>Unanticipated consequences</td>
<td>Unreflective activity</td>
</tr>
<tr>
<td>Key forms of cognition</td>
<td>Values, norms, attitudes</td>
<td>Classifications, routines, scripts, schema</td>
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<tr>
<td>Social psychology</td>
<td>Socialization theory</td>
<td>Attribution theory</td>
</tr>
<tr>
<td>Cognitive basis of order</td>
<td>Commitment</td>
<td>Habit, practical action</td>
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<tr>
<td>Goals</td>
<td>Displaced</td>
<td>Ambiguous</td>
</tr>
<tr>
<td>Agenda</td>
<td>Policy relevance</td>
<td>Disciplinary</td>
</tr>
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Source: (Dimaggio & Powell, 1991)

Both approaches to institutionalism share a core set of similarities. Both, for example, share a strong skepticism toward rational-actor models and each view institutions as option-limiting structures that in effect reduce the rationality of organizational decisions. Additional similarities focus on the relationship between organizations and the external environments in which they operate, as well as noting the organizational actions are fundamentally different than formal accounts of their actions.

Neoinstitutionalism, however, diverted from the original in some significant ways. Notably, both approaches agree that institutions constrain rationality, yet the old approach stresses the constraint comes from objective, well established political
tradeoff’s and alliances (Dimaggio & Powell, 1991), while the new approach stresses (subjective) that the constraint comes from well understood formal or informal policies that are seldom explicitly articulated (Zucker, 1983). An additional difference is in how the two approaches define the environment. The old approach sees environments as a product of face-to-face interactions that implicitly tie the loyalties of organizational personnel to local communities (Selznick, 1948), whereas the newer approach views environments as nonlocal sectors with boundaries that are determined at the industry, professional, or national level (Dimaggio & Powell, 1991). Additionally, the understanding of what is institutionalized varies between the old and new approaches. The old approach establishes that the organization is institutionalized, and the new approach establishes that organizational forms, rules, and structural components are institutionalized (Dimaggio & Powell, 1991).

Meyer and Rowan, in a 1977 foundational work on “Institutionalized organizations: Formal structure as myth and ceremony,” detail that institutional rules functioning as myths serve to increase the legitimacy of organizations. These rules often become taken-for-granted institutionalized policies that bring stability and enhance the survival prospects for the organization. Because of the taken-for-granted nature of these institutional rules, organizations ceremonially implement them and, in so doing, become isomorphic in their stated policies. Meyer and Rowan (1977) clearly delineate between institutional rules and practical behavior, the former of which are often ceremonially accepted for the purpose of legitimacy, the latter of which occurs internally to the organization. The use of these ceremonially accepted institutional rules displays responsibility and helps the organization to avoid claims of negligence. This activity has
“ritual significance” but conflicts sharply with organizational efficiency. As a full resolution for this conflict, the authors recommend integrating decoupling and the logic of confidence. The essence of this idea is to display acceptance externally in order to gain legitimacy, but to act efficiently internally (Meyer & Rowan, 1977).

New institutionalism brings a “sense or realism to standard microeconomic theory” (Dimaggio & Powell, 1991). Based on the idea that individuals desire to maximize preferences in the face of cognitive limits, incomplete information, and difficulties in monitoring agreements, institutions reduce uncertainty and provide a dependable and efficient framework for exchange (Dimaggio & Powell, 1991). New institutionalism was born from the work of historical economists and is rooted in business strategy research. According to Williamson (1975), literature on institutions has primarily been focused on institutions as “efficient solutions to problems of organization in a competitive framework” (Williamson, 1975). Williamson assumes that various forms of economic market exchange, including franchising and vertical integration, are efficient solutions to complex problems. However, later work by other researchers is critical of this assumption in that it does not explain the varied performance of economies over time. Further, that North, 1978 argued that the central issue of economic history and of economic development is to account for the evolution of political and economic institutions that create an economic environment that induces increasing productivity (North, 1978).

In conjunction with Meyer (1977) and Meyer and Rowan (1977), the early work of North in 1978 lays the foundation for three decades of “new” institutional research by establishing that economists are tasked with analyzing certain parameters that are
generally held constant in economic research. These parameters are economic constraints and are actually evolving rather than constant. Further, it is the job of economists to develop theory about the transitory nature of these constraints and failure to do so handicaps development of economic theory (North, 1978). Thus, Institution theory is founded on the study of the economic constraints that guide individual economic choices. Neo-classical economics posit that individual economic choices are determined or guided by two factors: (1) opportunity and (2) preference. Thus, the study of institution theory is the study of the constraints that provide boundary conditions for economic choice (North, 1978).

In 1983, Dimaggio and Powell, in their oft-cited work on the iron cage revisited, posited that organizations become more similar in spite of their stated efforts to be distinct. They sought to explain why there exists such increasing levels of homogeneity within and among organizational forms. They posit that the emergence and structuration of organizational fields brings about powerful homogenizing forces that lead organizational forms to become continuously more similar. The driving force for this increasing similarity is often stated as a means to increase performance. Yet, after the organizational field is established, (official) performance is replaced with (unofficial) legitimacy as the key driver for isomorphism (Dimaggio & Powell, 1983). This process of homogenization is isomorphism through which the authors identify three sourcing mechanisms: (1) coercive – stemming from political influence and a lack of legitimacy, (2) mimetic – stemming from institutional uncertainty, and (3) normative – stemming from professionalization and standardization. Further, the authors agree with Meyer and Rowan (1977) that, in the absence of strong technology, organizations will import
rules and practices to legitimize the organization. However, they diverge from them regarding the degree of coupling of internal and external practices. Meyer and Rowan (1977) posit a loose coupling between external practices, which are already legitimized, and internal behavior. This loose coupling inherently allows internal variation. Dimaggio and Powell, (1983), however, posit that organizations will institute dramatic internal change and increase ceremonial practices in order to create greater homogenization.

“Old” institution theory (Meyer & Rowan, 1977; North, 1978) envelops a broad range of economic constraints in which a firm must operate. Neoinstitutionalism, however, narrows this focus to include largely the external constraints of (1) Organizational field, (2) Isomorphism, (3) Decoupling and ceremoniality, and (4) Legitimacy (Kostova, Roth, & Dancin, 2008). The first of these tenets, organizational field, is defined as “those organizations that, in the aggregate, constitute a recognized area of institutional life: key suppliers, resource and product consumers, regulatory agencies and other organizations that produce similar services or products,(Dimaggio & Powell, 1983, 148). The second of these tenets, Isomorphism, holds that firms operating in the same operational environment will adopt similar business models, and practices that will lead to similarity between firms (Kostova et al., 2008). The third of these tenets, decoupling and ceremoniality, is perhaps the most difficult to conceptualize. This tenet establishes that “organizations engage in ceremonial adoption of institutionalized structures and practices and at the same time decouple themselves from the environment by actually using different structures and practices they view as more economically efficient” (Kostova, et al., 2008 p.999). Thus organizations officially maintain standard formalized structures (which if followed in practice may lead to isomorphism), yet in
practical considerations, they may vary (Meyer & Rowan, 1977). The fourth tenet of neoinstitutionalism, legitimacy, points to the “acceptance and approval of organizational actions by external constituents” (Kostova, et al., 2008 p.1000).

1. Institutions and the MNC

Institutional impacts to the MNC have a specific focus. Kostova, Roth, and Dacin (2008) take a critical look at the establishment and growth of neoinstitutional theory as it applies to multinational corporations, and challenge the validity of traditional neoinstitutionalism as it applies to the MNC, (Kostova et al., 2008). These authors’ primary criticisms target the core tenets of neoinstitutionalism of organizational field, isomorphism, decoupling, and legitimacy, stating that these hold little meaning when applied to an MNC. These authors argue that institutional theory, when applied to MNC’s, requires more sophisticated applications by incorporating broader institutional research than simply the tenets of neoinstitutionalism. This view is based on the interpretation of neoinstitutionalism which connects organizational survival to the institutional environment in which a firm operates. This directly implies that organizations must comply with external institutional pressures in order to survive (Kostova et al., 2008). However, MNCs are not the same as domestic firms that operate in a largely homogenous institutional environment (Westney & Zaheer, 2001). MNCs operate in an environment much more complex, containing the combined “consequences of multidimensionality and heterogeneity” (Doz & Prahalad, 1991, 146). The primary issue at hand is that the environment in which the MNC operates is by nature “diverse, nonmonolithic, and fragmented” and may possibly operate in environments that present conflicting external
pressures (Doz & Prahalad, 1991) Additionally, MNCs have complex internal environments that may also be conflicting including varying degrees of cultural distance, geographic distance, and organizational distance (Kostova et al., 2008). Further, these authors challenge theorists to enrich MNC theory by theorizing along lines of the more traditional tenets of “old” institutionalism. They posit that “actor preferences are influenced by socialization processes involving norms and values and that these norms and values arise largely from localized or national settings”. MNCs therefore must follow a distinct institutional process employing a broad theoretical lens encompassing “social embeddedness intertwined with agency, social construction, and power and politics” (Kostova et al., 2008 p.1002)

Peng, et al. (2008) use four areas of international research to provide a perspective paper concerning the primary research questions of “What drives firm strategy in international business?” and “what determines success and failure of firms around the world?” (Peng et al., 2008 p.920). The core purpose of his paper was to introduce an institutional-based view to the traditional tools used to analyze international business strategy. Using three “views,” the authors propose a “strategy tripod” for researching international business strategy comprised of (1) an institution-based view, (2) an industry-based view (Porter 1980), and (3) a resource-based view (Barney 1991). The authors agree with Kogut (2003) that researching international business strategy using only the lenses of an industry-based view and a resource-based view is ignoring the formal and informal institutional underpinning that provides context for competition within industry. This essentially assumes institutions are constant which reflects North (1991). Indeed, empirical research has shown evidence of the significance of formal and
informal institutions in effecting strategy and performance of firms in international business (Hoskisson, Eden, Lau, & Wright, 2000; Wright, Filatotchev, Hoskisson, & Peng, 2005). Additionally, Peng et al. (2008) views culture as part of the informal institutions that “underpin formal institutions” (Redding, 2005: 123; see also Hofstede, 2007; Singh, 2007). Using the “strategy tripod” to view international business strategy in emerging countries, these authors add to existing literature by proposing the institutional-based view as a complement (not a substitute) for the industry-based view and the resource-based view. Additionally, the authors pose that the institution-based view also complements transaction-cost and internalization theories (Buckley and Casson, 1976; Williamson, 2000). Finally, this institution-based view is consistent with recent literature on co-evolution (Teegen et al., 2004, p.474).

2. Institutions and the economy

The quality of institutions have an impact on economic growth rates and income per capita (Benassy-Quere, et al., 2007). Institutional factors that serve to attract or detract from inward FDI are macro in nature and are largely determined by central and regional government policies. Two primary institutional factors that specifically impact foreign investors are the Political System and the Business Climate – especially with regard to corruption.

1) The Political System

The investment climate in emerging markets is immature by nature. Emerging markets are commonly involved in a volatile political state, which is often a breeding ground for corruption and economic chaos. Creating a stable political system, then, is
foundational to creating a stable investment climate and the 2003 World Bank’s investor report agrees:

Investors underscore the overarching importance of stable politics, as well as conditions that support physical and personal security, in affecting investment location, with some emphasizing that a stable political environment is a precondition for FDI in EMC.

What determines a stable political system varies widely based on what the investment sector desired. Many investors claim that a stable political system is comprised primarily of a set of stable rules and regulations that govern foreign investment and thus create an environment for sustaining FDI, yet investors in the extractive industries see it differently. These investors cite that the most concerning FDI related risk is political.

Specifically, indirect expropriation, including through punitive taxation, and controls on either repatriation of profits or capital. (World Bank, 2003)

Thus, for those investors engaged in extractive industries, a stable political system is intricately tied to a fair legal system that allows for substantive legal recourse. This highlights the “hidden” legal risks associated with FDI in emerging markets. According to the 2003 World Banks Investor Report, most investors in foreign markets weigh the legal risks of investing in emerging markets by the accessibility to the legal system and the enforceability of contracts.

2) The Business Climate
The investment regime, which includes factors such as investment policy, business licensing systems, access to land and infrastructure, and the tax system, is primary in determining the investment climate, especially in emerging markets. Investors often judge the desirability of an emerging investment climate through the level of perceived corruption in the government (Mauro, 1997). Thus, the perceived level of corruption has a dramatic impact on the location selection of foreign investment. Transparency International (TI) maintains the leading emerging market tool for evaluating the overall investment regime and specifically is focused on perceived corruption. Its Corruption Perception Index (CPI) tool is an intrinsic part of the preponderance of literature involving detailed investigation of corruption on foreign investment. The methodology incorporated into TI’s CPI is built around surveys of in-country consultants, on which rankings of the perceived level of corruption are compiled. The rankings are scaled from 1 (most corrupt) to 10 (least corrupt). Those countries exhibiting the lowest level of perceived corruption tend to be those with the most open markets and lowest levels of government involvement (Mauro, 1997). However, due to the clandestine nature of corruption, the evidence it provides of perceived corruption is anecdotal at best. This very point, coupled with the fact that those involved in economic rents are often unwilling to admit involvement, makes the study of corruption difficult.

A second widely used tool that serves as a measure for country-wide corruption is Business International (Business Intelligence Unit of the Economist). While the methodology incorporated into BI’s indices varies somewhat from the CPI, the data are highly correlated and often lead to the same results (Mauro, 2001). This dissertation uses
the CPI to reflect perceived corruption, as it is the largest corruption index available and also provides the largest sample of observations.

A final index widely used as a tool in measuring corruption is the International Country Risk Guide (ICRG) index. This index is widely used, however this dissertation does not reference it.

Based on the existing literature, inward FDI has a positive impact on both host country economic growth and technological development, for emerging markets (Benassy-Quere, 2007). How this impacts the host country economy is well studied and is depicted in figure 2.

**Figure 2**

FDI Determinants and Institutional factors
Each of these determinants is in large part defining a small subsection of Dunning’s (1976, 1981) eclectic paradigm. Primarily, these determinants are data points in the “L” (locational) advantages of Dunning’s paradigm. There is agreement that there are certainly “O” (Ownership) advantages that Dunning has so well documented; however, these determinants are primarily locational and serve as attractors for inward FDI.

D. Human Capital Theory

“The most valuable of all capital is that invested in human beings.”

Alfred Marshall, *Principles of Economics* (1890)

Human capital theory suggests that education or training raises the productivity of workers by imparting useful knowledge and skills, hence raising workers’ future income by increasing their lifetime earnings (Becker, 1964). This argument has garnered much empirical support since Becker first offered it in 1964. However, there are also logical arguments against human capital as a theory (Xiao, 1999).

According to Kiker (1968), the field of the study of human capital evolved throughout the 20th century. However, the concept of human capital was established early on by economists studying labor economics. Most notably, Adam Smith, John Stuart Mill, and Alfred Marshall all conceptualized the idea of labor productivity being a result of the capital required to develop it. None of these explicitly included human beings as capital, yet each framed capital in terms of wealth. In 1906, Fisher extended this conceptualization by stating that wealth, in it’s broadest sense, includes human beings (Fisher, 1906). The term “human capital” itself was first used by Pigou in 1928 when he
explicitly distinguished between “material capital” and “human capital.” He noted that expenditures in education were not explicitly for consumption, but also contained an investment component (Sweetland, 1996).

Thus, the foundations for the theory of human capital have been laid by economists beginning with Adam Smith. However, it wasn’t until the 1960s that human capital was expressly analyzed and an explicit theory developed. Several economists provided research analysis, and it was Mincer (1958), Schultz (1960) and Becker (1964) who are largely credited with developing human capital as a field of inquiry.

Mincer (1958) developed an empirical model expressly designed to measure the economic impacts of training. He posited the idea that training came in two primary forms “formal” and “informal” and maintained that differences in individual training impacted individual incomes. Mincer found that the economic gains that were sacrificed for years invested in training were compensated with higher lifetime earnings.

Schultz (1960) set the stage for a formal field of study as he began his presidential address to the American Economic Association:

Although it is obvious that people acquire useful skills and knowledge, it is not obvious that these skills and knowledge are a form of capital, that this capital is in substantial part a product of deliberate investment, that it has grown in Western societies at a much faster rate than conventional (non human) capital, and that its growth may well be the most distinctive feature of the economic system. (Schultz, 1960, p.1)

He extended the theory of human capital by focusing on how expenditures were allocated (either consumption, or investment), which reflected the thinking of Pigou
Schultz noted that a higher allocation of expenditures to investment would produce greater rates of return. The primary contribution here was to focus on the “rate of return” not simply the “total return” as had been previously targeted.

In addition, he found that “the income of the US had increased at a higher rate than the combined amount of land, man-hours worked, and the stock of reproducible capital used to produce the income” (Schultz, 1960). With this, he challenged economists to find the reason for this seeming inequality. This challenge thus became the foundation for the theory of human capital.

Following Schultz, Becker (1960) began this work by studying the lifetime economic benefits of a college education when compared with a high school education. His initial work found that “direct” returns did not justify increased expenditure in education. However, his later work (Becker, 1964) showed evidence to the contrary.

Becker (1975) developed the idea of separating human capital into two distinct studies: general purpose human capital and firm-specific human capital. General purpose investment constitutes that which increases the future earning potential of the individual by making that individual more able to provide increases to marginal productivity to firms in general. In other words, the training is generally applicable to the industry and the firm paying the highest wage will attract the talent. When “perfectly general” training occurs, the marginal productivity is equal to the wage increases, so there is no incentive for a firm to bear the cost of general training. Thus, general purpose investment in human capital is paid for by the individual, not a firm. (Becker, 1975, p.20). And further specific investment constitutes that which increases the marginal productivity in a firm without increasing the marginal productivity to other firms. The returns to the firms in marginal
productivity increases are thus larger than the increases in wages to the employee. Thus, the firm bears the cost for specific training (Becker, 1975).

Becker’s idea of different types of training fully is supported by the earlier work of Mincer (1958) who presented the idea that inter-occupational wage differentials were a result of training (general purpose), and intra-occupational wage differentials were a result of experience on the job (specific).

The influence of human capital investment has been further investigated by segregating the economic impact from that of traditional economic factors. The “residual” impact was defined to reveal this segregated impact and has been studied as a foundational factor of human capital investment.

Dennison (1962) defined “residual” as that portion of economic growth that was unexplained by traditional economic inputs. Through empirical studies in 1962 and confirmed with his work in 1974, Dennison found that human capital investment accounted for 43% of national income growth.

Schultz (1961) followed Dennison in analyzing the “residual” but directly connected human capital formation with “schooling and advance in knowledge” (p.4). Schultz also delved into the expenditures of schooling, noting that the primary cost of schooling was borne by students by forgoing wages during the time attending school. These expenditures were both consumption and investment expenditures and thus the focus must be on the rate of return and not the total return.

Becker (1964) followed Schultz in focusing on the rate of return in education and training. His 1964 work (followed by similar studies in 1973 and 1994) built on his assertion that more highly educated and skilled persons almost always tend to earn more
than others (Becker, 1964). His empirical studies found this to be true for developed and emerging countries, and the results did not significantly vary over time. Becker’s contribution was a methodology developed to find an internal rate of return for investment in education. Noting that there are both private and social returns, he found that when controlling for natural ability, the private internal rate of return to investment in education was greater than 10%. Measuring the social rate of return is more troublesome, and thus Becker determined a range of return with a lower bound of 12.5% and an upper bound of 25%. (Becker, 1964).

Through the work of Schultz and Becker, two central themes emerged that ultimately resulted in creating Human Capital as a field of inquiry: (1) That economic growth could not be fully accounted for by conventional economic measurement, and (2) that increased levels of education seemed to account for increased personal income.

In addition to these central themes, the sources of human capital have also been extensively studied. These sources are many and vary based on application. However, Acemoglu & Autor developed a general classification system which organized the sources of human capital into five broad categories: (1) innate ability (2) schooling (3) school quality and non-school investments (4) training; post schooling, and (5) pre-labor market influences. (Acemoglu & Autor, n.d.).

The evolution of the field of human capital over time has generated a range of definitions for human capital, the differences seemingly centered around the requirement for a measurable market return on investment. Therefore, this dissertation begins by establishing a working definition for human capital that is used throughout this study. This paper relies on the definition of human capital developed by Acemoglu & Autor.
human capital corresponds to any stock of knowledge or characteristics the worker has (either innate or acquired) that contributes to his or her “productivity.” (Acemoglu & Autor p.3)

Subsequent to the foundational work, the importance of human capital investment to national economic growth is supported by various empirical research. The effects of total investment in human capital are directly related to increased GDP in developing nations (Effio, Tapang, & Eton, 2012) and in developed nations (Olimpia, 2010). Further, empirical research supports economic growth from both formal education systems and informal training systems (Galor & Moav, 2004; Glaeser, La Porta, Lopez-de-Silanes, & Shleifer, 2004; Lucas, 1988).

E.) Entrepreneurship

The theories underlying the impact of entrepreneurship on a national economy are founded on theories of economics and on trade in particular. Beginning with Richard Cantillon’s 1755 Essay on the Nature of Trade in General (Cantillon, Brewer, & Higgs, 2001) (originally published in 1755), and extending through Schumpeter (1934, 1962), Knight (1921, 1942), Mises (1946), Schultz, (1960), and more recent theorists such as Casson (2003), and Shane & Venkataraman (2000), the theory of entrepreneurship has been well established in the literature.

Not only is the work of Cantillon et al. (2001) largely considered the beginning of classical economic theory, Brown & Thornton (2013) also credit him with the first theoretical work in entrepreneurship. In fact, these authors credit his theory of entrepreneurship as the foundation for the classical theories of economics (Brown & Thornton, 2013). The basic underlying concept for Cantillon’s entrepreneurship theory is
that entrepreneurs, by obeying the command of price signals, would drive the economy to self-regulate. According to Herbert & Link (1988, p.21) Cantillon viewed entrepreneurship as “pervasive” in the economy. His view was narrowly defined. Cantillon described the entrepreneur as one who bears risk under uncertainty: buying goods at known fixed prices (in the present) and selling (in the future) at an unknown price (Brown & Thornton, 2013). In this regard, Cantillon’s theory is in the same vein as Knight (1921, 1942) and Mises (1946) but differs greatly from Schumpeter (1911) who saw the entrepreneur as an innovator of new ideas and products.

Knight (1942) took a similar approach to entrepreneurship, which in many ways mirrored that of Cantillon. In fact, Hebert & Link (1988) see Knight’s view of entrepreneurship as a refinement of Cantillon. In Knight’s theory of entrepreneurship, the entrepreneur has three functions in the economy: (1) as a leader in economic “pioneering” – to initiate successful innovations that are useful and generate profit, (2) to be an agent of “adaptive change” – which is similar to, but different from, management in that adaptive change is more dynamic, and management more routine; and (3) the entrepreneur must be a specialist in “risk-taking or uncertainty bearing”, in that the entrepreneur places himself between labor and uncertainty, removing uncertainty from his employees (Knight 1942, p.129). For Knight (but vastly different that Schumpeter), profit (residual income to the firm) is the primary motivation for the entrepreneur. Knight differentiates the entrepreneur from the inventor, the research scientists, and the manager - as the entrepreneur (as innovator) must be a risk-taker in order to bring about innovative and “useful change.” Knight notes the difference between risk and uncertainty - as the latter is uninsurable because it relates to unique events, whereas the
former is the dispersion of possible alternative future events (the probably distribution of those events) and an analysis of the consequences (Knight, 1921).

The work of Ludwig Von Mises on entrepreneurship largely parallels that of Cantillon but has a distinct focus on the “action” of the entrepreneur to change the future. In his ground breaking economic work “Human Capital,” Mises describes the entrepreneur in terms of action. The entrepreneur is “The driving force of the market, the element tending toward unceasing innovation and improvement, is provided by the restlessness of the promoter (entrepreneur) and his eagerness to make profits as large as possible” (Mises, 1946, p.255). According to Mises, as with Knight, profit is the motivation for the entrepreneur and profit only comes through his ability to better predict the differential prices of today and the future.

Much of the theoretical work surrounding entrepreneurship is founded on the principles of evolutionary economics, primarily that from Schumpeter (1934). However, contrary to the profit driven motivation prevalent in Cantillon (2001), Knight (1921, 1942), and Mises (1946), the entrepreneur for Schumpeter is driven internally by the “joy” of innovating (Bula, 2012). In what Schumpeter himself considered his seminal work, “The theory of economic development: an inquiry into profits, capital, credit, interest, and the business cycle” (Schumpeter, 1934, 1962), he develops his ideas of evolutionary economics and the business cycle, which he begins with his “treatise of circular flow.” The core of circular flow is that, without innovation, the economy remains at a stationary state. It is only the entrepreneur (innovator) who upsets the stationary state with what Schumpeter famously termed “creative destruction.” Creative destruction not only upsets the stationary economic state, it also drives the marketplace.
Schumpeter describes creative destruction as innovation that creates temporary monopolies that allow for abnormal temporary profits, which would be competed away by competitors and imitators. It is these temporary monopolies that create the necessary incentive for firms to develop new products (Pol, 2006).

Building on the foundational theories of entrepreneurship, recent empirical research in the field has been undertaken by several researchers including Bosma (2011, 2012), Reynolds (2002), Wennekers (2002, 2005, 2006), Thurik (2002, 2008), Autio (2013), and Levie (2008, 2011). The investigations of these studies are largely based on data collected by the Global Entrepreneurship Monitor (“GEM”). GEM is a consortium project initially established by The London Business School and Babson College in 1999. GEM is the largest ongoing study of entrepreneurial dynamics in the world and is unique among entrepreneurship studies in providing consistent “harmonized” data that is comparable across countries. The primary objective is to explore the well documented causal link between entrepreneurship and economic development (Z. Acs, 2006; Audretsch, 2007; Carree & Thurik, 2003). A primary goal of the GEM consortium is to measure the differences in three components of entrepreneurship: the entrepreneurial attitudes, activity, and aspirations of individuals among many global economies, and how these relate to economic development (Bosma, 2012).

The GEM model is largely founded on the Austrian economic tradition of Mises and Schumpeter and suggests a positive relationship between national level new business activity and the institutional environment in the nation. This relationship, however, is mediated by the ability of entrepreneurs to perceive opportunity (Levie & Autio, 2008). GEM gathers data on both new business activity (under the term Total Entrepreneurial
Activity or “TEA”), as well as the institutional environment (under the term Entrepreneurial Framework Conditions, or “EFC’s”). The GEM model is multilevel, in that the EFCs are described at the national level, and the TEA variables are measured at the individual level and aggregated to the national level. The model does not seek to associate individual-level characteristics to entrepreneurial behavior, but rather is centered on the structural conditions that regulate the allocation of entrepreneurial effort in society (Levie & Autio, 2008). A core foundational concept of the model is that the contribution of entrepreneurs to an economy varies according to the phase of economic development (Wennekers, Stel, Thurik, & Reynolds, 2005). Accordingly, the GEM model incorporates stages of economic development based on Porter’s typology of “factor-driven economies”, “efficiency-driven economies,” and “innovation-driven economies” (Porter et al., 2002).

In large part, GEM details the relationship between entrepreneurial qualities and the national institutional environment in which these qualities exist. The integration of individual entrepreneurial qualities and the institutional environment makes it unlikely that entrepreneurship can be completely explained independent of the national institutional characteristics (Shane & Venkataraman, 2000). Thus, according to Autio & Acs (2009) and Redding (2005), the impact of allocating resources to exploit new business creation cannot be considered in isolation from the broader institutional context. Research indicates that national level institutional factors specifically influence the rate and/or the level of entrepreneurial activity. Of interest in this dissertation is the influence of corruption, economic freedom, and human capital investment.
Corruption

Given the potential foundational impacts of entrepreneurial activity on national economic performance, the relationship between corruption and entrepreneurial activity is particularly salient. However, as pointed out clearly by Anokhin & Schulze (2009), investigations into the relationship between corruption and entrepreneurial activity are scant at best.

Tonoyan, Strohmeyer, Habib, & Perlitz (2010) investigated the role of national institutions on the entrepreneur’s decision to engage in corrupt economic activities – specifically to pay bribes. They focused on both formal and informal institutions and argued that poor enforcement and low efficiency of economic and legal institutions provided impetus to the entrepreneur to engage in corruption. Regarding formal institutions, they found that inefficient financial institutions, inefficient legal institutions with poor enforcement, and a lack of legal alternatives to bribery increased the likelihood that an entrepreneur would offer a bribe. Regarding informal institutions, they found both a lack of business ethics and close-knit personal networks increased the likelihood for entrepreneurial corruption.

Building on the concept that corruption can “grease the wheels” of an economy, Dreher & Gassebner (2011) investigated the impact of corruption on entrepreneurial activity, specifically on market entry. First, they found that the larger the number of procedures required for entry, and the higher the minimum capital requirements, were detrimental to entrepreneurial activity. They also found, however, that when the number of procedures for initiating a business were high, corruption (bribe paying) facilitated new firm entry. Thus, their work provides some support for the “greasing
the wheels” hypothesis for entrepreneurial activity.

These results are largely supported by additional research by Dreher, et. al (2011) and Aidis, Estrin, & Mickiewicz (2012) who explored the country level institutional characteristics that were likely to influence entrepreneurial activity, specifically new entry. Additional support can be found in Anokhin & Schulze (2009) whose findings confirm a positive curvilinear relationship between the control of corruption and entrepreneurial activity as indicated by GEM’s total entrepreneurial activity (TEA) data.

**Economic Freedom**

The entrepreneurial orientation that fosters entrepreneurial activity encompasses much more than simply innovation. It involves the willingness to take excessive risks, develop, implement, and nurture innovation, and the ability and willingness to be proactive (Vij & Bedi, 2012). It involves the processes, practices and decision-making activity that lead to new entry (Lumpkin & Dess, 1996). Many studies show evidence that entrepreneurship is integral to economic development and growth, yet this growth does not occur in a vacuum. The entrepreneurial decision to become self-employed is embedded in a matrix of various institutions of national economic freedom (Ali & Crain, 2002; Cole, 2003; North, 2005). This section investigates the relationship between economic freedom of a nation and entrepreneurial activity. It is posited that as national level economic freedom increases, the level of entrepreneurial activity will also increase.

The relationship between national level economic freedom and entrepreneurial activity has been explored by several researchers across various disciplines. Much of
the recent work relies on entrepreneurship data provided by the GEM consortium. Laying the research foundation for GEM, Reynolds, Bygrave, Autio, Cox, and Hay (2002) found that 97% of the motivations driving entrepreneurial activity can be classified as either necessity-motivated entrepreneurship (“NME”) or opportunity-motivated (“OME”). OME is more consistent with innovations that contribute to greater economic growth and higher standards of living, commonly referred to as Schumpeterian innovations (Schumpeter, 1942). These two categories are defined by the output differences they create. OME tends to be more innovative, growth oriented, and export oriented. OME creates more new jobs, increases overall exports, and exploits new markets niches. NME on the other hand, plays more of an imitative role by participating in existing lines of business and thus has limited ability to generate economic rents. Necessity-motivated-entrepreneurship by its very nature conveys a lack of economic alternatives for creating income, as opposed to opportunity-motivated-entrepreneurship, which by its nature implies taking advantage of opportunities.

Building on the work of the GEM database, Mcmullen, Bagby, & Palich (2008) studied the impact of ten economic freedom indicators on entrepreneurial activity. Their study equated increases in economic freedom with reductions in transaction costs (directly supported by Dimaggio & Powell, 1983; North, 1991), and used this to study the impact on both OME and NME. Their study targets the economic freedoms allowed (or disallowed) by the government for creating those opportunities. They found that different governmental restrictions on various economic freedoms impact necessity-driven entrepreneurship and opportunity-driven entrepreneurship differently. Both OME and NME were found to be negatively related to GDP per capita and labor
freedom. However, OME was also positively related to property rights freedom, but only NME was found to be positively related to fiscal freedom and monetary freedom. Thus, the impact of economic freedom restrictions will vary based on the motivation for the activity.

Díaz-Casero, Diaz-Aunion, and Sanchez-Escobedo (2012) examined the relationship between economic freedom and entrepreneurial activity. These authors segregated countries into three explicit groups based on level of development indicators from the Global Competitiveness Report (2009, 2010). These levels include “innovation driven,” “efficiency driven,” and “factor driven” economies. They then used correlation analysis and ridge regression techniques on data gathered from the (GEM) database and the Index of Economic Freedom published by the Heritage Foundation to test their hypotheses. They found that for innovation-driven economies, government size, fiscal freedom, financial freedom, property rights, and labor freedom, were positively correlated with increased total entrepreneurial activity (TEA). When considering only opportunity-motivated entrepreneurial activity (OME), freedom from corruption was also a significant factor. However, when considering necessity-motivated-entrepreneurial activity (NME), only fiscal freedom and government size were significant. The study also found that for efficiency-driven economies, the total entrepreneurial activity (TEA) was significantly impacted only by government size and trade freedom. When considering opportunity-motivated-entrepreneurship (OME), government size and monetary freedom were significantly correlated with increased entrepreneurial activity. Finally, when considering factor-driven economies, there were no significant correlations between the economic freedom components and increased
entrepreneurial activity. The findings lend support to the hypothesis that the level of economic development is a factor in the relationship between economic freedom and entrepreneurial activity.

Further, Bjørnskov and Foss (2008) investigated the large differences in the supply of entrepreneurial activity across countries and over time. They attempted to explain these cross-country differences by differences in national economic policy and national institutions. Their work used economic freedoms from the Economic Freedom of the World Index Gwartney and Larsen (2005) to explain cross-country differences in the level of entrepreneurial activity as measured by the GEM database. They use the definition of the entrepreneur as provided by Knight (1921) and also used by Wennekers and Thurik (1999) which focus on the entrepreneur as one who introduces new opportunities in the face of economic uncertainty. This definition largely parallels Opportunity-Motivated-Entrepreneurship defined above. These authors found that of the five economic freedoms employed in the study (Government size, Legal quality, Sound money, International trade, and Regulatory quality), access to sound money was critical for both OME and NME. For OME specifically, they found that government consumption, transfers, subsidies, and taxation were significant determinants. For NME specifically, only the government’s share in total consumption was a significant determinant.

Additional testing of government policy and the effects on entrepreneurship was conducted by Stel, Storey, and Thurik (2007). These authors tested how nascent entrepreneurial activity (both opportunity-motivated and necessity-motivated) was impacted by government regulations. The study covered both developing and
developed economies. They found that governmental required minimum capital levels was a significant obstacle for nascent entrepreneurs of both OME and NME. They also found that strong labor market regulations (employment and hours worked) negatively impacted nascent entrepreneurs. However, on the positive side, they found that greater transparency of creditworthiness decreased credit rationing for nascent entrepreneurs of all types. Finally, this study revealed that OME and NME determinants were somewhat different – with GDP growth rates positively impacting OME but not NME. In developing economies where the business regulations are often high, this study found that necessity-motivated entrepreneurs typically failed to register their business and chose rather to operate in the informal economy.

The work of Stel, et al. (2007) above focused on the impact of institutions of nascent entrepreneurs, and Gohmann (2012) studied the impact of institutions on “latent” entrepreneurs – those who prefer to be self-employed. Latent entrepreneurs fall into one of two groups – those who are self-employed or those who are yet to be self-employed. Gohmann’s goal in this study was to determine the effect of institutions, as indicated by the economic freedom of the world index (J. Gwartney & Larsen, 2007) and the corruption perceptions index from Transparency International, on both types of latent entrepreneurs. The premise being that since institutions affect employment switching costs, institutions play a vital role in whether the latent entrepreneur actually switches from a wage-employee to being self-employed. The study revealed that regulatory institutions impact the decision to become self-employed and that as economic freedom increases, switching costs for latent entrepreneurs fall and more people become self-employed.
In a similar vein, Dyck & Ovaska (2011) studied the impact of the business environment on new firm creation. The study specifically studied the cross-country differences in the number of new start-up firms and posited that the business environment was a significant factor in determining those differences. Using six factors to represent the business environment, including economic freedom, property rights protection, corruption, start-up steps required, start-up time, and start-up costs, they found that of the six factors, economic freedom, property rights protection, and corruption significantly impacted new start-up activity.

Additionally, Casero, Gonzalez, Sanchez-Escobedo, Martinez, and Mogollon (2013) studied the impact of institutions on the level of entrepreneurship by segregated groups (indicated by their level of economic development). Using three segments of economic activity (developing, transition, and developed), TEA rates from the Global Entrepreneurship Monitor, economic freedom data from the Freedom of the World index, and the Global Competitiveness Report, the authors studied various institutional variables to determine the impact of each on entrepreneurship. The findings suggest that the level of economic activity determines which institutions are vital to furthering entrepreneurial activity. In developing nations (also termed factor-based economies), the size of the business sector and health and primary education were found to be most significant. Contrasting that with developed nations (also called innovation-based economies), the size of government and the availability of private sector credit were most important. Transition economies (also termed efficiency-based economies) by definition fall between developed and developing economies, and as such, were found to have different significant factors in determining levels of entrepreneurship. For these
economies, the integrity of the legal system and fulfilling contracts were the two most important institutional factors. The overall impact of institutions on total entrepreneurial activity across all levels of economic development, seemed to form a “U-shaped” response pattern along increasing levels of economic development.

These finding are further supported by Aidis, Estrin, & Mickiewicz (2008) who found similar results in their comparative study of Russia with other developed, developing, and transition economies. Specifically they found that Russia’s relatively weak institutional environment would lower the levels of entrepreneurial activity when compared with other countries – independent of the level of economic development.

**Human Capital**

The idea that human capital, as measured by the stock of knowledge, is related to entrepreneurial activity has been studied broadly across many areas of entrepreneurial activity including studies incorporating formal and informal human capital. The relationship is based on foundational human capital theory developed through the groundbreaking work of Becker (1960, 1975, 1993), Mincer (1958), and Schultz (1961). The general concept is that new business creation benefits from a steady supply of educated labor (Honig & Davidson, 2003). Additionally, strong evidence exists that a country’s educational system, by providing high-quality human capital, can directly effect entrepreneurial activity indicated by the level of new start-ups (Levie & Autio, 2008; Van De Ven, 1993; Whitley, 1999).

DeClercq & Arenius (2006) attempted to answer the question of how human capital affected a person’s propensity to become an entrepreneur (begin a start-up.). By using 2002 data from the GEM database on nascent entrepreneurs and focusing
specifically on Belgium and Finland (which have similar institutional environments), the study attempted to isolate the impact of human capital from other institutional factors. The results indicated that the propensity to begin an entrepreneurial activity, specifically a new business start-up, was significantly and positively influenced by both existing knowledge and by exposure to the knowledge of an existing entrepreneur, thus supporting the hypothesis that human capital is significant and positively related to nascent entrepreneurs.

Building on a notion originally set forth by Baumol (1990) that not all entrepreneurial activity equally impacts the macro-level economic climate, Bowen & De Clercq (2008) studied the impact of the institutional environment, particularly the impact of financial capital, human capital and corruption, on the “type” of entrepreneurial activity in a nation. Specifically, they posited that the institutional environment significantly influenced the allocation of entrepreneurial effort directed toward developing “high growth” entrepreneurial activity – the end result of which is increased economic growth. The study used panel data as well as averaged data over the 2002 – 2004 period. The results indicate that the allocation of entrepreneurial effort directed toward high-growth entrepreneurial activities was positively and significantly impacted by the level of human capital and negatively impacted by the level of corruption.

De Clercq, Lim, & Oh (2013) provided further evidence of this relationship by using primary survey data to investigate how a nation’s institutional environment (both formal and informal) enabled individual-level resources to increase entrepreneurial start-ups. This study was founded on the results of Honig & Davidson (2003) and
Ucbasaran, Westhead, & Wright (2007), which indicated that human capital investment is instrumental in new business creation (start-ups). The study found that indeed greater access to human capital increased new business creation. Additionally, they found that a country’s institutional context (including the educational system) significantly moderated the effect of human capital on entrepreneurial start-ups. Thus, there is evidence that the national level educational system has both direct and indirect effects on new business start-ups.

Additional evidence of the significant impact of human capital on entrepreneurial activity is given in Shane (2000) which found the entrepreneurial ability to discover and exploit new opportunities is based on the human capital (knowledge) previously acquired by the entrepreneur. This work is extended in Evald, Klyver, & Christensen (2011) which builds on the reformulated definition of international entrepreneurship found in Oviatt & McDougall (2005) by investigating the influence of human capital on the ability to expand entrepreneurial activity across borders. As expected, they found human capital to positively influence entrepreneurial activity in expanding across national borders.
CHAPTER III

CONCEPTUAL MODEL AND HYPOTHESIS DEVELOPMENT

A. Conceptual Model

As revealed in the literature review above, research has shown evidence of a positive relationship between entrepreneurial activity and economic growth, between economic freedom and economic growth, as well as negative relationships between corruption and economic growth and between corruption and entrepreneurial activity. The primary focus of this dissertation is to investigate the interrelationships between corruption, economic freedom, entrepreneurial activity, human capital, and how these impact economic globalization. This research will build and test a model that reflects the constructs indicated in the research questions and posit hypotheses that will be pursued in the empirical research.

B. Hypothesis Development

The relationship between national level corruption and economic freedom
Extant research has provided evidence for supporting the concept that the greater the level of economic freedom the lower the level of national corruption. However, the direction of causality still appears to be problematic. As argued by Rose-Ackerman (2006), it is hard to keep causes and consequences of corruption apart as the causality frequently appears to go in both directions. This section details the extant research on the relationship between corruption and the economic freedom of a nation. It is posited that not only does a relationship exist between economic freedom and corruption but that greater levels of corruption will reduce the level of economic freedom.

According to Chafuen & Guzman (2000), there exists no solid theory on the relationship between economic freedom and corruption. Many studies have investigated this relationship, however, the vast majority of these studies assume the direction leads from economic freedom to corruption – indicating that the greater the level of economic freedom, the lower the level of corruption. The underlying assumption is that restrictions on economic freedom lead to opportunities for corruption (Andrei & Vishny, 1993; J. C. Scott, 1972).

The relationship between corruption and economic freedom is not a simple proposition. Most generally, studies are related to investigating the impacts of corruption on economic growth with the vast majority finding corruption to have a negative impact on economic growth. However, the relationship is more complex than many studies have indicated. Leff (1964) considered that, in the presence of weak rule of law, corruption may act as a substitute for such weakness in developing the economy. Osterfeld (1992) built on this idea and identified what he termed “economically expansive corruption” and “economically restrictive corruption.” Economically restrictive corruption is rent-
seeking, competition reducing, and increases the level market rigidity. All of which most generally increases the cost of doing business and thus decreases output. However, economic expansive corruption is found where bad law exists and the public effectively evades bad law with corrupt acts. Here, bribes provide the impetus for moving the economy toward greater economic freedom.

Building on Osterfeld (1992), Houston (2007) studied the impact of corruption on economic growth and found that the relationship is moderated by certain economic freedoms. Specifically, he found that corruption is negatively related to GDP and that corruption can have a statistically positive impact in economies with weak legal protection. In fact, in these environments, corruption appears to substitute for weak legal protection where the gains from corruption are greater than are the expenses paid to obtain the favor.

Graeff & Mehlkop (2003) studied the relationship between economic freedom and corruption with the hypothesis that the relationship would vary in rich countries as compared with poor countries. Using data from the Frazier index on Economic Freedom and the Corruption Perceptions Index from Transparency International, the study found that economic freedom indeed impacted corruption levels differently in rich countries when compared with poor countries. They conclude that, with the exception of the freedom of exchange in capital and financial markets, the relationship of economic freedom and corruption differs based on the economic level (rich or poor) of the country.

The complexity of economic freedom, growth, and corruption is further examined by Swaleheen & Stansel (2007) who build on the work of Treisman (2000) to investigate the correlation between time invariant heterogeneity or “country fixed effects” and
corruption and growth. Specifically, (1) they tested economic growth, corruption, and investment as being jointly determined, and (2) they explicitly addressed the role of economic freedom in determining how corruption impacts economic growth. The findings revealed that when economic freedom is low (i.e., economic agents have few choices), corruption reduces growth. However, the opposite is true when economic freedom is high: growth increases because there are unofficial ways around government control. Thus, the level of economic freedom tends to moderate the relationship between corruption and growth.

Additionally, Méndez & Sepúlveda (2006) find that the type of political regime (either free or not free as determined by Freedom House International) moderates the relationship between corruption and economic growth. They found that in “free” countries only, there is a non-linear relationship – that the level of corruption that maximizes economic growth is greater than zero. The same is not true for “not-free” countries.

The idea that the level of economic freedom (measured using either specific freedoms or an aggregate freedom score) either directly impacts corruption or changes the impact of corruption on growth is further supported by Acemoglu & Verdier (1998) who focused specifically on property rights and corruption. They found that it may be optimal to allow some corruption and not to fully enforce property rights. In addition, specifically for less developed countries, reducing property rights may be preferable to reducing corruption.

The above mentioned studies examined the relationship between economic freedom and corruption with the assumption that economic freedom is an antecedent to
corruption. However, as mentioned earlier, the direction of causality is indeed difficult to determine. In fact, many researchers have mentioned the possibility of reverse causality (Acemoglu & Verdier, 2000; Graeff & Mehlkop, 2003; Pieroni & d’Agostino, 2013; Shleifer, & Vishny, 1993) with only one study actually conducting an ancillary empirical test for this direction (Apergis, Dincer, & Payne, 2012).

Apergis, et al. (2012) tested the causal dynamics between economic freedom and corruption specifically in the United States. Using criminal convictions of officials as a proxy for corruption, they found primarily that economic freedom in the U.S. negatively impacted the level of corruption. As an ancillary examination, they also tested reverse causality and found that the relationship between economic freedom and corruption was bidirectional in both the short-run and long-run.

Given the complex nature of the empirical studies listed above, the following hypothesis is proposed:

\[ H1: \text{The higher the level of corruption, the lower will be the level of national level economic freedom} \]

The relationship between human capital and economic freedom

Human capital investment as well as economic freedom have received a great deal of attention in regards to how these independent constructs influence the economic growth of a nation. However, how these concepts interact and influence each other has been the focus of only a limited number of empirical inquiries. The results of the scant empirical studies broadly reveal that there is a significant relationship between human capital investment and economic freedom. However, the nature of the relationship is inconclusive with some studies indicating a direct influence of economic freedom on
investment in human capital (Fabro & Aixalá, 2012; Gwartney, Holcombe, & Lawson, 2004; Stroup, 2007), some indicating the opposite relationship with human capital investment directly influencing economic freedom (Meisenberg, 2011; Shirazi, Gholami, & Añón Higón, 2009), and additional findings with evidence that economic freedom moderates the impact of human capital investment on overall economic returns (Dawson, 1998; King, Montenegro, & Orazem, 2012).

This section details the extant, although limited, empirical research on the relationship between human capital investment and the economic freedom of a nation. It is posited that not only does a relationship exist between economic freedom and human capital investment, but that greater levels of human capital investment will increase the level of economic freedom.

The idea that the degree of economic freedom could influence the national level investment in human capital or visa-versa has not been the topic of many empirical studies. However, logically building on extant theory, investment in human capital should lead to a greater level of economic freedom through pressure for greater openness. However, this thinking is not supported universally in the literature.

The literature relating human capital investment and economic freedom is interesting in that there doesn’t appear to be a consensus of the impact. Gwartney, et al. (2004) studied the relationship by taking an institutional approach in finding the cross-country determinants of economic growth. Using the economic freedom of the world index averaged from 1980-2003, they found that economic freedom explains a substantial degree of the stock of human capital. This finding is substantial, but it is agreed that it is more an indication of correlation than of causation.
Building on J. D. Gwartney, et al. (2004), Stroup (2007) used fixed effects regression with balanced data set models (which can indicate causation) to investigate the impact of economic freedom(s) on various measures of quality of life – with education being one of the primary dependent variables. The results indicated that economic freedom had a significant and positive impact on human capital investment. However, additional findings also indicated that increasing the level of economic freedom would have a stronger impact on human capital investment than would increasing the level of other macro variables, such as democracy or political rights.

Fabro & Aixalá (2012) conducted a study similar in nature to Stroup (2007) on the relationship between economic freedom and human capital investment. Their goal was to clarify the channels through which institutional quality (economic freedom in this study) affected economic growth. Using simultaneous equations on panel data covering six time periods, the research investigated both the direct and indirect effects of economic freedom on growth. The results indicated that economic freedom enhanced growth directly, but also indirectly by encouraging investment in human capital. The results were significant and positive.

Schultz (1975) investigated the ability to reallocate human capital resources in response to changing economic conditions. He argued that the value of human capital is greatest in the presence of unexpected economic shocks. Building directly on this work as well as the work of Becker (1993) and Mincer (1974) which provided both theoretical and empirical evidence of positive returns to human capital investment, King, et al. (2012) investigated the returns to human capital given various levels of economic freedom. The primary results found evidence to support the hypothesis that increased
economic returns could be attributed to greater investment in human capital. However, the results also indicated that the level of economic freedom of a nation was a significant moderator in the economic returns to human capital investment. Thus, in this study, a nation with a greater level of economic freedom would be expected to have higher economic returns to human capital investment.

The work of King, et al. (2012) is supported directly by Dawson (1998) who also found a moderating effect of economic freedom on the relationship between human capital investment and economic growth. King, et al.'s (2012) results are also supported indirectly by the work of Meisenberg (2011) which indicated that the relationship between intelligence and economic growth is partially mediated by the level of national economic freedom. Additionally, Shirazi, et al. (2009) found similar evidence when researching how the distribution of information technology enhanced economic freedom. This study found that human capital investment was a significant predictor of economic freedom.

Given the existing theory and the inconsistent empirical results regarding the relationship between human capital investment and economic freedom, the following hypothesis is proposed:

\[ H2: \text{The higher the level of human capital, the higher will be the level of economic freedom} \]

The Relationship between corruption and human capital

Investment in human capital has been shown over time to have a positive impact on the economic growth of a nation. Human capital theory developed by the seminal work of Becker (1964), and Shultz (1960) and tested by various empirical studies has
provided support for the relationship over time and across a diverse set of economic development levels. Additionally, extant literature reveals that corruption distorts investment in human capital through four mechanisms: (1) corruption distorts resources available for public provision – specifically education and health; (2) corruption increases operating costs and thus indirectly reduces resources available for human capital; (3) corruption tends to direct government expenditure away from human capital and toward projects that allow undetected bribes; (4) corruption decreases recurrent expenditure for operations and maintenance, which indirectly lowers the quality of education. (Delavallade, 2006; Gupta, Davoodi, & Alonso-terme, 2002; Mauro, 1996, 1998; Tanzi & Davoodi, 1997). This section investigates the relationship between national level corruption and national level human capital investment, and posits that corruption will negatively impact human capital investment.

Hodge, Shankar, Rao, and Duhs (2011) investigated the specific channels through which corruption affects economic growth. The study involved panel data covering 81 countries over a 21-year period. One specific channel in the study was the impact of corruption on human capital investment. The regression results indicated not only that higher investment in human capital increased the levels of economic growth (as indicated by per capita income), but also that corruption negatively and significantly impacted investment in human capital.

Mauro (1996) investigated the causes and effects of corruption on economic growth, foreign investment, and government expenditures. His study focused on the causes and consequences of corruption, and, more salient to this discussion, the relationship between corruption and government expenditure. The study found corruption
to have considerable, adverse effects on economic performance, Mauro (1996) but more importantly for this present work, that corruption is found to lower investment and economic growth and to reduce the share of government spending on public education.

To further support his previous work, Mauro (1998) studied the composition of government expenditure in light of corruption. The primary research question was whether predatory behavior by corrupt politicians distorts the composition of government spending, Mauro (1998). There were three primary results: (1) corruption was found to alter the composition of government spending by directing public funds to those public projects, on which it was easier to levy larger bribes and keep them secret; (2) that spending on education was found to be adversely affected by corruption; and (3) Mauro tested the direction of causality and found evidence to support a causal link from corruption to reduced spending on education. He also found the relationship between corruption and reduced spending on education to be robust when testing on either developed or developing countries.

Delavallade (2006) provided further support for the negative impact of corruption on human capital investment by examining the impact of corruption on the structure of government spending by sector. Her study found similar results to Mauro (1995, 1998) that corruption distorts the structure of public spending by increasing funds toward those projects that provide greater opportunity for bribes, such as fuel and energy and defense, and decreasing funds toward “social expenditure” such as education.

Huang (2008) studied the impact of corruption on educational outcomes using data from 50 countries. The study investigated the relationship between corruption on both educational quality (as indicated by 2003 TIMSS scores) and educational quantity
(as indicated by 2003 SLE scores). The regression results provide strong support for the hypothesis that corruption negatively affects both the quality and the quantity of public education.

The research studies described above show evidence that corruption serves to directly alter the composition of government spending on education. Alemu (2013) found that corruption also has an indirect negative impact on human capital investment through the loss of FDI into corrupt countries.

These indirect results are also supported by Akhter’s (2004) research – the focus of which was the impact of economic globalization on human development. In this work, he proposed the relationship between economic globalization and human development is mediated by both economic freedom and corruption. Akter’s primary finding was that economic globalization positively impacts human development, but that this relationship is mediated by corruption and economic freedom. Thus corruption significantly reduces the positive impact of global trade and investment in human development (of which, education is a part).

Many studies investigated the impact of corruption on economic growth, but Salinas-Jiménez & Salinas-Jiménez (2010) investigated the channels through which corruption may influence productivity growth. The study included 56 total countries of which 26 were OECD countries and 30 were non-OECD and found that corruption negatively affected both the levels of efficiency of the economies as well as the growth rate of total factor productivity. Their results suggest that the negative impact of corruption on technological progress was manifest through corruption’s influence on human capital investment.
Therefore, based on the above discussion, it is expected the relationship between corruption and human capital investment will be negative and significant, and the following hypothesis is posited:

\textit{H3: The higher the level of corruption, the lower will be the level of human capital}

The Relationship between corruption and entrepreneurial activity

Extant research indicates that increased levels of institutional constraints at the national level - such as market entry barriers, trade barriers, and restrictive trade investment policies - is positively related to increased national level corruption (Ades & Di Tella, 1997; Broadman & Recanatini, 2002; Gerring & Thacker, 2005). This corruption, or the lack thereof, is a key feature of a country’s institutional quality (Dreher & Gassebner, 2011). Many researchers have investigated the overall impact of corruption on an economy, but the results have been mixed. Leff (1964) introduced the “greasing the wheels” hypothesis that states that graft may act as a trouble-saving device raising efficiency and thus investment and eventually growth” (Méon & Sekkat: 2005). This hypothesis is supported by Leys (1965), Huntington (1968), and more recently by Vial & Hanoteau (2010). However, Campos, Lien, and Pradhan (1999) found most research to show no statistical support for the “greasing the wheels” concept. Given the potential foundational impacts of entrepreneurial activity on national economic performance, the relationship between corruption and entrepreneurial activity is particularly salient. However, as pointed out clearly by Anokhin and Schulze (2009), investigations into the relationship between corruption and entrepreneurial activity are scant at best. This section investigates the relationship between corruption and
entrepreneurial activity and posits a significant and negative impact of corruption on entrepreneurial activity.

Tonoyan, Strohmeyer, Habib, and Perlitz (2010) investigated the role of national institutions on the entrepreneur’s decision to engage in corrupt economic activities – specifically to pay bribes. They focused on both formal and informal institutions and argued that poor enforcement and low efficiency of economic and legal institutions provided impetus to the entrepreneur to engage in corruption. The core foundation for their argument lay in the understanding that where formal institutions are weak, informal institutions can substitute, and, in so doing, provide an environment conducive to corruption. Regarding formal institutions, they found that inefficient financial institutions, inefficient legal institutions with poor enforcement, and a lack of legal alternatives to bribery increased the likelihood that an entrepreneur would offer a bribe. Regarding informal institutions, they found both a lack of business ethics and close-knit personal networks increased the likelihood for entrepreneurial corruption.

Building on the concept that corruption can “grease the wheels” of an economy, Dreher & Gassebner (2011) investigated the impact of corruption on entrepreneurial activity, specifically on market entry. First, they found that a larger number of procedures required for entry and higher minimum capital requirements were both detrimental to entrepreneurial activity. They also found, however, that when the number of procedures for initiating a business were high, corruption (bribe paying) facilitated new firm entry. Thus, their work provides some support for the “greasing the wheels” hypothesis for entrepreneurial activity.

Following Dreher et. al (2011), Aidis, Estrin, & Mickiewicz (2012) explored the
country level institutional characteristics that were likely to influence entrepreneurial activity, specifically new entry. Their study included data on country level institutional variables for 47 countries, as well as entrepreneurial entry data from the GEM consortium. Strictly regarding the influence of corruption on entrepreneurial entry, the results indicate that entrepreneurial entry is inversely related to national level corruption. These results are strengthened when developed countries are removed from the sample, providing a more distinct negative relationship for developing countries which are generally perceived to have a higher level of corruption.

Anokhin & Schulze (2009) also investigated the relationship between corruption and entrepreneurial activity. The premise of their study was that the presence of corruption increases the risk that people involved in the entrepreneurial value chain will be opportunistic and appropriate profits due the entrepreneur. Additionally, agency and transaction costs (e.g. for increased monitoring) are increased in the presence of corruption, which also reduces profits due the entrepreneur. Their findings confirm a positive curvilinear relationship between the control of corruption and entrepreneurial activity as indicated by GEM’s total entrepreneurial activity (TEA) data. They also found that FDI moderates this relationship in a positive manner. The results support the idea that the level of corruption helps explain whether those with innovative ideas or entrepreneurial initiatives in different nations, have incentive to pursue promising productive opportunities, Anokhin & Schulze (2009).

Given the results from the empirical studies listed above, the following hypothesis is posited:
H4a: The higher the level of corruption, the lower will be the level of total entrepreneurial activity (TEA)

The relationship between corruption and opportunity-motivated and necessity-motivated entrepreneurship (OME & NME)

Hypothesis 4a above posited a negative relationship between corruption and total entrepreneurial activity (TEA). TEA, however, is not a single-dimensional construct. TEA is a measure of entrepreneurial activity from the Global Entrepreneurship Monitor and is comprised of two levels of entrepreneurial motivation (Opportunity-motivated and Necessity-motivated).

- Opportunity-motivated: “an active choice to start a new enterprise based on the perception that an unexploited or underexploited business opportunity exists” (Global Entrepreneurship Monitor, 2014)
- Necessity-motivated: “having to become an entrepreneur because you have no better option” (Global Entrepreneurship Monitor, 2014)

Anokhin & Schulze (2009), noted that the relationship between corruption and entrepreneurial activity has not been extensively researched leaving questions into the form of the relationship and the impact on the different types of motivation for the entrepreneurial activity. Tonoyan, Strohmeyer, Habib, & Perlitz (2010) investigated the role of national institutions on the entrepreneurs decision to pay bribes, and found, among other things, that inefficient financial institutions, inefficient legal institutions with poor enforcement, and a lack of legal alternatives to bribery increased the likelihood that an entrepreneur would offer a bribe – conditions which would be more likely found in developing nations as opposed to developed nations. In addition to this work, as
mentioned above, Dreher & Gassebner (2011) investigated the impact of corruption on entrepreneurial activity, specifically on market entry. The research found that when the number of procedures for initiating a business were high, as would be likely in inefficient developing markets, corruption in the form of bribe paying, facilitated new firm entry. Finally, Carree, et al.(2007) noted that the relationship between entrepreneurial activity and economic growth is complex and varies with both national GDP levels and across stages of economic development. Confirming this, Van Stel, et al. (2005), found that entrepreneurial activity was dependent on the level of economic development of the host country. Specifically for developing countries, entrepreneurship appeared to have a negative impact on economic growth, so the level of economic development influences the type of entrepreneurial activity.

Given the research support indicating a widely varied relationship between corruption and entrepreneurial activity based on the level of economic development of the host country, the following additional hypotheses are posited:

\[ H4b: \text{The higher the level of corruption, the lower will be the level of opportunity-motivated entrepreneurial activity (OME)} \]

and

\[ H4c: \text{The higher the level of corruption, the higher will be the level of necessity-motivated entrepreneurial activity (NME)} \]

The relationship between human capital and entrepreneurial activity

The idea that human capital (as measured by the stock of knowledge) is related to entrepreneurial activity has been studied broadly across many areas of entrepreneurial activity including studies incorporating formal and informal human capital. The
relationship is based on foundational human capital theory developed through the groundbreaking work of Becker (1960, 1975, 1993), Mincer (1958), and Schultz (1961). The general concept is that new business creation benefits from a steady supply of educated labor (Honig & Davidson, 2003). Additionally, strong evidence exists that a country’s educational system, by providing high-quality human capital, can directly affect entrepreneurial activity indicated by the level of new start-ups (Levie & Autio, 2008; Van De Ven, 1993; Whitley, 1999).

However, the integration of individual entrepreneurial qualities and the institutional environment makes it unlikely that entrepreneurship can be completely explained independent of the national institutional characteristics (Shane & Venkataraman, 2000). Thus, according to Autio & Acs (2009) and Redding (2005), the impact of allocating resources to exploit new business creation cannot be considered in isolation from the broader institutional context. This section details recent empirical work supporting the relationship and posits that the level of entrepreneurial activity will be positively impacted by greater levels of human capital investment.

The concept of a positive relationship between human capital and entrepreneurial activity was studied by Westhead & Cowling (1995) who specifically examined the factors that determined a successful entrepreneurial endeavor in the technology sector. Their study was longitudinal in nature, covering the years 1986-1992 for high-technology firms in Great Britain. The results indicate a strong positive relationship between human capital and successful entrepreneurial start-ups. Indicating that the level of human capital - both formal education and informal job related education, as described by Mincer (1958) -- is significant in predicting successful entrepreneurial start-ups.
DeClercq & Arenius (2006) attempted to answer the question of how human capital affected a person’s propensity to become an entrepreneur (begin a start-up.). By using 2002 data from the GEM database on nascent entrepreneurs and focusing specifically on Belgium and Finland who have similar institutional environments, the study attempted to isolate the impact of human capital from other institutional factors. The results indicated that the propensity to begin an entrepreneurial activity (specifically a new business start-up) was significantly and positively influenced by both existing knowledge and by exposure to the knowledge of an existing entrepreneur, thus supporting the hypothesis that human capital is significant and positively related to nascent entrepreneurs.

Building on a notion originally set forth by Baumol (1990) that not all entrepreneurial activity equally impacts the macro-level economic climate, Bowen and De Clercq (2008) studied the impact of the institutional environment (particularly the impact of financial capital, human capital and corruption) on the “type” of entrepreneurial activity in a nation. Specifically, they posited that the institutional environment significantly influenced the allocation of entrepreneurial effort directed toward developing “high growth” entrepreneurial activity – the end result of which is increased economic growth. The study used panel data as well as averaged data over the 2002 – 2004 period. The results indicate that the allocation of entrepreneurial effort directed toward high-growth entrepreneurial activities was positively and significantly impacted by the level of human capital and negatively impacted by the level of corruption.
De Clercq, Lim, and Oh (2013) provided further evidence of this relationship by using primary survey data to investigate how a nation’s institutional environment (both formal and informal) enabled individual-level resources to increase entrepreneurial start-ups. This study was founded on the results of Honig & Davidson (2003), and Ucbasaran, Westhead, & Wright (2007), both of which indicated that human capital investment is instrumental in new business creation (start-ups). The study found that indeed greater access to human capital increased new business creation. Additionally, they found that a country’s institutional context (including the educational system) significantly moderated the effect of human capital on entrepreneurial start-ups. Thus, there is evidence that the national level educational system has both direct and indirect effects on new business start-ups.

Additional evidence of the significant impact of human capital on entrepreneurial activity is given by Shane (2000) who found the entrepreneurial ability to discover and exploit new opportunities is based on the human capital (knowledge) previously acquired by the entrepreneur. This work is extended in Evald, Klyver, & Christensen (2011) who build on the reformulated definition of international entrepreneurship found in Oviatt & Mcdougall (2005) by investigating the influence of human capital on the ability to expand entrepreneurial activity across borders. As expected, they found human capital to positively influence entrepreneurial activity in expanding across national borders.

Given the broad empirical results listed above, this research investigates the impact of human capital on the level of entrepreneurial activity on two different levels. First, relating human capital to total entrepreneurial activity (TEA), the following is posited:
$H5a$: The higher the level of human capital, the higher will be the level of total entrepreneurial activity (TEA)

The relationship between human capital and opportunity-motivated and necessity-motivated entrepreneurship (OME & NME)

Second, this research also investigates the impact that human capital has on the different entrepreneurial motivations that comprise TEA -- specifically, to test the influence of human capital on OME and NME. Building on the empirical evidence by Wong, Ho, and Autio (2005) which indicated that the level of human capital impacts the type of entrepreneurial motivations (OME and NME) prevalent in the economy, and also the work of Casero, et al. (2013) who found evidence that the level of economic development would determine the impact of human capital in developed and developing economies, this study investigates the specific impact that human capital has on these segregated entrepreneurial motivations (OME and NME) and posits the following:

$H5b$: The higher the level of human capital, the higher will be the level of opportunity-motivated entrepreneurial activity (OME)

and

$H5c$: The higher the level of human capital, the lower will be the level of necessity-motivated entrepreneurial activity

The relationship between economic freedom and entrepreneurial activity

The entrepreneurial orientation that fosters entrepreneurial activity encompasses much more than simply innovation. It involves the willingness to take excessive risks, develop, implement, and nurture innovation, and the ability and willingness to be proactive (Vij & Bedi, 2012). It involves the processes, practices and decision-making
activity that lead to new entry (Lumpkin & Dess, 1996). Many studies show evidence that entrepreneurship is integral to economic development and growth, yet this growth does not occur in a vacuum. The entrepreneurial decision to become self-employed is embedded in a matrix of various institutions of national economic freedom (Ali & Crain, 2002; Cole, 2003; North, 2005). This section investigates the relationship between economic freedom of a nation and entrepreneurial activity. It is posited that as national level economic freedom increases, the level of entrepreneurial activity will also increase.

The relationship between national level economic freedom and entrepreneurial activity has been explored by several researchers and across various disciplines. Much of the recent work relies on entrepreneurship data provided by the Global Entrepreneurship Monitor (“GEM”). Laying the research foundation for GEM, Reynolds, Bygrave, Autio, Cox, and Hay (2002) found that 97% of the motivations driving entrepreneurial activity can be classified as either necessity-motivated entrepreneurship (“NME”) or opportunity-motivated entrepreneurship (“OME”). OME is more consistent with innovations that contribute to greater economic growth and higher standards of living, commonly referred to as Schumpeterian innovations (Schumpeter, 1942). These two categories are defined by the output differences they create. OME tends to be more innovative, growth oriented, and export oriented. OME creates more new jobs, increases overall exports, and exploits new markets niches. NME, on the other hand, plays more of an imitative role by participating in existing lines of business and thus has limited ability to generate economic rents. Necessity-motivated-entrepreneurship by its very nature conveys a lack of economic alternatives for creating income, as opposed to opportunity-motivated-entrepreneurship, which by its nature conveys taking advantage of opportunities.
Building on this work, Mcmullen, Bagby, and Palich (2008) studied the impact of ten economic freedom indicators on entrepreneurial activity. Their study equated increases in economic freedom with reductions in transaction costs (directly supported by (Dimaggio & Powell, 1983; North, 1991) and used this to study the impact on both OME and NME. Their study targets the economic freedoms allowed (or disallowed) by the government for creating those opportunities. They found that different governmental restrictions on various economic freedoms impact necessity-driven entrepreneurship and opportunity-driven entrepreneurship differently. Both OME and NME were found to be negatively related to GDP per capita and labor freedom. However, OME was also positively related to property rights freedom, but only NME was found to be positively related to fiscal freedom and monetary freedom. Thus, the impact of economic freedom restrictions will vary based on the motivation for the activity.

Díaz-Casero, Diaz-Aunion, and Sanchez-Escobedo (2012) examined the relationship between economic freedom and entrepreneurial activity. These authors segregated countries into three explicit groups based on the level of development indicators from the Global Competitiveness Report (2009-1010). These levels include “innovation driven,” “efficiency driven,” and “factor driven” economies. They then used correlation analysis and ridge regression techniques on data gathered from the GEM database and the Index of Economic Freedom published by the Heritage Foundation to test their hypotheses. They found that for innovation-driven economies, government size, fiscal freedom, financial freedom, property rights, and labor freedom were positively correlated with increased total entrepreneurial activity (TEA). When considering only opportunity-motivated entrepreneurial activity (OME), freedom from corruption was also
a significant factor. However, when considering necessity-motivated-entrepreneurial activity (NME), only fiscal freedom and government size were significant. The study also found that for efficiency-driven economies, the total entrepreneurial activity (TEA) was significantly impacted only by government size and trade freedom. When considering opportunity-motivated-entrepreneurship (OME), government size and monetary freedom were significantly correlated with increased entrepreneurial activity. Finally, when considering factor-driven economies, there were no significant correlations between the economic freedom components and increased entrepreneurial activity. The findings lend support to the hypothesis that the level of economic development is a factor in the relationship between economic freedom and entrepreneurial activity.

Further, Bjørnskov and Fos, (2008) investigated the large differences in the supply of entrepreneurial activity across countries and over time. They attempted to explain these cross-country differences by examining differences in national economic policy and national institutions. Their work used economic freedoms from the economic freedom of the world index Gwartney and Larsen (2005) to explain cross-country differences in the level of entrepreneurial activity as measured by the GEM database. They use the definition of the entrepreneur as provided by Knight (1921) and also used by Wennekers and Thurik (1999) which focus on the entrepreneur as one who introduces new opportunities in the face of economic uncertainty. This definition largely parallels Opportunity-Motivated-Entrepreneurship defined above. These authors found that of the five economic freedoms employed in the study (Government size, Legal quality, Sound money, International trade, and Regulatory quality), access to sound money was critical for both OME and NME. For OME specifically, they found that government
consumption, transfers, subsidies, and taxation were significant determinants. For NME specifically, only a government’s share in total consumption was a significant determinant.

Additional testing of government policy and the effects on entrepreneurship was conducted by Stel, Storey, and Thurik (2007). These authors tested how nascent entrepreneurial activity (both opportunity-motivated and necessity-motivated) was impacted by government regulations. The study covered both developing and developed economies. They found that governmental required minimum capital levels were a significant obstacle for nascent entrepreneurs of both OME and NME. They also found that strong labor market regulations (employment and hours worked) negatively impacted nascent entrepreneurs. However, on the positive side, they found that greater transparency of creditworthiness decreased credit rationing for nascent entrepreneurs of all types. Finally, this study revealed that OME and NME determinants were somewhat different – with GDP growth rates positively impacting OME but not NME. In developing economies where the business regulations are often high, this study found that necessity-motivated entrepreneurs typically failed to register their business and chose rather to operate in the informal economy.

Building on the work of Stel, et al. (2007) which focused on the impact of institutions of nascent entrepreneurs, Gohmann (2012) studied the impact of institutions on “latent” entrepreneurs – those who prefer to be self-employed. Latent entrepreneurs fall into one of two groups – those who are self-employed or those who are yet be self-employed. Gohmann’s goal in this study was to determine the effect of institutions (as indicated by the economic freedom of the world index (Gwartney & Larsen, 2007) and
the corruption perceptions index from Transparency International) on both types of latent entrepreneurs. The premise is that since institutions affect employment switching costs, institutions play a vital role in whether the latent entrepreneur actually switches from a wage-employee to being self-employed. The study revealed that regulatory institutions impact the decision to become self-employed and that as economic freedom increases, switching costs for latent entrepreneurs fall and more people become self-employed.

In a similar vein, Dyck and Ovaska (2011) studied the impact of the business environment on new firm creation. The study specifically examined the cross-country differences in the number of new start-up firms and posited that the business environment was a significant factor in determining those differences. Using six factors including economic freedom, property rights protection, corruption, start-up steps required, start-up time, and start-up costs to represent the business environment, they found that economic freedom, property rights protection, and corruption significantly impacted new start-up activity.

Additionally, Casero, Gonzalez, Sanchez-Escobedo, Martinez, and Mogollon (2013) studied the impact of institutions on the level of entrepreneurship by segregated groups as indicated by their level of economic development. Using three segments of economic activity, developing, transition, and developed, TEA rates from the Global Entrepreneurship Monitor, economic freedom data from the Freedom of the World index, and the Global Competitiveness Report, the authors studied various institutional variables to determine the impact of each on entrepreneurship. The findings suggest that the level of economic activity determines which institutions are vital to furthering entrepreneurial activity. In developing nations, also termed factor-based economies, the size of the
business sector and health and primary education were found to be most significant. Contrasting that with developed nations, also called innovation-based economies, the size of government and the availability of private sector credit were most important. Transition economies, also termed efficiency-based economies, by definition fall between developed and developing economies and, as such, were found to have different significant factors in determining levels of entrepreneurship. For these economies, the integrity of the legal system and fulfilling contracts were the two most important institutional factors. The overall impact of institutions on total entrepreneurial activity across all levels of economic development seemed to form a “U-shaped” response pattern along increasing levels of economic development.

These finding are further supported by Aidis, Estrin, and Mickiewicz (2008) who found similar results in their comparative study of Russia with other developed, developing, and transition economies. Specifically, they found that Russia’s relatively weak institutional environment would lower the levels of entrepreneurial activity when compared with other countries – independent of the level of economic development.

Given the empirical and theoretical support listed above, this research investigates the impact of economic freedom on the level of entrepreneurial activity at two different levels. First, relating economic freedom to total entrepreneurial activity (TEA), the following hypothesis is posited:

\( H6a: The \ higher \ the \ level \ of \ economic \ freedom, \ the \ higher \ will \ be \ the \ level \ of \ total \ entrepreneurial \ activity \ (TEA) \)

Second, the strong empirical evidence indicating that the motivations for entrepreneurial activity (OME and NME) will vary with the level of economic
development (Casero et al., 2013; Díaz-Casero et al., 2012; Reynolds et al., 2002) leads to investigating the specific impact that economic freedom has on these segregated entrepreneurial motivations and posits the following:

\[ H6b: \text{The higher the level of economic freedom, the higher will be the level of opportunity-motivated entrepreneurial activity (OME)} \]

and

\[ H6c: \text{The higher the level of economic freedom, the lower will be the level of necessity-motivated entrepreneurial activity (NME)} \]

The relationship between economic freedom and economic globalization

In addition to the strong empirical link between economic freedom and entrepreneurial activity, the extant literature also points to a strong relationship between economic freedom and overall economic performance.

The consideration of the impact of economic freedom on the economic performance of a nation carries tremendous implications. If it could be shown that greater economic freedom always enhanced economic performance, then governments would have a prescription for increasing economic performance. However, little in economics or international business is so straightforward. This section investigates the relationship between national level economic freedom and the overall economic globalization of the nation.

Scully and Slottje (1991) used principle components analysis and hedonic weighting techniques to develop one of the first indices of economic liberty which contained measures of fifteen individual economic liberties. The list was aggregated into a single variable to reflect the economic liberty of a nation. Further, the authors
empirically tested this aggregated economic freedom variable to measure the impact on economic performance indicated by real GDP. They found that economic liberty and economic performance were statistically and positively related.

Vanssay and Spindler (1994) investigated the relationship between economic freedom and economic performance by using an extended Solow model to empirically test the impact of individual constitutional economic “freedoms” on per capita GDP. The findings reveal that specific constitutionally guaranteed freedoms do not necessarily promote GDP per capita. However, macro-level economic freedom of a nation is significant and positive in predicting economic performance as indicated by GDP per capita.

Building on the groundbreaking work of Vanssay and Spindler (1994) who found initial support of the relationship, Dawson (1998) investigated the channels through which institutions affect economic growth and found that economic freedom impacts economic growth through both a direct effect on total factor productivity as well as an indirect effect on investment. His empirical tests also revealed an interaction between economic freedom and human capital investment. He concludes that promoting economic freedom is an effective policy toward generating economic growth.

Haan and Siermann (1998) examined the robustness of the relationship by examining the direct and indirect effect of economic freedoms. Their goal was to extend Vanssay and Spindler (1994) by investigating the impacts of individual freedoms on economic growth as indicated by GDP growth. Similar to Vanssay and Spindler (1994), these authors found that there is a significant relationship between economic freedom and economic performance, but differing from Vanssay and Spindler (1994), in their
argument that the relationship is dependent on the measure of economic freedom used. For some economic freedoms, there is a direct and robust relationship to economic performance, but this doesn’t hold for every measure of economic freedom. The authors identify this as a problem in research since most economic freedom indices are composite of many variables – some of which do not impact economic growth. This work is strongly supported by (Heckelman 2000) who found evidence supporting the relationship between individual economic freedom measures and economic growth.

Haan and Siermann (1998) and Vanssay and Spindler (1994) found evidence of a positive relationship between economic freedom in the aggregate and GDP growth, and still more recent studies found that using the aggregated variable to represent all economic freedoms was somewhat misleading. Ayal and Karras (1998) used the index of economic freedoms from the Frazier Institute to measure disaggregated economic freedom variables against economic growth as indicated by GDP. Their study was the first to disaggregate the economic freedom variables instead of using the aggregated economic freedom variable. The study found that not all of the economic freedom variables had a statistically positive relationship with GDP growth. In fact, less than half of the variables studied were significant predictors of GDP growth in an economy.

Carlsson and Lundström (2002) also studied this relationship and their results agreed with the work of both Haan and Siermann (1998) and that of Ayal and Karras (1998), specifically that using a “single measure of economic freedom doesn’t reflect the complex economic environment.” But also that using a highly aggregated index makes it difficult to draw policy conclusions Carlsson and Lundström (2002). They found that there is a significant relationship between economic freedom and economic growth as
indicated by GDP growth, but that the significance of the relationship depends on the measure of economic freedom.

Evidence of a strong relationship between economic freedom and economic growth is further supported by Dawson (2003) who extended the previous work by establishing a direction of causality. This work confirmed not only the strong relationship established in Haan and Siermann (1998), Ayal and Karras (1998), Carlsson and Lundström (2002), and others, but also used Granger causality tests to establish the direction of causality. Their findings indicated that the direction of causality in the economic freedom/economic performance relationship leads from economic freedom to economic performance (GDP growth).

Further evidence of the strength and direction of the relationship can be found in Cole (2003) who found evidence of a strong relationship between economic freedom and economic performance regardless of the theoretical framework employed, and also by Webster (2012) who found the level of economic freedom is indeed “conducive to economic prosperity and growth” (p.6).

Given the strong empirical support for the relationship between economic freedom and economic growth, the following hypothesis is posited:

\[ H7: \text{The higher the level of economic freedom, the higher will be the level of economic globalization} \]

The relationship between entrepreneurial activity and economic globalization

The link between entrepreneurship and economic performance has changed over time, with more recent research verifying this relationship is positive and significant across a wide spectrum of units of observation (Thurik, Wennekers, & Uhlamer, 2002).
However, as noted in Reynolds, Bygrave, Autio, Cox, and Hay (2000, pg. 11) “remarkably little is known about the relationship between entrepreneurship and economic growth including how it works, what determines its strength, and the extent to which it holds for diverse countries.” Complicating the relationship between entrepreneurship and economic performance is that entrepreneurship comes in various types, not all of which appear to directly enhance economic growth. Additionally, the level of country development also may have an impact on the relationship. This additional complexity is confirmed in Carree, Van Stel, Thurik, and Wennekers (2007), who find that the level of entrepreneurial activity seems to vary with GDP and across stages of economic development in regions within countries.

These complexities have limited the number of empirical studies devoted to the econometric link between national level economic growth and entrepreneurship in the form of new firm startups (Wong, Ho, & Autio, 2005). To provide a starting point for addressing this confusion, two separate but interconnected frameworks have been developed: the first by Wennekers, Uhlaner, and Thurik (2002) addressed the determinants and consequences of entrepreneurship at the macro-level; the second by Thurik et al. (2002) focused on the consequences of entrepreneurship at the individual level, firm level, and macro-level. Much research regarding the relationship between entrepreneurship and economic performance has been built on this combined framework. This section details the empirical evidence on the relationship between entrepreneurship and economic performance and posits that the greater the level of total entrepreneurial activity, the greater the level of national economic globalization, but that the type of entrepreneurial activity will vary in its relationship to growth.
In light of the movement toward globalization and the communication revolution of the 1990s, along with the associated perceived negative effects on employment, Audretsch and Thurik (2000) studied the economic impacts of transitioning from a manufacturing-based economy to a knowledge-based entrepreneurial economy. The authors note this is an industrial structure change, and based their study on the idea that “an economy whose comparative advantage is new knowledge requires a very different industrial structure as well as economic values” (p.24). They used data from 23 OECD (developed) countries and found that for those countries, which introduced policies encouraging knowledge-based entrepreneurship in the preceding decade, there was a significant decrease in unemployment in the current decade leading to increased national economic performance.

Further evidence of the positive relationship between entrepreneurship and employment levels is provided by Westhead and Cowling (1995) who investigated the ability of small high-tech firms to create additional jobs specifically in Great Britain. Three findings were key: (1) that high-tech firms (high knowledge firms) were found to have a positive and significant relationship with job growth; (2) that a graduate level of education for the firm founder (human capital) was also positively related with job creation; and finally (3) that firms with access to multiple financing sources tended to grow faster than those without such access. These findings are in strict agreement with the findings of Audretsch and Thurik (2000) above.

Building on the same idea, A. R. Thurik, Carree, Van Stel, and Audretsch (2008) studied the relationship between entrepreneurship and employment. The study noted both the “refugee” effect where becoming self-employed is a side-effect of becoming
unemployed, and the “entrepreneurial” effect, where higher rates of self-employment indicates increased levels of entrepreneurial activity - leading ultimately to lower unemployment. Using data from 23 OECD countries covering nearly three decades, they found evidence to support both the “refugee” effect and the “entrepreneurial” effect – with the latter being stronger than the former. This bi-directional relationship between entrepreneurship and employment levels leads to the finding that policies that focus on entrepreneurship will generate jobs and reduce unemployment, although the study found the effect to have at least an 8-year lag.

Further evidence of the complex but positive relationship between entrepreneurship and economic growth is found in Van-Stel, Carree, and Thurik (2005). Using a sample of 36 countries from the 2002 GEM database and controlling for known determinants of economic growth (technology, public institutions, and the macroeconomic environment), the authors investigated the impact of TEA activity on GDP growth. The focus was to determine if TEA’s influence on GDP growth depended on the level of economic development (proxied by GDP per capita) independent of known determinants. The results indicated a positive and significant relationship between TEA rates and economic growth but that the relationship was dependent on the level of GDP per capita. Thus, the level of economic development appears to moderate the relationship between TEA rates and economic growth. Further, for developing countries, they found that entrepreneurship appears to have a negative impact on GDP growth. The authors suggest that this negative relationship could be due to either the larger percentage of “marginal” entrepreneurs in developing counties as compared with “innovative” entrepreneurs in more developed countries, or the lower level of human
capital in developing countries.

For advanced economies, Wong, et al. (2005) explored the impact of entrepreneurship on macro-level economic growth. Using 2002 data on 37 countries from the GEM database, these authors measured the impact of four separate measures of Total Entrepreneurship Activity (Overall TEA rates, Opportunity TEA, Necessity TEA, and High-growth TEA) on the rate of economic growth. As innovation is noted as a separate and distinct construct from entrepreneurship, they also tested the impact of technological innovation intensity on the rate of economic growth. The results indicate that regardless of the TEA rates, technological innovation always positively impacts economic growth. However, apart from innovation, the only type of TEA that positively impacted economic growth was high-growth TEA. Additionally, further tests found no interaction effect between innovation and TEA rates on economic growth. This conclusion supports the previous work of Birch, Haggerty, Parsons, and Cognetics (1997), Harrison (1994), Kirchhoff (1994), Storey (1994), and Westhead and Cowling (1995b) that the majority of jobs created in the SME sector don’t originate with new firms in general, but from the fast-growing firms, the so-called “gazelles” (Valliere & Peterson, 2009).

In an effort to address the lack of generalizability of the impact of entrepreneurship on economic growth due to the different types of entrepreneurship as well as between developed and developing countries, Valliere and Peterson (2009) extend Wong, et al. (2005) by introducing variables from three different economic growth theories. Their findings indicate significant differences between developed and developing countries when considering the relationship between entrepreneurship and
economic growth. They found that high-expectation entrepreneurs are positively and significantly related to economic growth in developed countries, but the same could not be determined for opportunity-based and necessity based entrepreneurs, Confirming earlier work by Wong, et al. (2005). Additionally, for developing countries, none of the entrepreneurship variables were significant predictors of economic growth. The only significant factors in these countries were freedom from regulation and access to formal economies. The authors suggest that in developing countries, regulations are a burden, which drives entrepreneurs into the informal markets, thus reducing the impact on the formal GDP growth.

Given the complex nature of the relationship between entrepreneurship and economic globalization, the following hypothesis is posited:

\textit{H8a: The higher the level of Total Entrepreneurial Activity, the higher will be the level of economic globalization}

The varied economic impact of opportunity-motivated and necessity-motivated entrepreneurship

In hypothesis 8a above, it was posited that total entrepreneurial activity would have a positive and significant impact on economic globalization. However, further investigation is warranted given the complexities of the TEA construct and the literature noting that the relationship between entrepreneurship and economic growth is complicated with various types of entrepreneurial activity -- not all of which positively impact economic growth. Carree, et al.,(2007) noted that the relationship between entrepreneurial activity and economic growth is complex and varies with both national GDP levels and across stages of economic development. Confirming this, André van
Stel, et al. (2005), found that entrepreneurial activity was dependent on the level of economic development and, specifically for developing countries, entrepreneurship appears to have a negative impact on economic growth. This is supported by Audretsch and Thurik (2000) and Westhead and Cowling (1995a) who found that knowledge based entrepreneurial activity (i.e.: high-tech) was positively related to economic growth, but at the same time this was not true for non-knowledge based entrepreneurship. The groundbreaking work of the GEM program established the concept of different types of entrepreneurship:

- Opportunity-motivated “which is an active choice to start a new enterprise based on the perception that an unexploited or underexploited business opportunity exists”. (Global Entrepreneurship Monitor, 2014)

- Necessity-motivated “which is having to become an entrepreneur because you have no better option” (Global Entrepreneurship Monitor, 2014)

Building on this, Ács and Varga (2005) and Acs (2006) empirically tested eleven different countries and found strong evidence that necessity entrepreneurship had no effect on economic development, but, notably, opportunity entrepreneurship had a positive and significant effect on economic development. This research into the economic impact of different types of entrepreneurship is supported by Reynolds, et al. (2000) and Wong, et al. (2005a), as well as a host of other research studies. Specifically, Valliere and Peterson (2009) found strong evidence to support the difference in impact of entrepreneurial activity based on the differences between developing and developed nations. They found that in developed countries a significant portion of the economic growth rate can be attributed to high-expectation entrepreneurs who take advantage of
investments in knowledge creation (human capital) and economic freedom. However, this is not true for developing economies. These results are directly supported by the work by Bosma & Schutjens (2010) and Levie and Autio (2008) who found significant differences in the economic impact of opportunity –vs – necessity motivated entrepreneurship. Finally, Levie and Autio (2011) found that “high-potential” entrepreneurs were those who had attractive employment choices but who made a “strategic” decision to start a business. These types of entrepreneurs differ greatly from those necessity-based entrepreneurs who have created a new business for survival -- not a strategic choice. The results of their study show that in less wealthy countries (where necessity-based entrepreneurship is prevalent) there is a negative relationship between entrepreneurial activity and economic growth. The opposite is shown to be true for wealthy countries (where opportunity-based entrepreneurship is more prevalent).

Given the substantial research support indicating a widely varied relationship between entrepreneurial activity and economic growth based on the type of entrepreneurial activity, the following additional hypotheses are posited:

\( H8b: \text{The higher the level of Opportunity-motivated entrepreneurial activity, the higher will be the level of economic globalization} \)

and

\( H8c: \text{The higher the level of Necessity-motivated entrepreneurial activity, the lower will be the level of economic globalization} \)

The moderating effect of national income on the relationship between entrepreneurial activity and economic globalization

In hypothesis 8a above, a positive relationship between entrepreneurship and
economic globalization was posited. This hypothesis was based largely on the extant literature researching both (a) the relationship between entrepreneurial activity and economic performance, and (b) the relationship between entrepreneurial activity and employment. However, as noted in Reynolds, Bygrave, Autio, Cox, & Hay (2000. P. 11), “remarkably little is known about the relationship between entrepreneurship and economic growth including how it works, what determines its strength, and the extent to which it holds for diverse countries.” In the years since, much work has been undertaken to expose the details of this relationship. Importantly, the types of entrepreneurial activity and the development stage of the host country have been investigated and hold promise in explaining more of the relationship. This section details the empirical evidence on the effect of national income levels which serve as a proxy for development stage in some research on the relationship between entrepreneurial activity and economic performance and posits that the greater the level of national income, the stronger the relationship between entrepreneurial activity and economic globalization.

The relationship of business ownership to economic development has been documented well and has been reported as having both a negative relationship by Kuznets (1971), Yamada (1996), and Iyigun and Owen (1998), and a positive relationship by Blau (1987), Wennekers, Thurik, et al., (2005), Van-Stel, et al. (2005), and Acs (2006). Primary differences between the investigations seem to lie in both the level of economic development of the nations being studied and also with diverging demographic, cultural and institutional characteristics (Blanchflower, 2000).

Baumol (1990) was the first to study the allocation of entrepreneurial effort and found that it is the allocation of the effort, not the total supply of entrepreneurial activity,
that is the key to understanding the connection from entrepreneurial activity and economic prosperity. Studying the impact of institutions on this allocation of entrepreneurial effort, Bowen and De Clercq (2008) found that a country’s institutional environment will impact entrepreneurial effort toward “high-growth” activities and that these efforts are positively related to the nation’s financial and educational activities, but negatively related to the nation’s level of corruption.

With this dichotomy of relationship (entrepreneurship to economic performance) in mind, Wennekers, Thurik, et al., (2005) posited the idea of a U-shaped curve to model a country’s entrepreneurial activity and it’s economic development. They posited that in developing countries the relationship would be negative based on the motivation of business owners being “necessity,”, and that the relationship would be positive in developed countries based on the motivation for business ownership being more “opportunity” based. They found support for the U-shaped curve model comparing the results of developed nations to that of developing nations.

Further, Van-Stel, et al. (2005) investigated the impact of TEA (total entrepreneurial activity) on economic growth of a nation. In their work, they used GDP per capita to measure the country’s level of economic development and found that entrepreneurial activity does impact economic output, but that the impact depends on national level income. Their research suggests that the stage of development may play a role in how entrepreneurship affects economic performance.

Carree, Van Stel, Thurik, and Wennekers (2007) found that the level of country development may impact the relationship, stating that entrepreneurial activity seems to vary with GDP and across stages of economic development in regions within countries.
The relationship between entrepreneurial activity and economic performance has been mixed, but the vast majority of the literature supports the interaction of the level of economic development on this relationship. Given the nature of the relationship between entrepreneurship and economic globalization, the following hypothesis is posited:

\[ H8d: \text{The level of national income will have a moderating effect on the relationship between Total Entrepreneurial Activity and economic globalization} \]
A. Data Collection

For this research, secondary data will be gathered from internationally recognized data sources including the World Bank, Transparency International, The United Nations Development Program, The Heritage Foundation, and the Global Entrepreneurship Monitor. Data from the World Bank the United Nations Development Program are widely regarded as the premiere data repositories for governmental statistical data. Additionally, NGO data from the Heritage Foundation, Transparency International, and the Global Entrepreneurship Monitor are highly regarded and broadly used throughout social science research. The use of secondary data in this dissertation allows for better statistical methods to be used since the sample size is larger, covers developed as well as developing nations, and covers several years of statistically comparable data.
Secondary data in the broadest sense is data originally collected by another entity and usually for a different purpose (Boslaugh, 2002; Vartanian, 2011). The use of secondary data in general, and specifically for this dissertation, allows data to be used that covers a wider geographic as well as temporal range, than could have been gathered in a primary sense.

B. Measurement of the variables

Research Variables

*Economic Globalization (Source: World Databank)*

The OECD (2005) study on economic globalization indicates that foreign direct investment (FDI) and trade (exports of goods and services) are key variables reflecting the level of economic globalization of a nation. This study uses economic globalization as the primary dependent variable. To operationalize the construct of economic globalization, the study uses data on inward FDI and exports of goods and services sourced from the World databank and builds on the previous work on economic globalization by Akhter (2004) and Rugman and Verbeke (2004), each of whom use FDI and exports as dependent variables. This study extends the previous work by using factor analysis on the variables of inward FDI and exports of goods and services to create a single unobserved latent variable instead of using two separate dependent variables as in previous studies. Factor analysis searches for common variance in observed variables in response to unobserved latent variables. This study captures the common variance explained by the two observed variables in a single unobserved latent variable termed economic globalization.
Factor analysis was performed on the observed variables - inward FDI and exported of goods and services-- using the maximum likelihood estimation method and squared multiple correlation (smc). The results of the factor analysis indicate that these two variables load onto a single factor (a single factor had an eigenvalue greater than 1, which was confirmed visually with a scree plot analysis), indicating that a single factor explained the majority of the variance. The factor scores for both variables loading on factor 1 were greater than 78. This research uses factor 1 as representative of economic globalization and as the primary dependent variable.

A summary of the evidence of the validity of the instrument, its measurement, and a listing of researchers using the instrument is provided in table III.

*Corruption Perceptions Index: (Source: Transparency International)*

Corruption: In this study, data for measuring perceived corruption were gathered from Transparency International’s Corruption Perception Index (CPI). Transparency International (TI) maintains the leading market tool for evaluating the overall investment regime and is specifically focused on perceived corruption. Its Corruption Perception Index (CPI) tool is an intrinsic part of the preponderance of literature involving detailed investigation of corruption on foreign investment. The methodology incorporated into TI’s CPI is built around surveys of in-country consultants on which rankings of the perceived level of corruption are compiled. The rankings are scaled from 1 (most corrupt) to 100 (least corrupt). Those countries exhibiting the lowest level of perceived corruption tend to be those with the most open markets and lowest levels of government involvement (Mauro, 1997). The CPI has been used extensively as a measure of corruption in International Business inquiries by noted researchers including Habib and

One of the drawbacks of using secondary data is the lack of validity of the data. Wilhelm (2002) specifically tested the validity of the CPI by using three separate measures of perceived corruption and found the CPI to be highly correlated with the other two measures. Additionally, as a secondary indication of validity, he found the CPI to be highly correlated with real gross domestic product per capita. In a separate and unrelated study, Voyer and Beamish (2004) confirmed the construct validity of the CPI by finding a high correlation with a second measure of corruption, the La Porta index (La Porta et. al, 1998). Thus, the CPI has not only been widely used in international business research as an indication of perceived macro-level corruption, it has also been independently validated and it is thus used in this study as the measure of perceived corruption. For a complete description of the methodology for developing the CPI, see appendix B.

A summary of the evidence of the validity of the instrument, its measurement, and a listing of researchers using the instrument is provided in table III.

**Entrepreneurial Activity (Source: Global Entrepreneurship Monitor)**

The Global Entrepreneurship Monitor (GEM) began in 1999 as a partnership between London Business School and Babson College. The objectives of GEM are three-fold: (1) “To measure differences in the level of entrepreneurial activity between countries; (2) To uncover factors leading to appropriate levels of entrepreneurship; and (3) To suggest policies that may enhance the national level of entrepreneurial activity” (Global Entrepreneurship Monitor, 2014).

Evidence of the value of the GEM database is given by Wennekers, et al. (2002) who find that one of the drawbacks of using an alternative measure of entrepreneurship such as number of self-employed as a percent of the total workforce is that such static measures can skew results relative to population. Additionally, developed and developing nations differ in motivations for entrepreneurial activity. The GEM dataset helps reduce these issues by using dynamic measures and accounting for motivations for becoming entrepreneurial.

The GEM dataset is primary data gathered from two major surveys conducted by in-country teams of researchers. The Adult Population Survey (APS) produces indictors that measure the entrepreneurial activity, attitudes and aspirations of individuals. The second survey, the National Expert Survey (NES), produces the indicators that allow for measurement of factors that impact national entrepreneurial activity – termed the Entrepreneurial Framework Conditions (EFCs).

The GEM consortium produces annual reports for the countries included in the APS and the NES surveys. These reports include detailed analysis of the survey responses for both surveys as well as interpretations and implications of the data. Also included in the reports are the individual variables resulting from the in country work.
This dissertation includes analysis from three variables gathered from the GEM APS survey:

1. **TEA**: (Total Early-stage entrepreneurial activity) Obtained from the GEM dataset and defined as Percentage of 18-64 population who are either a nascent entrepreneur or owner-manager of a new business.

2. **OME**: Improvement-driven, Opportunity-motivated entrepreneurial activity. Obtained from the GEM dataset and defined as Percentage of those involved in TEA who (i) claim to be driven by opportunity as opposed to finding no other option for work; and (ii) who indicate the main driver for being involved in this opportunity is being independent or increasing their income, rather than just maintaining their income.

3. **NME**: Necessity-motivated entrepreneurial activity: Percentage of those involved in TEA who are involved in entrepreneurship because they had no other option for work.

The complete description of the variables in the APS is included in appendix C.

This study analyzes the impact of entrepreneurial activity from both the level of total activity (TEA) and the segregated levels (OME and NME). The segregation largely aligns with the economic development level of the country, with developed countries indicating a higher percentage of opportunity-motivated entrepreneurship, and developing countries indicating a greater percentage of necessity-motivated entrepreneurship.

The validity of the GEM dataset has been the focus of strict validity tests by the GEM consortium. In order to test validity of the datasets, comparisons were made with
the input data and output results of two other leading entrepreneurship data initiatives: The EUROSTAT-OECD-Kauffman Entrepreneurship Indicators Program (EIP), and the EUROSTAT Business Demography dataset. The three programs have slightly different objectives and goals, but validity tests of the GEM dataset compare favorably with those of the other two datasets. After adjusting for definition differences and data cleaning to test only comparable data, the GEM validity tests indicated a correlation coefficient of 0.60 (Bosma, 2012).

A summary of the evidence of the validity of the construct, its measurement, and a listing of prominent researchers using the construct is provided in table III.

*Economic Freedom: (Source: Heritage Foundation)*

In its simplest form, economic freedom is the ability of members of a society to undertake economic direction and actions (Bronfenbrenner, 1955). The Heritage Foundation, in conjunction with the Wall Street Journal, began producing the *Index of Economic Freedom* in 1994. The purpose of the index is to measure the principles of economic freedom in countries throughout the world. The underlying principle is to measure economic freedom at the national level to cover various categories of freedom. The index has consistently shown that countries with higher levels of economic freedom at the national level will be more successful in reducing poverty, achieving greater prosperity, and having broad progress in social and human development (Miles, Holmes, & O’Grady, 2006). The index is comprised of ten quantitative and qualitative factors of individual economic freedoms that are subsequently grouped into four broad categories (See table II). Each of the ten components of the index is scaled from 0-100 (with 0 representing the most “un-free” economy, and 100 indicating the greatest level of
freedom), and the overall country-level summary factor is a simple equal-weighted average.

This dissertation uses the economic freedom index (EFI) from the Heritage Foundation as a key variable in the regressions (see table II). However, it is important to note that the EFI includes a component for measuring perceived corruption. Since this research explicitly studies perceived corruption from Transparency International, this component (“freedom from corruption”) from the EFI has been removed from the index to avoid collinearity with the CPI measure. The resulting EFI variable is termed “Econfree9.”
The Index of Economic Freedom has been used extensively though the International Business literature as a measure of national level economic freedom. The aggregate value of economic freedom has been used by many prominent researchers for many years, but some work has centered specifically on the impact of individual economic freedom variables (Ayal & Karras, 1998; Carlsson & Lundström, 2002; Haan & Siermann, 1998; Heckelman, 2000). However, these results only serve to support the aggregated economic freedom variable. Empirical evidence found through factor analysis indicates that the economic freedom index explained 92% of the common variance among the components (King et al., 2012).

Several organizations monitor and measure economic freedom, but two primary sources of economic freedom have been widely used in academic research: (1) The Heritage Foundation produces the Index of Economic Freedom, and (2) The Frazier Institute / CATO Institute co-produce the Economic Freedom of the World Reports. This study uses the data from the Heritage Foundation index of economic freedoms. The

### Table II
Economic Freedom Index

<table>
<thead>
<tr>
<th>Grouping</th>
<th>Economic Freedom</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open Markets</td>
<td>Trade freedom</td>
</tr>
<tr>
<td></td>
<td>Investment freedom</td>
</tr>
<tr>
<td></td>
<td>Financial freedom</td>
</tr>
<tr>
<td>Limited Government</td>
<td>Fiscal freedom</td>
</tr>
<tr>
<td></td>
<td>Government spending</td>
</tr>
<tr>
<td>Regulatory Efficiency</td>
<td>Business freedom</td>
</tr>
<tr>
<td></td>
<td>Labor freedom</td>
</tr>
<tr>
<td></td>
<td>Monetary freedom</td>
</tr>
<tr>
<td>Rule of Law</td>
<td>Property Rights</td>
</tr>
<tr>
<td></td>
<td>Freedom from Corruption* *removed to avoid collinearity</td>
</tr>
</tbody>
</table>

Source: Heritage Foundation (2015)
validity of the data from the Heritage Foundation is demonstrated primarily by high correlation with the Frazier Institution data in regards to the overall impact on economic growth.

A summary of the evidence of the validity of the construct, its measurement, and a listing of prominent researchers using the construct is provided in table III

*Human Capital: (Source: United Nations Development Program)*

As noted in the literature review above, human capital is a measure of training -- both formal and informal - achieved in a person’s life (Becker, 1960, 1975). The stock of human capital represents the combined level of training in a nation. The literature review in this dissertation details the economic impact of human capital that was first theorized in the seminal work of Becker (1960, 1975), Mincer (1958), and Schultz (1961, 1975). This construct has been operationalized in various ways, such as formal education, on-the-job-training, and adult education (Xiao, 2002), as well as the degree of workers’ skills that are valuable to the firm (Yan, Hopkins, Wittmer, & Jin, 2010).

This dissertation incorporates human capital into the study of economic freedom as well as entrepreneurial activity and operationalizes the variable by using the education index from the United Nations Development Program (UNDP). The education index is a component of the human development index (HDI). The UNDP establishes the human development index as a comparable measure of human development across nations. The index is comprised of three components: (1) Education (human capital), which is a composite measure incorporating the mean of years of schooling for adults aged 25 years, and expected years of schooling for children of school entering age; (2) life expectancy at birth, and (3) standard of living.
Validity of the construct has been shown in the work of Chowdhury and Squire (2006) and McNeill (2007) who found all three primary factors of the HDI to agree with primary data research by field experts. Additionally, the use of human capital data from the UNDP has been extensively used in international business research to test these theories (Milcher, 2011; Obisi, Ph, & Anyim, 2012; Owen & Yawson, 2010).

A summary of the evidence of the validity of the construct, its measurement, and a listing of prominent researchers using the construct is provided in table III.

**Control Variables**

This study incorporates four macroeconomic control variables into each of the regression series.

**Log of GNI / Capita:** Many researchers have used national income as a control variable with the understanding that the level of income may influence many macroeconomic relationships. For example, the rate of entrepreneurship may reflect different types of entrepreneurs with different levels of economic development (Van Stel et al., 2005; Wennekers et al., 2005). Thus Van Stel, et al. (2005) tested and found evidence that controlling for national level income was important in revealing the relationship between entrepreneurship and economic growth. Additionally, the level of economic growth, including national income, has been shown to be an important explanatory variable in determining the level of inward FDI (Grosse & Trevino, 1995; Kobrin, 1976; Wells & Wint, 2000).

Based on the above arguments, this dissertation adds a control for national gross income (GNI). The data are obtained from the United Nations Development Program and are measured as the log of per capita income using international dollars.
**Status**: The level of national economic development may play an important role in determining the relationships between many macroeconomic variables. As noted above, Van Stel, et al. (2005) as well as Wennekers, et al. (2005) found the level of national income to be significant in determining the relationship between entrepreneurship and economic growth. Additional research on the relationship between entrepreneurial activity and economic growth also supports the significance of the level of economic development on the impact that entrepreneurial activity has on economic growth (Bosma & Schutjens, 2010; Levie & Autio, 2008; Valliere & Peterson, 2009). The level of GDP, as a proxy for economic development, has also been found to play a significant role in determining the level of inward FDI with the larger the level of GDP have an increased positive relationship with inward FDI (Grosse & Trevino, 1995; Peng & Beamish, 2007; Wells & Wint, 2000).

Given the above arguments, this dissertation directly follows Voyer & Beamish (2004) and includes a dummy variable as an indicator of the level of economic development for each country. Using the definitions provided by the International Monetary Fund’s World Economic Outlook, (IMF - WEO) for developed and developing, the “status” variable is coded as a “1” for a developed country and a”0” for a developing country.

**Government consumption as a percentage of GDP**: The degree of inward FDI may be influenced by the size of the host government’s economy (Brouthers, Gao, & McNicol, 2008; Kobrin, 1976). The use of a variable to control for government consumption is conceptually related to controlling for GDP – that the
size and activity level of the host country government would positively influence FDI (Peng & Beamish, 2007; Voyer & Beamish, 2004). Additionally, Habib & Zurawicki (2002) found evidence to indicate that the higher the level of host country consumption, the higher the level of output for local market FDI would be. Thus, following the prominent research listed above, this dissertation controls for the level of government consumption as a percentage of GDP. The data for government consumption are obtained from the World Bank and are measured as a percentage of GDP.

**Labor Growth Rate:** A key factor in attracting resource-seeking FDI is the availability of competitive labor (Bartlett & Ghoshal, 1988; Brouthers et al., 2008). Thus, a key consideration for foreign investors is the availability of labor as greater abundance of labor increases the country’s attractiveness due to decreased labor costs (Peng & Beamish, 2007). Additionally, Daniels, Radebaugh, & Sullivan (2015) indicate not only that labor tends to move to areas of more opportunity and away from increasing unemployment, but also that MNEs are often faced with higher labor costs that are host country firms. Thus, it is important to include a measure that reflects the dynamic nature of the labor market. This work follows Peng & Beamish (2007) and Voyer and Beamish (2004) in controlling for the growth in labor availability. The data for labor growth rate was obtained from the World Bank and are measured as a percentage of year-over-year growth in labor.
<table>
<thead>
<tr>
<th>Variable / Variable Name</th>
<th>Definition</th>
<th>Source</th>
<th>Measurement</th>
<th>Research Validity</th>
<th>Authors (For example)</th>
</tr>
</thead>
</table>
| Corruption Perceptions Index (CPI) | “The abuse of entrusted power for private gain” (Transparency International: 2013) | Transparency International | Scaled 0 - 100 with 0 being most corrupt; 100 being the least corrupt. | • Wilhelm (2002): Research found high correlation with 2 separate measures of corruption, and a high correlation with Real GDP / capita.  
• Voyer & Beamish: 2004 High correlation with the LaPorta (1998) measure of corruption  
• Mauro (2001): Research found high correlation with the Business Intelligence Unit's Index on Corruption | • Habib & Zurawicki, (2002)  
• Hofstede, (1999)  
• Mauro, (1996a, 1996b, 1998)  
• Peng & Beamish, (2008)  
• Voyer & Beamish, (2004)  
• Wei, (2000) |
| Total Entrepreneurial Activity (TEA) (Opportunity-Motivated) (Necessity-Motivated) | "the perception and creation of new economic opportunities” combined with “decision-making on the location, form and use of resources”. (Wennekers & Thurik: 1999) | Global Entrepreneurship Monitor | •GEM Adult Population Survey (APS). Measured as 0-100 reflecting the % of the population actively involved in business start-ups (both) | • Bosma (2012): Research found high correlation with entrepreneurial activity variables from 2 separate entrepreneurial datasets: (1) Kauffman (2) Eurostat | • Acs, (2010)  
• Audretsch & Thurik, (2000)  
• Autio & Acs, (2009)  
• Reynolds et al., (2002)  
• R. Thurik et al., (2008)  
• R. Thurik et al., (2002)  
• Wennekers et al., (2002) |
| Economic Freedom (Econdfree9) | Economic freedom is the fundamental right of every human to control his or her own labor and property. In economically free societies, governments allow labor, capital and goods to move freely, and refrain from coercion or constraint of liberty beyond the extent necessary to protect and maintain liberty itself (Heritage Foundation: 2014) | Heritage Foundation | Composite index of 10-1=9 individual factors. Each scaled from 0 - 100 with 100 indicating the most economically free. | • Wennekers, (2006)  
• King (2012) :  
  Research found high correlation with the other major measure of economic freedom - The Frazier /CATO Institute measure of economic freedoms.  
• King (2012) on Internal validity: The economic freedom index explained 92% of the common variance among the components  
• Ayal & Karras, (1998)  
• Carlsson & Lundström, (2002b)  
• J. D. E. Haan & Siermann, (1998)  
• Heckelman, (2000)  
• King et al., (2012) |
| Human Capital (Eduindex) | “Human capital corresponds to any stock of knowledge or characteristic the worker has (either innate or acquired) that contributes to | UNDP | The geometric mean of the (1) Mean years of educational attainment, and (2) the Expected | • Chowdhury & Squire (2006), McNeill (2007) : High correlation between HDI and primary research with field experts.  
• Malik, (2013)  
• Contractor & Mudambi, (2008)  
• Chowdhury & Squire, (2006)  
• McNeill, (2007)  
• Milcher, (2011)  
• Obisi, Ph, & Anyim, |
| Economic Globalization (EC) | Economic Globalization is the increasing cross-country integration of economic systems through trade and investments (Akhter, 2004) | FDI: World Bank Exports of goods and services: World Bank | Factor scores obtained from factor analysis on Inward FDI and exports of goods and services | • Validity is shown by both variables loading significantly (0.78) onto factor 1. • Reliability is shown by Cronbach's alpha = 0.75 | (2012) • Owen & Yawson, (2010) • Akhter, (2004) • Rugman & Verbeke, (2004) • OECD, (2005) |

Table III

Research variables, definitions, measurement, and validity
C. Data Preparation, Preliminary Tests, and Statistical Method

The data used in the dissertation are panel-level, macro-economic data gathered over multiple consecutive years (2009-2013). Panel data, also called longitudinal data or sometimes cross-sectional time-series data (Park, 2011), are repeated measures on individuals (n) over time (t) (Cameron & Trivedi, 2009). Longitudinal data consists of “observations on the same units in several different time periods” (Kennedy, 2008, pg. 281). Panel data have individual effects (variation from entities), time effects (variation over time), or both and can be analyzed with different estimators and different methods. This section presents a brief summary of panel-data types, estimating methods, and the specific methods used for analyzing the panel data incorporated in this dissertation.

Panel data advantages

Using panel data allows many benefits for the analysis and brings advantages not possible by using cross-sectional data. Panel data allows the behavior of the variables to be observed and analyzed over time. “Panel data allows you to control for variables that cannot be observed or measured (i.e.: cultural factors or difference in business practices across companies); or variables that change over time but not across entities (i.e. national policies, federal regulations, international agreements, etc.). This is, it accounts for individual heterogeneity.” Additionally, panel data accounts for hierarchical modeling by allowing the addition of variables at different levels (state, national, global) of analysis (Torres-Reyna, 2007).

Types of panel data

Panel data can either be a “balanced” panel or an “unbalanced” panel. In a balanced panel, all entities (N) have measurements in all time periods (T), thus the total
number of observations is (N)*(T). If this is not the case and each entity in a data set has different numbers of observations, the panel data are “unbalanced.” Some cells in the dataset have zero frequency and other cells are filled. Accordingly, the total number of observations is not (N)*(T) in an unbalanced panel (Park, 2011)

**Panel Data issues**

Panel data offer many advantages. However it is misleading to always approach analysis with either fixed-effects or random-effects modeling. According to Park, “it is a common misunderstanding that fixed-effects and/or random effects should always be employed when the data is arranged in a panel” (Park, 2011). The quality of the data, or lack thereof, can skew the results and created mis-interpretations of the outcomes. Some of the issues, adapted from Park (2011), in panel data are:

- Data arranged similar to a panel, but do not have appropriate panel characteristics (i.e.: fixed and / or random effects). In this case, the data are not panel-data in a strict econometric sense.
- Inconsistent entities or inconsistent time periods
- Too small of a data set (type I errors) /too large of datasets (Type II errors)
- Missing values lowers the quality of the data
- Additionally, Baltagi (2005) warns against extracting a balanced panel from an unbalanced panel by either maximizing the number of [entities] observed or the total number of observations in the balanced panel” due to the propensity in both cases, of leading to “and enormous loss of efficiency (Baltagi, 2005).
- Macro-economic data gathering techniques are non-standard across countries leading to inconsistent data within and across countries (Kotabe, 2001)
Data and Methodology

The data for this study are macroeconomic, panel-level data, in that they are data from five consecutive years (2009-2013). In order to better understand the type of methodology to use in the analysis, the dataset was first compiled and cleaned. The cleaning process was a 2-step process that (1) removed observations containing empty cells, (producing an unbalanced dataset with N=232), and (2) removed all observations for which there were not five years of reported statistics. This second step of the process essentially produced a balanced dataset from an unbalanced dataset which is not recommended due to the probability of selection bias (Baltagi, 2005). The resulting dataset had five years of 20 observations per year, which yielded 100 observations. This sample size, according to Park (2011) and Baltagi, (2005), is too small (N<250) and will have a significant loss in efficiency and a high probability of type-I errors. Thus, it is not recommended to use the balanced panel in this analysis.

Since the balanced panel produced a dataset with too small of N, the study then looked at the unbalanced dataset which, after cleaning, had a size of 232. According to Baltagi (2005), unbalanced datasets can be used if the data meets two assumptions: (1) equal variance across years and (2) equal number of observations in each time period. The data set does not meet this second assumption. Additionally, this sample size is still less than the 250 proposed by Baltagi (2005) and Park (2011) and could produce type-I errors. Thus, the use of the unbalanced panel in this analysis is not recommended.

Finally, this study tested if there were significant time effects (changes) over the 5-year period. If there are not significant changes in the data over time, then a time-series analysis is not appropriate (Park, 2011). The “testparm” test in Stata examines the
hypothesis that the variation in the variables is equal to zero over time. Running the testparm test on the balanced and unbalanced panels in this dataset failed to reject the hypothesis. Therefore, there is no evidence of significant time-effects in either panel (balance or unbalanced). Thus, according to Park (2011), neither fixed nor random effects are appropriate for the analysis.

Given the sample size limitations and the lack of a significant time-effect over the period under investigation, this study follows the recommendation of Hubbard, et al. (2010) to use population averaged data. Testing macro-effects using averaged data has been used by many researchers in International Business (Bowen & De Clercq, 2008; Carree et al., 2007; Dreher & Gassebner, 2011; Levie & Autio, 2011; Andre’ van Stel et al., 2005; Voyer & Beamish, 2004; Wong et al., 2005). Following these researchers, this study uses the 5-year averages (2009 – 2013) from the dataset and Ordinary Least Squares (OLS) estimation method to analyze the data. Taking the average over several years tends to account for fluctuations in the yearly data and reduces potential impacts of single year abnormalities (Voyer & Beamish, 2004). This study excludes all countries with incomplete data, resulting in a sample size of 80 countries (see appendix A for the list of countries used).

The sample size constraint prevented a Structural Equation Modeling (SEM) approach from being used. Therefore, the relationships under examination in this study were tested using a series of regression equations. The series of regression equations test each relationship according to the model depicted in figure 3 and follow the regression equations listed in table IV. It is important to note that the series of regression equations (what relationships were tested in each regression) was dictated by the variable under
investigation for the specific test. For example, the dependent variable testing human capital has only one independent variable in the specific regression test, so that stage of the regression series is primarily testing the relationship between corruption and human capital. This is shown in regression 2 in table VIII.

**Figure 3**

Conceptual Model
### Table IV
Variable names and constructs

<table>
<thead>
<tr>
<th>Variable name</th>
<th>Measuring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economfree9</td>
<td>Economic freedom</td>
</tr>
<tr>
<td>Eduindex</td>
<td>Human Capital</td>
</tr>
<tr>
<td>TEA</td>
<td>Total Entrepreneurial Activity</td>
</tr>
<tr>
<td>EG</td>
<td>Economic Globalization</td>
</tr>
<tr>
<td>OME</td>
<td>Opportunity Motivated Entrepreneurship</td>
</tr>
<tr>
<td>NME</td>
<td>Necessity Motivated Entrepreneurship</td>
</tr>
<tr>
<td>CPI</td>
<td>Corruption Perceptions Index</td>
</tr>
<tr>
<td>lnGNI</td>
<td>Log of Gross National Income</td>
</tr>
<tr>
<td>Status</td>
<td>Dummy variable - economic development</td>
</tr>
<tr>
<td>Govconsum</td>
<td>Percent of government consumption</td>
</tr>
<tr>
<td>Laborgrowth</td>
<td>Year-over-year labor growth rate</td>
</tr>
</tbody>
</table>

### Table V
Series of Regression Tests

<table>
<thead>
<tr>
<th>Regression Identifier</th>
<th>Hypothesis</th>
<th>Dependent Variable</th>
<th>Independent Variables</th>
<th>Control Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression 1</td>
<td>H1 H2</td>
<td>Econfree9</td>
<td>CPI Humancapital</td>
<td>lnGNI/capita, Status Govconsum, Laborgrowth</td>
</tr>
<tr>
<td>Regression 2</td>
<td>H3</td>
<td>Human capital</td>
<td>CPI</td>
<td>lnGNI/capita, Status Govconsum, Laborgrowth</td>
</tr>
<tr>
<td>Regression 3</td>
<td>H4a H5a H6a</td>
<td>TEA</td>
<td>CPI Humancapital Econfree9</td>
<td>lnGNI/capita, Status Govconsum, Laborgrowth</td>
</tr>
<tr>
<td>Regression 4</td>
<td>H4b H5b H6b</td>
<td>OME</td>
<td>CPI Humancapital Econfree9</td>
<td>lnGNI/capita, Status Govconsum, Laborgrowth</td>
</tr>
<tr>
<td>Regression 5</td>
<td>H4c H5c H6c</td>
<td>NME</td>
<td>CPI Humancapital Econfree9</td>
<td>lnGNI/capita, Status Govconsum, Laborgrowth</td>
</tr>
<tr>
<td>Regression 6a</td>
<td>H7</td>
<td>EG</td>
<td></td>
<td>lnGNI/capita, Status Govconsum, Laborgrowth</td>
</tr>
<tr>
<td>Regression 6b</td>
<td>H8a</td>
<td>EG</td>
<td>TEA Econfree9</td>
<td>lnGNI/capita, Status Govconsum, Laborgrowth</td>
</tr>
<tr>
<td>Regression 6c</td>
<td>H8b</td>
<td>EG</td>
<td>OME Econfree9</td>
<td>lnGNI/capita, Status Govconsum, Laborgrowth</td>
</tr>
<tr>
<td>Regression 6d</td>
<td>Hbc</td>
<td>EG</td>
<td>NME Econfree9</td>
<td>lnGNI/capita, Status Govconsum, Laborgrowth</td>
</tr>
</tbody>
</table>
D. Testing Multicollinearity

The data for this dissertation will be secondary data sourced from multiple databanks, and that data is focused on several macro-economic conditions. As such, multicollinearity is a concern. Multicollinearity is a statistical situation in which two or more predictor variables are highly correlated. In essence, the variance in one predictor variable is a near-perfect linear combination of another predictor variable. Even though multicollinearity in a model does not affect the predictive power of the model as a whole, it does affect calculations for individual predictors. These lead to unreliable and unstable estimates of individual predictor variables but not of the “bundle” of predictor variables as a whole. This is logical as in the case with two perfectly correlated predictor variables – one variable would be redundant without impacting the predictive power of the model.

Multicollinearity is a common problem in linear regression models. Thus, this investigation will address multicollinearity in the model through the use of variance inflation factor (VIF). VIF is called the variance inflation factor because of the linear dependence with other predictors. VIF is functionally the inverse of tolerance (1-R^2_j), and is mathematically represented as 1/(1-R^2_j): where R^2_j is the coefficient of determination of a regression of one predictor variable “j” on all the other predictor variables. It is generally agreed that a tolerance of less than 0.10 or a VIF greater than 10 indicates a significant problem with multicollinearity. However, more stringent standards establish that a VIF level above 5 indicates severe multicollinearity. This work will rely on the
most common standard and use a VIF of 10 or greater to indicate a problem with multicollinearity.
CHAPTER V
MODEL RESULTS AND FINDINGS

As noted in the literature review of this dissertation, research has shown evidence of a positive relationship between entrepreneurial activity and economic growth, between economic freedom and economic growth, as well as negative relationships between corruption and economic growth and corruption and entrepreneurial activity. The primary focus of this dissertation is to investigate the interrelationships between corruption, economic freedom, entrepreneurial activity, human capital, and how these impact economic globalization. This section details the results of the empirical testing of the proposed hypotheses.

A. Sample size and model testing

The relationships under consideration and hypothesized in the conceptual framework above were tested using a series of regression analyses. The sample constraint prevented a structural equation modeling approach. The total sample size under
consideration in the model is 80 countries. Analysis was conducted in a 2-stage process. The first stage consisted of correlation analysis (see table VI) to identify and remove any variables that could cause problems with multicollinearity. In the second stage, ordinary least squares linear regression technique was employed to test each hypothesis.

Following Voyer & Beamish, (2004), this work tests for multicollinearity by examining the Variance Inflation Factor (VIF) for each variable. It is generally agreed that a VIF coefficient greater than 10 is indicative of severe multicollinearity, (Hair, 2010; Kennedy, 2008; Kutner, 2004). For this study analysis, no single VIF is greater than 3.36, thus, there is strong evidence that the predictors are not overly collinear.

<table>
<thead>
<tr>
<th>Variables</th>
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<td>01</td>
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<td>48</td>
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<td>90</td>
<td>02</td>
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<td>0.47</td>
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<td>-0.36</td>
<td>0.36</td>
<td>-0.41</td>
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<td></td>
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<td></td>
<td></td>
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<td>GOVCONSUMEPE</td>
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</tbody>
</table>
Following the correlation analysis, the next stage tested the relationship(s) between the dependent variables and independent variables in regression analysis.

**Hypothesis 1 (H1) and Hypothesis 2 (H2) Results**

The first regression examines the relationship between (H1) corruption and economic freedom and (H2) human capital and economic freedom.

**H1: The higher the level of corruption, the lower will be the level of national level economic freedom**

In hypothesis 1, it was argued that higher levels of corruption at the national level would result in lower levels of economic freedom at the national level. Specifically that:

- In countries with higher levels of corruption (lower levels of transparency), there would exist lower levels of economic freedom
- In countries with lower levels of corruption (higher levels of transparency), there would exist higher levels of economic freedom

**H2: The higher the level of human capital, the higher will be the level of economic freedom**

In this hypothesis, it was argued that higher levels of human capital at the national level would result in higher levels of economic freedom at the national level. Specifically that:

- In countries with higher levels of human capital (formal and informal education), there would exist higher levels of economic freedom
• In countries with lower levels of human capital (formal and informal education), there would exist lower levels of economic freedom

Testing H1 and H2:

To test these hypotheses, OLS regression tests were employed in a hierarchical manner in the following way: (1) the control variables only and (2) the full model with all predictor variables to test both hypothesis 1 and hypothesis 2. The results of all of the tests are recorded in table VII.

Regression 1a includes only control variables: log of GNI/capita, status, government consumption (% GDP), and labor growth rate. Results from regression 1a (see table VII) indicate that these control variables alone show some explanatory power when considered as a group of indicator variables: $R^2 = 0.45$ and adjusted $R^2 = 0.42$, $F=15.26$, $p = <0.0001$. In this regression, LnAvgGNIperCapita, Status, and Government Consumption (% GDP) were significant.

Regression 1b includes all of the control variables from regression 1a and the two independent variables: CPI and Eduindex (Human_Capital). Results from regression 1b (see table VII) indicate that the addition of the independent variables increased the overall significance of the model: $R^2 = 0.64$ and adjusted $R^2 = 0.61$, $F=21.96$. $p = <0.0001$. In this model, CPI was significant at the 0.0001 level, but Eduindex (human capital) was not significant in predicting the level of economic freedom.
### Table VII
Linear Regression 1a and 1b
Testing Hypotheses H1 and H2

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Economic Freedom (EconFree9)</th>
<th>Control Variables</th>
<th>Complete Sub-Model</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Controls</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>LnAvgGNIperCapita</td>
<td>0.45336**** 0.26253**</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(4.56)         (2.82)</td>
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<tr>
<td>Status</td>
<td>0.52675**** 0.19341*</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>(5.35)         (1.92)</td>
<td></td>
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</tr>
<tr>
<td>Government Consumption (% GDP)</td>
<td>-0.21765** 0.30379***</td>
<td></td>
<td>0.30379***</td>
</tr>
<tr>
<td></td>
<td>(-2.07)        (-3.45)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AvgLaborGrowth</td>
<td>0.06755 0.05272</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.67)         (0.64)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Independent Variables</strong></td>
<td></td>
<td></td>
<td>0.62348***</td>
</tr>
<tr>
<td>CPI</td>
<td></td>
<td></td>
<td>*</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(5.92)</td>
</tr>
<tr>
<td>Human Capital</td>
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<td></td>
<td>(0.29)</td>
</tr>
<tr>
<td>Constant</td>
<td>81.88**** 66.54****</td>
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<tr>
<td></td>
<td>(16.63)         (10.02)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Model Indices</strong></td>
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<td></td>
</tr>
<tr>
<td>R2</td>
<td>0.4487 0.6434</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adjusted R2</td>
<td>0.4193 0.6141</td>
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<td></td>
</tr>
<tr>
<td>Model F-Value</td>
<td>15.26 21.96</td>
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<tr>
<td>Significance</td>
<td>P=&lt;0.0001 P=&lt;0.0001</td>
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</tr>
<tr>
<td>Sample Size</td>
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</tr>
</tbody>
</table>

**Notes:**
1. t-stats in parenthesis
2. *p < .10, **p < .05, ***p < .001, ****p < .0001
3. All beta's except constant, are standardized
Hypothesis 3 (H3) Results

The second regression is associated with hypothesis 3 and tests the relationship between (H3) corruption and human capital.

H3: The higher the level of corruption, the lower will be the level of human capital

In hypothesis 3, it was argued that higher levels of corruption at the national level would result in lower levels of human capital at the national level. Specifically that:

- In countries with higher levels of corruption (lower levels of transparency), there would exist lower levels of human capital
- In countries with lower levels of corruption (higher levels of transparency), there would exist higher levels of human capital

Testing H3:

As in the models tested above, to test this hypothesis, OLS regression tests were employed in a hierarchical manner in the following way: (1) the control variables only and (2) the full model with all predictor variables to test hypothesis 3. The results of all of the tests are recorded in table VIII.

Regression 2a includes only control variables: log of GNI/Capita, status, government consumption (% GDP), and labor growth rate. Results from regression 2a (see table VIII) indicate that these control variables alone show some explanatory power when considered as a group of indicator variables: \( R^2 = 0.63 \) and adjusted \( R^2 = 0.61 \), \( F = 31.50 \), \( p = <0.0001 \). In this regression, LnAvgGNIperCapita, Status, and Government Consumption (% GDP) were significant.

Regression 2b included all of the control variables from regression 2a and the independent variable CPI. Results from regression 2b (see table VIII) indicate that the
addition of the independent variable (CPI) increased the overall significance of the model: \( R^2 = 0.66 \) and adjusted \( R^2 = 0.64 \), \( F = 28.91 \). \( p = <0.0001 \). In this regression, CPI was significant at the 0.05 level.

**Table VIII**  
Linear Regression 2a and 2b  
Testing Hypothesis H3

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Human Capital (EDUINDEX)</th>
<th>Control Variables</th>
<th>Complete Sub-Model</th>
</tr>
</thead>
<tbody>
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<td>Controls</td>
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<td></td>
<td></td>
</tr>
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<td>0.37358****</td>
<td>0.29745****</td>
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</tr>
<tr>
<td></td>
<td>(4.56)</td>
<td>(3.57)</td>
<td></td>
</tr>
<tr>
<td>Status</td>
<td>0.40465****</td>
<td>0.26804**</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(4.99)</td>
<td>(2.91)</td>
<td></td>
</tr>
<tr>
<td>Government Consumption (% GDP)</td>
<td>0.16759*</td>
<td>0.1332</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(1.94)</td>
<td>(1.59)</td>
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<tr>
<td>AvgLaborGrowth</td>
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<td>-0.11646</td>
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<tr>
<td></td>
<td>(-1.32)</td>
<td>(-1.47)</td>
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<tr>
<td>Independent Variables</td>
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<tr>
<td>CPI</td>
<td></td>
<td>0.26661**</td>
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<td>(2.75)</td>
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<td>Constant</td>
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<td></td>
<td>(11.34)</td>
<td>(9.02)</td>
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<td>Model Indices</td>
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<tr>
<td>R2</td>
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<td>Adjusted R2</td>
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<td>P=&lt;0.0001</td>
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<td>Sample Size</td>
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**Notes:**  
1 t-stats in parenthesis  
2 *\( p <.10 \), **\( p <.05 \), ***\( p <.001 \), ****\( p <.0001 \)  
3 All beta's except constant, are standardized
Hypothesis 4a (H4a), Hypothesis 5a (H5a), and Hypothesis 6a (H6a) Results

The third regression is associated with hypothesis 4a, hypothesis 5a, and hypothesis 6a. It tests the relationship between (H4) corruption and total entrepreneurial activity, (H5) human capital and total entrepreneurial activity, and (H6) economic freedom and total entrepreneurial activity.

H4a: The higher the level of corruption, the lower will be the level of entrepreneurial activity

In hypothesis 4a, it was argued that higher levels of corruption at the national level would result in lower levels of total entrepreneurial activity at the national level. Specifically that:

- In countries with higher levels of corruption (lower levels of transparency), there would exist lower levels of TEA (Total Entrepreneurial Activity)
- In countries with lower levels of corruption (higher levels of transparency), there would exist higher levels of TEA (Total Entrepreneurial Activity)

H5a: The higher the level of human capital, the higher will be the level of entrepreneurial activity

In hypothesis 5a, it was argued that higher levels of human capital at the national level would result in higher levels of total entrepreneurial activity at the national level. Specifically that:

- In countries with higher levels of human capital, there would exist higher levels of TEA (Total Entrepreneurial Activity)
- In countries with lower levels of human capital, there would exist lower levels of TEA (Total Entrepreneurial Activity)
H6a: The higher the level of economic freedom, the higher will be the level of total entrepreneurial activity (TEA)

In hypothesis 6a, it was argued that higher levels of economic freedom at the national level would result in higher levels of total entrepreneurial activity at the national level. Specifically that:

- In countries with higher levels of economic freedom, there would exist higher levels of TEA (Total Entrepreneurial Activity)
- In countries with lower levels of economic freedom, there would exist lower levels of TEA (Total Entrepreneurial Activity)

Testing H4a, H5a, and H6a:

To test these hypotheses, OLS regression tests were employed in a hierarchical manner in the following way: (1) the control variables only and (2) the full model with all predictor variables to test all three hypotheses (H4, H5, and H6). The results of all of the tests are recorded in table IX.

Regression 3a includes only control variables: log of GNI/Capita, status, government consumption (% GDP), and labor growth rate. Results from regression 3a (see table IX) indicate that these control variables alone show very limited explanatory power when considered as a group of indicator variables: $R^2 = 0.23$ and adjusted $R^2 = 0.19$, $F= 5.63$, $p = <0.0005$. In this regression, only status was significant.

Regression 3b included all of the control variables from regression 3a and the three independent variables: CPI, Econfree9, and Eduindex. Results from regression 3b (see table IX) indicate that the addition of the independent variables substantially increased the overall significance of the model: $R^2 = 0.35$ and adjusted $R^2 =0.28$, $F=5.44$. 

141
p = <0.0001. In this model, Eduindex was significant at the 0.05 level, but neither CPI nor Econfree9 were significant in predicting the level of Total Entrepreneurial Activity.

Table IX
Linear Regression 3a and 3b
Testing Hypothesis H4a, H5a, and H6a

<table>
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<tr>
<th>Dependent Variable</th>
<th>TEA (Total Entrepreneurship Activity)</th>
<th>Control Variables</th>
<th>Complete Sub-Model</th>
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</thead>
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</tr>
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<td>LnAvgGNIperCapita</td>
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<td>Status</td>
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<td>Government Consumption (% GDP)</td>
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<td>AvgLaborGrowth</td>
<td>0.08263 (0.70)</td>
<td>0.03927 (0.35)</td>
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<tr>
<td>CPI</td>
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<td>Econfree9</td>
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<tr>
<td>Constant</td>
<td>17.57** (2.75)</td>
<td>41.78** (2.73)</td>
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<td>R2</td>
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<td>Adjusted R2</td>
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<tr>
<td>Sample Size</td>
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<td>80</td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**
1. t-stats in parenthesis
2. *p <.10, **p < .05, ***p < .001, ****p <.0001
3. All beta's except constant, are standardized
Hypothesis 4b \((H4b)\), Hypothesis 5b \((H5b)\), and Hypothesis 6b \((H6b)\) Results

The forth regression is associated with hypothesis 4b, hypothesis 5b, and hypothesis 6b. It tests the relationship between \((H4b)\) corruption and opportunity-motivated entrepreneurial activity, \((H5b)\) human capital and opportunity-motivated entrepreneurial activity, and \((H6b)\) economic freedom and opportunity-motivated entrepreneurial activity.

**H4b:** The higher the level of corruption, the lower will be the level of opportunity-motivated entrepreneurial activity

In hypothesis 4b, it was argued that higher levels of corruption at the national level would result in lower levels of opportunity-motivated entrepreneurial activity at the national level. Specifically that:

- In countries with higher levels of corruption (lower levels of transparency), there would exist lower levels of OME (opportunity-motivated entrepreneurial activity)
- In countries with lower levels of corruption (higher levels of transparency), there would exist higher levels of OME (opportunity-motivated entrepreneurial activity)

**H5b:** The higher the level of human capital, the higher will be the level of opportunity-motivated entrepreneurial activity

In hypothesis 5b, it was argued that higher levels of human capital at the national level would result in higher levels of opportunity-motivated entrepreneurial activity at the national level. Specifically that:

- In countries with higher levels of human capital, there would exist higher levels of OME (opportunity-motivated entrepreneurial activity)
In countries with lower levels of human capital, there would exist lower levels of OME (opportunity-motivated entrepreneurial activity)

H6b: The higher the level of economic freedom, the higher will be the level of opportunity-motivated entrepreneurial activity

In hypothesis 6b, it was argued that higher levels of economic freedom at the national level would result in higher levels of opportunity-motivated entrepreneurial activity at the national level. Specifically that:

- In countries with higher levels of economic freedom there would exist higher levels of OME (opportunity-motivated entrepreneurial activity)
- In countries with lower levels of economic freedom there would exist lower levels of OME (opportunity-motivated entrepreneurial activity)

Testing H4b, H5b, and H6b

To test these hypotheses, OLS regression tests were employed in a hierarchical manner in the following way: (1) the control variables only and (2) the full model with all predictor variables to test all three hypotheses (H4b, H5b, and H6b). The results of all of the tests are recorded in table X.

Regression 4a includes only control variables: log of GNI/Capita, status, government consumption (% GDP), and labor growth rate. Results from regression 4a (see table X) indicate that these control variables alone show very limited explanatory power when considered as a group of indicator variables: $R^2 = 0.11$ and adjusted $R^2 =0.07$, $F= 3.21$, $p = 0.0657$. In this regression, only status was significant.

Regression 4b includes all of the control variables from regression 4a and the three independent variables: CPI, Econfree9, and Eduindex. Results from regression 4b
(see table X) indicate that the addition of the independent variables substantially increased the overall significance of the model: $R^2 = 0.30$ and adjusted $R^2 = 0.24$, $F=5.44$, $p=0.0004$. In this regression, CPI was significant at the 0.0001 level, but neither Eduindex nor Econfree9 were significant in predicting the level of Opportunity-motivated Entrepreneurial Activity.
<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>OME (Opportunity-motivated Entrepreneurship Activity)</th>
<th>Control Variables</th>
<th>Complete Sub-Model</th>
</tr>
</thead>
<tbody>
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<td><strong>Controls</strong></td>
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</tr>
<tr>
<td>LnAvgGNIperCapita</td>
<td>-0.03685 (0.29)</td>
<td>-0.04499 (-0.33)</td>
<td></td>
</tr>
<tr>
<td>Status</td>
<td>0.29794** (2.38)</td>
<td>0.06310 (0.43)</td>
<td></td>
</tr>
<tr>
<td>Government Consumption (% GDP)</td>
<td>-0.02426 (-0.18)</td>
<td>-1.4493 (-1.08)</td>
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</tr>
<tr>
<td>AvgLaborGrowth</td>
<td>-0.06159 (-0.48)</td>
<td>-0.08343 (-0.71)</td>
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</tr>
<tr>
<td><strong>Independent Variables</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CPI</td>
<td>0.75458*** * (4.18)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Human Capital</td>
<td>-0.11755 (-0.69)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Econfree9</td>
<td>-0.19785 (-1.20)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>47.67**** (5.43)</td>
<td>54.60** (2.70)</td>
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</tr>
<tr>
<td><strong>Model Indices</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R2</td>
<td>0.1096</td>
<td>0.3025</td>
<td></td>
</tr>
<tr>
<td>Adjusted R2</td>
<td>0.0621</td>
<td>0.2347</td>
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</tr>
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<td>Model F-Value</td>
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<td>5.44</td>
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<td>P=0.0004</td>
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</tr>
<tr>
<td>Sample Size</td>
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<td></td>
</tr>
</tbody>
</table>

**Notes:**
1. t-stats in parenthesis
2. *p < .10, **p < .05, ***p < .001, ****p < .0001
3. All beta's except constant, are standardized
Hypothesis 4c (H4c), Hypothesis 5c (H5c), and Hypothesis 6c (H6c) Results

The fifth regression is associated with hypothesis 4c, hypothesis 5c and hypothesis 6c. It tests the relationship between (H4c) corruption and necessity-motivated entrepreneurial activity, (H5c) human capital and necessity-motivated entrepreneurial activity, and (H6c) economic freedom and necessity-motivated entrepreneurial activity.

H4c: The higher the level of corruption, the higher will be the level of necessity-motivated entrepreneurial activity

In hypothesis 4c, it was argued that higher levels of corruption at the national level would result in higher levels of necessity-motivated entrepreneurial activity at the national level. Specifically that:

- In countries with higher levels of corruption (lower levels of transparency), there would exist higher levels of NME (Necessity-motivated Entrepreneurial Activity)
- In countries with lower levels of corruption (higher levels of transparency), there would exist lower levels of NME (Necessity-motivated Entrepreneurial Activity)

H5c: The higher the level of human capital, the lower will be the level of necessity-motivated entrepreneurial activity

In hypothesis 5c, it was argued that higher levels of human capital at the national level would result in lower levels of necessity-motivated entrepreneurial activity at the national level. Specifically that:

- In countries with higher levels of human capital, there would exist lower levels of NME (Necessity-motivated Entrepreneurial Activity)
• In countries with lower levels of human capital, there would exist higher levels of NME (Necessity-motivated Entrepreneurial Activity)

H6c: The higher the level of economic freedom, the lower will be the level of necessity-motivated entrepreneurial activity

In hypothesis 6c, it was argued that higher levels of economic freedom at the national level would result in lower levels of necessity-motivated entrepreneurial activity at the national level. Specifically that:

• In countries with higher levels of economic freedom, there would exist lower levels of NME (Necessity-motivated Entrepreneurial Activity)

• In countries with lower levels of economic freedom, there would exist higher levels of NME (Necessity-motivated Entrepreneurial Activity)

Testing H4c, H5c, and H6c:

To test these hypotheses, OLS regression tests were employed in a hierarchical manner in the following way: (1) the control variables only and (2) the full model with all predictor variables to test all three hypotheses (H4c, H5c, and H6c). The results of all of the tests are recorded in table XI.

Regression 5a includes only control variables: log of GNI/Capita, status, government consumption (% GDP), and labor growth rate. Results from regression 3a (see table XI) indicate that these control variables alone show very limited explanatory power when considered as a group of indicator variables: \( R^2 = 0.28 \) and adjusted \( R^2 =0.24 \), \( F= 7.21 \), \( p = <0.0001 \). In this regression, both status and GNI per capita were significant.

Regression 5b included all of the control variables from regression 5a and the
three independent variables: CPI, Econfree9, and Eduindex. Results from regression 5b (see table XI) indicate that the addition of the independent variables substantially increased the overall significance of the model: $R^2 = 0.41$ and adjusted $R^2 = 0.36$, $F=7.22$, $p = <0.0001$. In this model, CPI was significant at the 0.001 level, but neither Eduindex nor Econfree9 were significant in predicting the level of Necessity-motivated Entrepreneurial Activity.
Table XI
Linear Regression 5a and 5b
Testing Hypothesis H4c, H5c, and H6c

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Control Variables</th>
<th>Complete Sub-Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>NME (Necessity-motivated Entrepreneurship Activity)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Controls</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LnAvgGNIperCapita</td>
<td>-0.29238** (-2.57)</td>
<td>-0.20049 (1.58)</td>
</tr>
<tr>
<td>Status</td>
<td>-0.38235** (-3.39)</td>
<td>-0.16327 (-1.22)</td>
</tr>
<tr>
<td>Government Consumption (% GDP)</td>
<td>0.08711 (0.72)</td>
<td>0.19226 (1.57)</td>
</tr>
<tr>
<td>AvgLaborGrowth</td>
<td>0.04854 (0.42)</td>
<td>0.06117 (0.57)</td>
</tr>
<tr>
<td>Independent Variables</td>
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<td></td>
</tr>
<tr>
<td>CPI</td>
<td>-</td>
<td>0.61510*** (-3.71)</td>
</tr>
<tr>
<td>Human Capital</td>
<td>0.04142 (0.27)</td>
<td></td>
</tr>
<tr>
<td>Econfree9</td>
<td>0.15058 (1.00)</td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>14.70** (2.04)</td>
<td>13.86 (0.82)</td>
</tr>
<tr>
<td>Model Indices</td>
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<td></td>
</tr>
<tr>
<td>R2</td>
<td>0.2778</td>
<td>0.4123</td>
</tr>
<tr>
<td>Adjusted R2</td>
<td>0.2392</td>
<td>0.3551</td>
</tr>
<tr>
<td>Model F-Value</td>
<td>7.21</td>
<td>7.22</td>
</tr>
<tr>
<td>Significance</td>
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<td>P=&lt;.0001</td>
</tr>
<tr>
<td>Sample Size</td>
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<td>80</td>
</tr>
</tbody>
</table>

Notes: 1 t-stats in parenthesis
2 *p <.10, **p < .05, ***p < .001, ****p <.0001
3 All beta's except constant, are standardized
Hypothesis 7 (H7), Hypothesis 8 (H8a), Hypothesis (H8b), Hypothesis (H8c), and Hypothesis (H8d) Results

The sixth regression is associated with hypothesis 7, hypothesis 8a, hypothesis H8b, hypothesis H8c, and hypothesis H8d. It tests the relationship between (H7) economic freedom and economic globalization, (H8a, H8b, H8c) entrepreneurial activity (TEA, OME, NME) and economic globalization, and (H8d) an interaction between TEA and national income.

H7: The higher the level of economic freedom, the higher will be the level of economic globalization

In hypothesis 7, it was argued that higher levels of economic freedom at the national level would result in higher levels of economic globalization at the national level. Specifically that:

- In countries with higher levels of economic freedom, there would exist higher levels of economic globalization
- In countries with lower levels of economic freedom, there would exist lower levels of economic globalization

H8a: The higher the level of Total Entrepreneurial Activity (TEA), the higher will be the level of economic globalization

In hypothesis 8a, it was argued that higher levels of total entrepreneurial activity (TEA) at the national level would be associated with higher levels of economic globalization at the national level. Specifically that:

- In countries with higher levels of total entrepreneurial activity, there would exist higher levels of economic globalization
• In countries with lower levels of total entrepreneurial activity, there would exist lower levels of economic globalization

H8b: The higher the level of Opportunity-Motivated Entrepreneurial Activity (OME), the higher will be the level of economic globalization

   In hypothesis 8b, it was argued that higher levels of Opportunity-motivated entrepreneurial activity (OME) at the national level would be associated with higher levels of economic globalization at the national level. Specifically that:
   • In countries with higher levels of OME entrepreneurial activity, there would exist higher levels of economic globalization
   • In countries with lower levels of OME entrepreneurial activity, there would exist lower levels of economic globalization

H8c: The higher the level of Necessity-Motivated Entrepreneurial Activity (NME), the lower will be the level of economic globalization

   In hypothesis 8c, it was argued that higher levels of necessity-motivate entrepreneurial activity (NME) at the national level would be associated with lower levels of economic globalization at the national level. Specifically that:
   • In countries with higher levels of NME entrepreneurial activity, there would exist lower levels of economic globalization
   • In countries with lower levels of (NME) entrepreneurial activity, there would exist higher levels of economic globalization

H8d: The level of national income will have a moderating effect on the relationship between Total Entrepreneurial Activity and economic globalization
In hypothesis 8d, it was argued that the level of national income would have a moderating effect on the relationship between total entrepreneurial activity and economic globalization for that nation. Specifically that:

- The level of national income would alter the relationship between total entrepreneurial activity and economic globalization

**Testing H7, H8a, H8b, H8c, and H8d**:

To test these hypotheses, OLS regression tests were employed in a hierarchical manner in the following way: (1) the control variables only and (2) the full model with all predictor variables to test hypothesis 7, hypothesis 8a, hypothesis 8b, hypothesis 8c, and hypothesis 8d. The results of all of the tests are recorded in table X.

Regression 6a includes only control variables: log of GNI/Capita, status, government consumption (% GDP), and labor growth rate. Results from regression 6a (see table XII) indicate that these control variables alone show some explanatory power when considered as a group of indicator variables: $R^2 = 0.49$ and adjusted $R^2 = 0.46$, $F= 17.76$, $p = <0.0001$. In this regression, $\text{LnAvgGNIperCapita}$, status, and government consumption (% GDP) were significant.

Regression 6b included all of the control variables from regression 6a and the two independent variables: Econfree9 and TEA. Results from regression 6b (see table XII) indicate that the addition of the independent variables increased the overall significance of the model: $R^2 = 0.56$ and adjusted $R^2 = 0.52$, $F= 15.46$, $p = <0.0001$. In this regression, Econfree9 was significant at the 0.05 level, but TEA was not significant in predicting the level of economic globalization.

Regression 6c included all of the control variables from regression 6a and the two
independent variables: Econfree9 and Opportentre. Results from regression 6c (see table XII) indicate that the addition of the independent variables increased the overall significance of the model: $R^2 = 0.56$ and adjusted $R^2 = 0.53$, $F=16.11$. $p = <0.0001$. In this regression, Econfree9 was significant at the 0.05 level, and Opportentre was also significant at the 0.05 level, indicating support in predicting the level of economic globalization.

Regression 6d included all of the control variables from regression 6a and the two independent variables: Econfree9 and Necessityentre. Results from regression 6d (see table XII) indicate that the addition of the independent variables increased the overall significance of the model: $R^2 = 0.61$ and adjusted $R^2 = 0.57$, $F=18.75$. $p = <0.0001$. In this regression, Econfree9 was significant at the 0.05 level, and Necessityentre was also significant at the 0.05 level, indicating support in predicting the level of economic globalization.

Regression 6e added an interaction term (TEA*GNI) to the model 6b to see if the significance of the primary independent variables changed in the presence of a moderating term (national income). The interaction term, TEA*GNI was added based on the work of Van Stel, Carree, & Thurik (2005) who found evidence to support the concept that the impact of entrepreneurial activity must be analyzed with the indirect impact of national income. Adding the interaction variable altered the predictive power of the model by increasing the overall significance of both the model and the independent variables: $R^2 = 0.55$ and adjusted $R^2 = 0.59$ (increases in both), $F=15.00$ (strengthening), $p = <0.0001$. In this regression, TEA became significant at the 0.05 level. Economic Freedom (Econfree9) remained significant at the 0.05 level. Thus evidence supports the
findings of Van Stel, Carree, & Thurik (2005) that the impact of entrepreneurial activity influences the economy both directly and indirectly through national income.
**Table XII**  
Linear Regression 6a, 6b, 6c, 6d, and 6e  
Testing Hypothesis H7 and H8a, H8b, H8c, and H8d

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>EC (Economic Globalization)</th>
<th>Controls</th>
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<th></th>
<th></th>
<th></th>
<th></th>
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<tr>
<td></td>
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<td>Control Variables</td>
<td>Complete Model With TEA</td>
<td>Complete Model With O-M</td>
<td>Complete Model With N-M</td>
<td>Complete Model With Interaction term added to TEA</td>
<td></td>
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<tr>
<td>LnAvgGNIperCapita</td>
<td></td>
<td>0.63468***</td>
<td>0.48799***</td>
<td>0.49519***</td>
<td>0.42479***</td>
<td>0.82575***</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(6.61)</td>
<td>(4.79)</td>
<td>(4.91)</td>
<td>(4.33)</td>
<td>(4.86)</td>
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<tr>
<td>Status</td>
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<td>0.31420**</td>
<td>0.10851</td>
<td>0.10972</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>(3.31)</td>
<td>(1.01)</td>
<td>(1.05)</td>
<td>(0.57)</td>
<td>(0.99)</td>
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<td>Government Consumption (% GDP)</td>
<td></td>
<td>-0.26282**</td>
<td>-0.21536**</td>
<td>-0.19476</td>
<td>-0.7770*</td>
<td>-0.21010**</td>
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<tr>
<td></td>
<td></td>
<td>(-2.59)</td>
<td>(-2.17)</td>
<td>(-2.01)</td>
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<td>Necessity-Motivated</td>
<td>TEA*GNI</td>
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<td></td>
<td>0.30563**</td>
<td>0.29416**</td>
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<td>(2.73)</td>
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<td>(-2.44)</td>
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<td>(034)</td>
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<td>(0.76)</td>
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<td>(1.43)</td>
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<td>Model Indices</td>
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<td>0.5697</td>
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<tr>
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<td>Adjusted R2</td>
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<td>0.5234</td>
<td>0.5343</td>
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<td>Model F-Value</td>
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<td>16.11</td>
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</tr>
<tr>
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<td>P=&lt;0.0001</td>
<td>P=&lt;0.0001</td>
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<td>Sample Size</td>
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</tr>
</tbody>
</table>

**Notes:**
1. t-stats in parenthesis
2. *p <.10, **p < .05, ***p < .001, ****p <.0001
3. All beta's except constant, are standardized
B. Summary of results

This section summarizes the results from all of the aforementioned regression analyses. The regression analyses were performed in six stages – the results of each stage are summarized below in table XIII.

The first stage focused on the antecedents of economic freedom and tested two separate hypotheses. The first of these was hypothesis (H1): The higher the level of corruption, the lower the level of national level economic freedom. As expected, this relationship was found to be significant. The first stage also tested hypothesis (H2): The higher the level of human capital, the higher will be the level of economic freedom. This relationship, unexpectedly, was not found to be significant. The insignificant results of this study may be an indication that rather than a direct effect, economic freedom may have indirect (moderating) effects on human capital as was found by Dawson (1998) and King et al. (2012). This represents an area for future research.

The second stage focused on the relationship between corruption and human capital and tested hypothesis (H3): The higher the level of corruption, the lower the level of human capital. As expected, this relationship was found to be significant and positive.

The third stage focused on the antecedents of total entrepreneurial activity and tested three separate hypotheses: The first of these was hypothesis (H4a): The higher the level of corruption, the lower will be the level of total entrepreneurial activity. This relationship, unexpectedly, was not found to be significant. This result reflects the inconclusiveness on the relationship found in the literature and may be a result of the mixture of both developed and developing economies in the study. This presents an area
for future research. The third stage also tested hypothesis (H5a): The higher the level of human capital, the higher will be the level of entrepreneurial activity. The empirical results show a significant relationship between human capital and entrepreneurial activity. However, the sign of the coefficient is negative (not expected): thus, hypothesis (H5) is not supported. Additionally, the third stage also tested hypothesis (H6a): The higher the level of economic freedom, the higher the level of total entrepreneurial activity. The results of this test were unexpectedly found not to be significant. Thus, no support is found for the hypothesis that higher levels of economic freedom lead to higher levels of total entrepreneurial activity and H6 is not supported. The results for H5a and H6a are surprising but may be partially explained by Shane & Venkataraman (2000) who found that entrepreneurial qualities are not fully captured in a high level of education and that these qualities are highly integrated with the institutional environment. Thus, this is an area for future research.

The fourth stage focused on the antecedents of opportunity-motivated entrepreneurial activity (OME) and tested three separate hypotheses. Given the results from hypothesis 4a, 5a, and 6a above, this stage tests the first segregated category of TEA: opportunity-motivated entrepreneurial activity. The first test of OME was hypothesis (H4b): The higher the level of corruption, the lower will be the level of opportunity-motivated entrepreneurial activity. As expected, this relationship was found to be significant and negative. Thus, H4b is supported. The next test of OME was hypothesis (H5b): The higher the level of human capital, the higher will be the level of opportunity-motivated entrepreneurial activity. The results of this test were unexpectedly found not to be significant. Thus, H5b is not supported in this research. The final test of
OME in this stage was hypothesis (H6b): The higher the level of economic freedom, the higher the level of opportunity-motivated entrepreneurial activity. The results of this test were unexpectedly found not to be significant. Thus, this research found no support for hypothesis h6b. The unexpected results from H5b and h6b seem to indicate that human capital and economic freedom are not significant in predicting opportunity-motivated entrepreneurship. This is not in agreement with the extant literature and represents an area for future research.

The fifth stage focused on the antecedents of necessity-motivated entrepreneurial activity (NME) and tested three separate hypotheses. Given the results from hypothesis 4a, 5a, and 6a above, this stage tests the second segregated category of TEA: necessity-motivated entrepreneurial activity. The first test of NME was hypothesis (H4c): The higher the level of corruption, the higher will be the level of necessity-motivated entrepreneurial activity. As expected, this relationship was found to be significant and positive. Thus, H4c is supported. The next test of NME was hypothesis (H5c): The higher the level of human capital, the lower will be the level of necessity-motivated entrepreneurial activity. The results of this test were unexpectedly found not to be significant. Thus, H5c is not supported in this research. The final test of NME in this stage was hypothesis (H6c): The higher the level of economic freedom, the lower will be the level of necessity-motivated entrepreneurial activity. The results of this test were unexpectedly found not to be significant. Thus, this research found no support for hypothesis H6c. The unexpected results from H5c and h6c seem to indicate that human capital and economic freedom are not significant in predicting necessity-motivated
entrepreneurship. This is not in agreement with the extant literature and represents an area for future research.

The sixth and final stage focused on the antecedents of economic globalization and tested five separate hypotheses: The first of these was hypothesis (H7): The higher the level of economic freedom, the higher the level of economic globalization. The results of this empirical test were found to be significant and the sign of the coefficient is positive as expected. The fourth stage also tested the four hypothesis associated with the relationship between entrepreneurial activity and economic globalization: Hypothesis (H8a): The higher the level of Total Entrepreneurial Activity, the higher the level of economic globalization; Hypothesis (H8b) The higher the level of Opportunity-motivated entrepreneurship the higher the level of economic globalization; Hypothesis (H8c): The higher the level of necessity-motivated entrepreneurship the lower the level of economic globalization, and Hypothesis (H8d): The level of national income will have a moderating effect on the relationship between total entrepreneurial activity and economic globalization. Empirical tests found support for these hypotheses but the results are somewhat mixed. The empirical tests found support for the significant relationship between total entrepreneurial activity and economic globalization, but only when the moderating effect of national income is included. Thus support is found for the moderating effect of national income on this relationship. However, the direction of the sign for TEA is negative. Thus no support is found for (H8a), but evidence does support (H8d).

The results from (H8a) are surprising and may be partially explained by the work of Reynolds, Bygrave, Autio, Cox, & Hay (2002) which indicates that opportunity-
motivated entrepreneurship drives economic growth, but the same claim cannot be supported when discussing necessity-motivated entrepreneurial activity. To this end, this work also tested the impact on economic globalization when using different types of entrepreneurial activity in hypothesis (H8b) for opportunity-motivated entrepreneurship, and in hypothesis (H8c) for necessity-motivated entrepreneurship. In these tests, empirical evidence was found to support both of these hypotheses, indicating that opportunity-motivated entrepreneurship has a positive and significant impact on economic globalization, and that necessity-motivated entrepreneurship has a negative and significant impact on economic globalization.
Table XIII
Summary Results

| Regression Test | Dependent variable | Standardized Estimate | t Value | P>|t| | Predicted |
|-----------------|-------------------|-----------------------|--------|------|-------------|
| 1 (H1)          | CPI               | 0.62348               | 5.92   | 0.0001* | Yes         |
| (H2)            | HC                | 0.03431               | 0.29   | 0.776 | No          |
| 2 (H3)          | Dependent variable = HC |
|                 | CPI               | 0.2666               | 2.75   | 0.0076* | Yes         |
| 3 (H4a)         | CPI               | -0.22816             | -1.31  | 0.1957 | No          |
| (H5a)           | HC                | -0.43835             | -2.67  | 0.0092* | No          |
| (H6a)           | EF                | 0.03808              | 0.24   | 0.8121 | No          |
| 4 (H4b)         | Dependent variable = OME |
|                 | CPI               | 0.75458              | 4.18   | 0.0001* | Yes         |
| (H5b)           | HC                | -0.11755             | -0.69  | 0.4986 | No          |
| (H6b)           | EF                | -0.19785             | -1.20  | 0.2339 | No          |
| 5 (H4c)         | Dependent variable = NME |
|                 | CPI               | -0.61510             | -3.71  | 0.0004* | Yes         |
| (H5c)           | HC                | 0.04142              | 0.27   | 0.7905 | No          |
| (H6c)           | EF                | 0.15058              | 1.00   | 0.3230 | No          |
| 6 (H7)          | Dependent variable = EG |
|                 | EF                | 0.2617               | 2.52   | 0.0139* | Yes         |
| (H8a)           | TEA               | -0.76747             | -2.81  | 0.0064* | No          |
| (H8b)           | O-M Entre         | 0.16624              | 2.02   | 0.04740 | Yes         |
| (H8c)           | N-M Entre         | -0.29384             | -3.36  | 0.00130 | Yes         |
| (H8d)           | TEAGNI            | -0.78533             | -2.44  | 0.0172* | Yes         |

C. Discussion of Findings

This section discusses in detail the results from each hypothesis

Discussion on H1 and H2:

It was posited in H1 that corruption is negatively related to economic freedom.

Additionally, it was posited in H2 that the higher the level of human capital, the greater the degree of economic freedom. Examining the results from regression 1b, the
standardized beta coefficient for CPI in was 0.620 and p = < 0.0001. Thus H1 is supported. The standardized beta coefficient for human capital is 0.03 and p = 0.7760. Thus H2 is not supported in this test.

Based on these results, there is evidence to indicate that country level corruption (as measured by the CPI index) is a significant predictor of economic freedom. Thus H1 is supported. However, no support is found for the hypothesis that increased human capital increases economic freedom. Thus H2 is not supported in this model.

The results from hypothesis 1 are expected based on the extant literature investigating this relationship. Specifically, these results support the research that a nation’s level of corruption is negatively related to its level of economic freedom. Even though Chafuen & Guzman (2000) find that no solid theory exists on the relationship between economic freedom and corruption, this work agrees with the extant literature in the field (Acemoglu & Verdier, 2000; Apergis et al., 2012; Graeff & Mehlkop, 2003; Pieroni & d’Agostino, 2013; Shleifer, & Vishny, 1993) and provides further evidence of the significance of the relationship. This relationship indicates that the more prevalent bribes and bribery are in an economy, the lower will be the level of economic freedom. However, as noted by Rose-Ackerman (2006), the direction of causality is still in question and provides an area for future research. In either case, the results have important policy implications.

The results from hypothesis 2 were not expected. It was hypothesized that there would be a positive relationship between human capital and economic freedom, but no evidence is found to support this hypothesis in this model. As noted in the literature review above, there exists scant empirical studies on this relationship and the nature of
the relationship is inconclusive. Of the studies finding a significant relationship, some found economic freedom leads to human capital (Fabro & Aixalá, 2012; Gwartney et al., 2004; Stroup, 2007), and others found that human capital leads to economic freedom (Meisenberg, 2011; Shirazi et al., 2009). The insignificant results of this study may be an indication that rather than a direct effect, economic freedom may have indirect (moderating) effects on human capital as was found by Dawson (1998) and King, et al. (2012). In any case, this indicates an area of future research.

Discussion on H3:

It was posited in H3 that corruption is negatively related to human capital. Examining the results from regression 2b, the standardized beta coefficient for CPI was 0.2667 and p = < 0.05. Thus H3 is supported.

Based on these results, there is evidence to indicate that country level corruption as measured by the CPI index is a significant predictor of human capital at the country level. Thus H3 is supported. Noting that the variable is coded such that the higher the corruption, the more transparent (and less corrupt) the country, and thus the lower the corruption, the less transparent (and more corrupt) the country. Given this, a positive relationship indicates the less corruption leads to greater human capital. These results are consistent with both the theory developed by Becker (1960, 1975) and Schultz (1975), and also with empirical studies by Delavallade (2006), Gupta, et al. (2002), Mauro (1996, 1998), and Tanzi and Davoodi (1997). Specifically the results from this study agree with Mauro (1996, 1998) who found that corruption distorts the composition of government spending specifically by reducing funding to education, and the work by F. L. Huang (2008) who found that corruption reduced the quality of education. Adding to the
literature supporting the negative influence of corruption on human capital leads to important policy implications for governments. These results are highly anticipated and agree with the extant literature specifically from Mauro (1996, 1998) who argues that corruption is negatively related to human capital at the national level.

Discussion on H4a, H5a, and H6a: It was posited in H4a that corruption is negatively related to TEA (total entrepreneurial activity). Additionally, H5a posited that the higher the level of Eduindex (human capital), the greater the level of TEA (total entrepreneurial activity). Finally, H6a posited that the greater the level of economic freedom in a nation, the greater the level of TEA (total entrepreneurial activity) would be. Examining the results from regression 3b, the standardized beta coefficient for CPI was -0.228 and it was not a significant predictor of TEA. The standardized beta coefficient for human capital is -0.438 and it is significant at the p=0.05 level. Thus H5 is supported as a predictor of TEA – but the sign is in an unanticipated direction. Finally, the standardized beta coefficient for economic freedom is 0.038 and it is not a significant predictor of TEA. Thus, no support is found for H4, H5, or for H6.

Based on these results, corruption (H4a) was not found to be a significant predictor of entrepreneurial activity. As noted in the literature review above, the number of studies specifically focused on the relationship between corruption and entrepreneurial activity are scant at best (Anokhin & Schulze, 2009). Additionally, when reviewing the studies on the economy as a whole, the impact of corruption on the overall economy draws inconclusive results. The results in this study reflect that inconclusiveness. This hypothesis was based on the recent investigations that found corruption to be a negative force on economic growth (Campos, Lien, & Pradhan, 1999). However, many studies
also support the “greasing the wheels” hypothesis set forth by Leff (1964). Specifically the work by Leys (1965), Huntington (1968), and more recently by Vial & Hanoteau(2010) typically have found support for the “greasing the wheels” hypothesis in developing countries where rule of law is weak. Since the sample of countries in this study was a mix of developed and developing countries, the results reflect the nature of the underlying economies. This certainly is an area that merits future research.

Human capital (eduindex) (H5a) is a significant predictor of entrepreneurial activity in a nation; however, the sign of the estimate is negative which would appear to indicate that lower levels of human capital lead to greater levels of entrepreneurial activity. Also in H6a economic freedom does not appear to be a significant predictor of entrepreneurial activity. The results for H5a and H6a are surprising and non-intuitive, and they certainly represent an area for future exploration. However, existing research may offer some explanation into the results. Levie & Autio (2008), Van De Den (1993), and Whitley (1999) found strong evidence that human capital can directly impact the level of entrepreneurial activity. However, Shane & Venkataraman (2000) find that entrepreneurial qualities are not fully captured in a high level of education and that these qualities are highly integrated with the institutional environment. Thus, the negative direction of the empirical test may be the result of unexplained differences in the institutional environment of the countries being investigated. This line of reasoning would follow that the level of economic development may impact the level of entrepreneurship. If so, it could be argued, based on Reynolds, et al. (2002), Van Stel, Storey, and Thurik (2007), and Wennekers, Van Stel, Thurik, and Reynolds (2005) that this unpredicted direction could be the result of higher levels of necessity-motivated vs.
opportunity-motivated entrepreneurial activity. In either case, this represents an area for future research.

**Discussion on H4b, H5b, and H6b:**

Based on the results of hypothesis H4a, H4b, and H4c, this dissertation tested the influence of corruption (H4b), human capital (H5b), and economic freedom (H6b) on opportunity-motivated entrepreneurial activity (OME), as a component of TEA. H4b posited that corruption would have a negative relationship with OME. Reviewing the results from regression #4 reveals that this hypothesis is supported, as the standardized beta coefficient for CPI is 0.7546 with a t-value of 4.18. This is significant at the p<0.0001 level. (Note that CPI is reverse coded so this positive relationship indicates that the smaller national level corruption leads to greater OME.) Thus H4b is supported. H5b posited that human capital would also have a positive relationship with OME. The results from the test, however, indicate that the relationship is negative and not significant, with a standardized beta coefficient of -0.1177, a t-value of -0.69, and a p value of 0.4986. Thus H5b is not supported. H6b posited that economic freedom would also have a positive relationship with OME. The results of the test, however, indicate that the relationship is negative and not significant with a standardized beta coefficient of -0.1979, a t-value of -1.20, and a p value of 0.2339. Thus H6b is not supported.

The significance and direction of corruption leading to OME is expected given the literature support of Anokhin and Schulze (2009), and it supports the general empirical results of the vast majority of the literature on the relationship between corruption and entrepreneurial activity (Campos et al., 1999; Dreher & Gassebner, 2011; Tonoyan et al., 2010; Wennekers et al., 2005). The results from H5b and H6b, however, were not
expected. These results seem to indicate that neither human capital nor economic freedom are significant predictors of OME. This is not in agreement with the extant literature on the relationship, specifically the work of Bowen & De Clercq (2008) who found that entrepreneurial effort directed toward high-growth entrepreneurial activities was positively and significantly impacted by the level of human capital and negatively impacted by the level of corruption. It is encouraging, however, to see that, when segregating the components of TEA into OME and NME, human capital becomes not significant although still negative in relationship to OME; it was found to be significant and negative in relation to TEA in H5a. Thus, it may be that the data has some sampling bias based on the number of countries with developed or developing status. Additionally, economic freedom doesn’t appear to be significant in predicting OME. This may be a result of using the aggregated economic freedom variable instead of the disaggregated components. This would follow the results of the work of Ayal and Karras (1998), Carlsson and Lundström (2002), and Haan and Siermann (1998) who found that using a single measure of economic freedom would not reflect the “complex economic environment.” In either case, these results are intriguing and represent an area for future research.

Discussion on H4c, H5c, and H6c:

Based on the results of hypothesis H4a, H4b, and H4c, this dissertation tested the influence of corruption (H4c), human capital (H5c), and economic freedom (H6c) on necessity-motivated entrepreneurial activity (NME) as a component of TEA. H4c posited that corruption would have a positive relationship with NME. In other words, higher corruption would lead to higher levels of NME. Reviewing the results from regression #5
reveals that this hypothesis is supported, as the standardized beta coefficient for CPI is -0.6151 with a t-value of -3.71. This is significant at the p=0.0004 level. (Note that CPI is reverse coded so this negative relationship indicates that the higher national level corruption leads to greater NME.) Thus H4c is supported.

H5c posited that human capital would have a negative relationship with NME. The results from the test, however, indicate that the relationship is positive and not significant with a standardized beta coefficient of 0.0414, a t-value of 0.27, and a p value of 0.7905 Thus H5c is not supported. H6c posited that economic freedom would also have a negative relationship with NME. The results of the test, however, indicate that the relationship is positive and not significant with a standardized beta coefficient of 0.15058, a t-value of 1.00, and a p value of 0.3230. Thus H6c is also not supported.

As with H4b regarding the relationship of corruption and OME, the results from H6b (corruption to NME) are also anticipated to be in support of the extant literature, specifically that of Anokhin and Schulze (2009), Carree, et al. (2007), and Wennekers, et al. (2005) who found support for the hypothesis of a U-shaped curve that models entrepreneurial activity and economic development. Additionally, these results support the results of the work of Aidis, et al. (2012) and Dreher and Gassebner (2011) who indicate that entrepreneurial entry is inversely related to national level corruption and that these results were strengthened when developed countries are removed from the sample providing a more distinct negative relationship for developing countries which are generally perceived to have a higher level of corruption.

The results from H5c and H6c, however, were not anticipated. The signs of both tests are in the predicted direction, but neither is significant - indicating that neither
human capital nor economic freedom is a significant predictor of NME. This is not in agreement with the extant literature on the relationship. Thus, as with the tests conducted on the relationship between human capital and OME above, it may be that the data has some sampling bias due on the number of countries with highly developed or developing status. When reviewing the output from economic freedom, economic freedom also doesn’t appear to be significant in predicting NME. As with the study on OME above, this may be a result of using the aggregated economic freedom variable instead of the disaggregated components recommended by Ayal and Karras, (1998b), Carlsson and Lundström (2002), and Haan and Siermann (1998) who found that using a single measure of economic freedom would not reflect the “complex economic environment.” In either case, these results are intriguing and represent an area for future research.

**Discussion on H7 and H8a, H8b, H8c, and H8d:**

Building on the literature by Vanssay and Spindler (1994), Haan and Siermann (1998), Ayal and Karras (1998), and Carlsson and Lundström (2002), this dissertation posited in H7 that economic freedom would be positively related to economic globalization. Examining the results from regression 4b, the standardized beta coefficient for Econfree9 was 0.3056 and $p=<0.05$. The coefficient is significant and the relationship is positive, indicating that greater economic freedom is associated with greater economic globalization. Thus, there is evidence to support hypothesis (H7), that there exists a strong, positive relationship between economic freedom and economic globalization. This has strong implications for economic policy – especially in developing nations – where reducing restrictions on business may generate positive economic activity.
In addition to the relationship posited between economic freedom and economic globalization, this work also builds on the literature from R. Thurik, Wennekers, and Uhlaner (2002); Reynolds, Bygrave, Autio, Cox, and Hay (2000, P. 11); Carree, Van Stel, Thurik, and Wennekers (2007); and others to form hypothesis (H8a), that the higher the level of TEA (total entrepreneurial activity), the greater the degree of economic globalization. For this test, the standardized beta coefficient for TEA was -0.136 and it was not found to be significant in predicting economic globalization. Thus no support is found for Hypothesis H8a in this regression.

Building on hypothesis H8a, which posited a positive relationship between TEA and economic globalization, this dissertation also extends on the work of Bosma and Schutjens (2010) and Levie and Autio (2008) as well as that from Levie and Autio (2011) and Z. J. Acs and Amorós (2008) to posit that the relationship between entrepreneurial activity and economic globalization will vary based on the type of entrepreneurial activity (Opportunity-motivated or necessity-motivated). For this test, the standardized beta coefficient for Opportentre was 0.166 and it was found to be significant at the 0.05 level in predicting economic globalization. Thus there is evidence to support hypothesis H8b that opportunity-motivated entrepreneurial activity will positively impact economic globalization. Additionally, the standardized beta coefficient for Necessityentre was -0.294 and it was found to be significant at the 0.05 level in predicting economic globalization. Thus there is evidence to support hypothesis H8c that necessity-motivated entrepreneurial activity will negatively impact economic globalization. These findings were predicted and intuitive. The very definition of necessity-motivated entrepreneurial activity indicates a lack of economic options for the entrepreneur, thus leading to
economic survival instead of economic prosperity. The opposite is true for opportunity-motivated entrepreneurial activity where the entrepreneur has economic options and can make a strategic decision to become a business owner. This has the possibility of leading to greater economic growth due to the strategic decision to forego “normal” employment with business ownership. The empirical results from these tests lend additional support to the existing literature.

Finally, based on the work of Van Stel, Carree, and Thurik (2005), there is evidence to support the inclusion of national income when analyzing the economic impact of entrepreneurial activity. To that end, it was posited in hypothesis H8b that the relationship between total entrepreneurial activity (TEA) and economic globalization would be moderated by national level income. For this test 4c where the interaction term TEA*GNI was added, the standardized beta coefficient for Econfree9 was reduced from that in 4b, but remained significant at 0.2617 and p=<0.05. The standardized beta coefficient for TEA increased from that in 4b and became significant at -0.7674 and p=<0.05. Additionally, the standardized beta coefficient for the interaction term (TEA*GNI) was also significant at -0.78533 and p =< 0.05. In this test, the relationship between total entrepreneurial activity and economic globalization is now significant; however, the coefficient has the opposite sign than that which was hypothesized. This is surprising given the volume of literature supporting the relationship between entrepreneurial activity and economic performance. However, when delving deeper into the literature, research is found into the type of entrepreneurial activity that actually drives economic performance. Work by Reynolds, Bygrave, Autio, Cox, and Hay (2002) indicates that opportunity-motivated entrepreneurship drives economic growth, but the
same claim cannot be supported when discussing necessity-motivated entrepreneurial activity. Additionally, work by Carree, Van Stel, Thurik, and Wennekers (2007) found that the level of entrepreneurial activity seems to vary with GDP and across stages of economic development in regions within countries.

Thus, the significant but unanticipated sign on the coefficient for the relationship found in this empirical test may indeed be a result of testing only on TEA (total entrepreneurial activity) and not opportunity-motivated/necessity-motivated entrepreneurship, or by the intra-country regional implications noted by Carree et al. (2007). This dissertation finds support for the different types of entrepreneurship or the regions associated with the activity in the results from testing hypotheses H8b and H8c. The analyses into the relationship between opportunity-motivated / necessity-motivated entrepreneurial activity and economic globalization, as well as intra-country regional analysis, represents areas for future investigations.

Based on these results, there is evidence to indicate that country level economic freedom is a significant predictor of economic globalization. Thus H7 is supported.

However, support for hypothesis H8 that total entrepreneurial activity is positively related to economic globalization is not supported without the inclusion of a variable to represent national income. When national income is included (H8d), the relationship is established between TEA and economic globalization, but it is not in the direction hypothesized. Thus, hypothesis H8 is not supported, but hypothesis (H8d) of a moderating effect of national income is supported. Finally, the concept that opportunity-motivated entrepreneurial activity (H8b) and necessity-motivated entrepreneurial activity (H8c) will impact economic globalization differently is fully supported in this research.
D. Implications and limitations

The implications for this research are primarily focused on national level policy makers who create the environment for business to thrive. The results of this study clearly indicate that reducing national level corruption creates greater economic freedom, which leads to increases in economic globalization (exports and inward FDI). Reducing corruption also leads to greater levels of human capital, which many studies such as Contractor and Mudambi (2008); Effio, et al. (2012); Galor and Moav (2004); and Mauro (1995, 1997) have shown to dramatically increase economic development and growth.

Additionally, and pertinent specifically to entrepreneurial activity, this dissertation provides support for the proposition that entrepreneurial activity impacts economic globalization differently based on the type of entrepreneurial activity. This implies that developing an economic environment that fosters not only entrepreneurial activity but, specifically, opportunity-motivated entrepreneurial activity, must be at the forefront of the minds of policy-makers.

This research is a first attempt to investigate the antecedents of economic globalization in a comprehensive manner by building a wide-ranging fame-work, and there are certain limitations. First, the model was studied as a system of equations, each estimated separately due to sample size considerations. Subsequent research should focus on testing the entire model simultaneously to limit the bias created through separate equation estimations. Second, the model primarily tested direct effects of macroeconomic factors. As in any complex system, these factors will interact in various ways to alter the impact of many of the factors. Research should be undertaken to study these factors.
interactions in a more explicit manner. Finally, the data collected for this dissertation is secondary in nature. Research has shown that using secondary data in international business research has many advantages over primary data, such as broad availability across countries, but there are inherent limitations regarding a lack of standardization in collection, management, and reporting.

E. Future Research

The results of this research have provided needed insight into the antecedents of economic globalization, specifically the impacts of corruption, human capital, economic freedom, and total entrepreneurship activity. However, the empirical tests conducted herein have also revealed areas needing additional investigation. This section highlights the areas for explicit future research uncovered in this dissertation.

The first area for future research comes in testing the direction of causality between national level corruption and economic freedom. A deeper understanding of the causality would lend great support to policy makers in both developed and developing economies.

The next area for future research is in the relationship between human capital and economic freedom. The extant literature investigating the relationship is inconclusive and inconsistent. Some of the results herein do not indicate a significant relationship, and there is certainly a need to better understand why the results of the extant research have such diverse findings. A deeper understanding of this relationship also impacts governmental policy-makers as human capital and economic freedom are widely seen as being factors in generating economic growth.
Of specific interest to this dissertation are the antecedents and the impact of entrepreneurial activity as it relates to economic globalization. A prime area of future research lies in developing a deeper understanding of how corruption and economic freedom impact developing an environment for entrepreneurial activity. Of the proposed hypotheses in this dissertation, many were not supported empirically. Of these, there is evidence in the literature that the primary reason for the lack of support is the level of economic development of the economy being studied. In fact, several tests were run to investigate the reason why human capital appears (non-intuitively) to be negatively related to entrepreneurial activity, and those tests found some evidence that the level of economic development is a primary factor. Of primary concern for future research is unlocking the way economic development levels impact the relationship between human capital and entrepreneurial activity.

Finally, economic globalization is complex and requires more pointed research into how entrepreneurial activity and national level economic freedom impact it in individual economic environments. Deeper understanding of all of these macro-economic factors and how they interact together is necessary for national level policy-makers to create an economic environment that fosters economic growth and development.
CHAPTER VI

CONCLUSION

This study has constructed a conceptual framework for investigating the antecedents of global integration of a nation and tested a select set of macroeconomic variables against the framework. The relationships hypothesized in this conceptual framework were tested in a series of regression analyses. The sample constraint prevented using a simultaneous structural equation modeling technique for studying the model. The analysis followed a multi-stage procedure. The first stage investigated the effects of corruption and human capital on the level of economic freedom of a nation. The second stage investigated the effects of corruption on the level of human capital of a nation. The third stage investigated the effect of corruption, human capital, and economic freedom on the level of total entrepreneurial activity of a nation. And the final stage investigated the level of total entrepreneurial activity and economic freedom on the economic globalization of a nation.
Some of the hypotheses posited in this dissertation were supported, but some were not. This indicates that many of the posited antecedents are important in determining the level of economic globalization of a nation, while some may not be. It is important to note that the equations used in this study can be regarded as a system of equations. However, they were estimated separately due to sample size considerations. Naturally, when viewing a system of equations separately, separate equation estimation may lead to bias in the system, and the untested interactions may impact individual estimates. This represents an area for subsequent research by focusing on estimating the entire system simultaneously.

The implications for this research are primarily for national level policy makers who create the environment for business to thrive. For example, the results of this study clearly indicate that reducing national level corruption creates greater economic freedom, which leads to increases in economic globalization (exports and inward FDI). Reducing corruption also leads to greater levels of human capital, which many studies such as Contractor and Mudambi (2008a) Effiok, et al. (2012), Galor amd Moav (2004), and Mauro (1995, 1997) have shown to dramatically increase economic development and growth.

Finally, the results of this study have revealed several areas for future empirical research to test and develop the economic framework that supported economic globalization. The relationship between corruption and many macroeconomic factors such as human capital and economic freedom needs a deeper understanding to provide clear direction for policy makers. Additionally, research into the mechanisms of how corruption and economic freedom impacts an environment for entrepreneurship needs
further development. And lastly, a deeper understanding of the factors that enable economic globalization to thrive, specifically entrepreneurship and economic freedom, should be undertaken.
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Appendix A

List of countries

Table XIV
Country’s included in the study

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<td>Niger</td>
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<td>Nigeria</td>
<td>Oman</td>
<td>Paraguay</td>
<td>Peru</td>
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<td>Philippines</td>
<td>Poland</td>
<td>Qatar</td>
<td>Romania</td>
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<tr>
<td>St. Lucia</td>
<td>Senegal</td>
<td>Slovak Republic</td>
<td>Slovenia</td>
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<tr>
<td>Spain</td>
<td>Sweden</td>
<td>Switzerland</td>
<td>Syrian Arab Republic</td>
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<tr>
<td>Thailand</td>
<td>Tonga</td>
<td>Tunisia</td>
<td>Turkey</td>
</tr>
<tr>
<td>Uganda</td>
<td>United Kingdom</td>
<td>United States</td>
<td>Uruguay</td>
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<tr>
<td>Vanuatu</td>
<td>Venezuela, RB</td>
<td>Vietnam</td>
<td>Zambia</td>
</tr>
</tbody>
</table>
Appendix B

Transparency International: Corruptions Perception Index (CPI)

For this study, the data for the corruption perceptions index (CPI) was obtained from Transparency International (2014). The Corruption Perceptions Index (CPI) was established in 1995 as a composite indicator used to measure perceptions of corruption in the public sector in different countries around the world. The CPI aggregates data from a number of different sources that provide perceptions of business people and country experts of the level of corruption in the public sector. The following discussion details the methodology used in calculating the CPI according to the 2014 report.

Methodology

The methodology follows four basic steps: selection of source data, rescaling of source data, aggregating the rescaled data, and then reporting a measure for uncertainty. Each of the four steps are briefly explained below.

1. Selection of data sources

The CPI draws upon a number of available sources which capture perceptions of corruption. Each source is evaluated against the criteria listed below. Contact has been made with each institution providing data in order to verify the methodology used to generate scores and for permission to publish the rescaled scores from each source, alongside the composite index score.

A) Reliable data collection and methodology from a credible institution. It is necessary to trust the validity of the data being used. As such, each source should originate from a professional institution that clearly documents its methods for data collection. These methods should be
methodologically sound, for example, where an ‘expert opinion’ is being provided, assurance is sought on the qualifications of the expert or where a business survey is being conducted, that the survey sample is representative.

B) Data addresses corruption in the public sector. The question or analysis should relate to a perception of the level of corruption explicitly in the public sector. The question can relate to a defined ‘type’ of corruption (e.g. specifically petty corruption), and where appropriate, the effectiveness of corruption prevention as this can be used as a proxy for the perceived level of corruption in the country.

C) Quantitative granularity: The scales used by the data sources must allow for sufficient differentiation in the data (i.e., at least a four-point scale) on the perceived levels of corruption across countries so that it can be rescaled to the CPI’s 0-100 scale.

D) Cross country comparability: As the CPI ranks countries against each other, the source data must also be legitimately comparable between countries and not be country specific. The source should measure the same thing in each country scored, on the same scale.

E) Multi year data-set: It is important to be able to compare a country’s score, and indeed the index in general, from one year to the next. Sources that capture corruption perceptions for a single point in time, but that are not designed to be repeated over time are therefore excluded.
2. Standardize the data sources

Each source is then standardized to be compatible with other available sources for aggregation to the CPI scale. The standardization converts all the data sources to a scale of 0-100 where a 0 = highest level of perceived corruption, and 100 = lowest level of perceived corruption.

Any source that is scaled such that lower scores represent lower levels of corruption must first be reversed. This is done by multiplying every score in the data set by -1.

Every score is then standardized to a z score by subtracting the mean of the data and dividing it by the standard deviation. This results in a data set centered around zero and with a standard deviation of 0.5.

For these z scores to be comparable between data sets, they must define the mean and standard deviation parameters as global parameters. Therefore, where a data set covers a limited range of countries, imputed scores are used for all those countries that are missing in the respective data set. Imputation of missing values for missing countries in each data set is done using the statistical software package STATA and, more specifically, the program’s impute command. This command regresses each data set against the CPI data sources that are at least 50% complete to estimate values for each country that is missing data in each individual data set. This is with the exception of the Bertelsmann Foundation’s Transformation Index data which is not used for the imputation of the Bertelsmann Foundation’s Sustainable Governance Indicators because there is no overlap in country coverage of these two data sources. The mean and standard deviation for the data set is calculated as an average of the complete data sets and is used
as the parameter to standardize the raw data. Importantly, the complete data set with imputed values is used only to generate these parameters and the imputed values themselves are not used as source data for CPI country scores.

Critically, the z scores are calculated using the mean and standard deviation parameters from the imputed 2012 scores. This is so that 2012 is effectively the baseline year for the data and the rescaled scores can be comparable year to year. When new sources enter the index, in order to appropriately reflect changes over time, the rescaling calculation will allow for these to be consistent with 2012 baseline parameters. This is done by first estimating if there has been a global change in the mean and standard deviation since 2012, and then using these new values, which may have deviated from 50 and 20 to rescale the new data set.

The z scores are then rescaled to fit the CPI scale between 0-100. This uses a simple rescaling formula, which sets the mean value of the standardized dataset to approximately 45, and the standard deviation of approximately 20. Any score which exceeds the 0 to 100 boundaries will be capped.

3. Aggregate the rescaled data

Each country’s CPI score is calculated as a simple average of all the available rescaled scores for that country (note: imputed values are not used as a score for the aggregated CPI). A country will only be given a score if there are at least three data sources available from which to calculate this average.


The CPI score will be reported alongside a standard error and confidence interval which reflects the variance in the value of the source data that comprises the CPI score
Appendix C

Global Entrepreneurship Monitor

For this study, the data for the Adult Population Survey was obtained from Global Entrepreneurship Monitor (2014). The Global Entrepreneurship Monitor (GEM) project is an annual assessment of entrepreneurial activity conducted by a research consortium founded in 1999 by the London Business School and Babson College and is now comprised of Babson College, Universidad del Desarrollo, Universiti Tun Abdul Razak, and Tecnológico de Monterrey.

The GEM project assesses entrepreneurial activity, aspirations, and attitudes of individuals across a wide range of countries. The data is gathered through a network of in-country national expert teams and coordinated by the Global Entrepreneurship Research Association (GERA).

The GEM project collects primary data on two specific components of entrepreneurial activity:

1. The GEM National Expert Survey enables the measurement of factors that impact national entrepreneurial activity - Entrepreneurial Framework Conditions (EFCs).

2. The GEM Adult Population Survey measures individual involvement in entrepreneurial aspirations, activities, and attitudes.

This dissertation is only concerned with the data from the APS. Data collected as part of the GEM (APS) is used to produce indicators which measure the entrepreneurial activity, attitudes, and aspirations of individuals.
The main guiding purpose of GEM is to measure individual involvement in venture creation. This differentiates GEM from other data sets, most of which record firm-level data. Through the measures, GEM experts can understand which types of people are (and are not) participating in entrepreneurship. GEM captures data from both those formally registering their businesses and those running informal ones. These unregistered businesses, in fact, can compose as much as 80% of economic activity in developing countries.

People launch businesses for a variety of reasons. They may be led into entrepreneurship out of necessity: the pursuit of self-employment when there are no better options for work. In contrast, their efforts may be powered by the desire to maintain or improve their income or to increase their independence. GEM therefore assesses the motives of entrepreneurs.

GEM additionally measures aspirations. These aspirations may be evident in innovative products or services or the pursuit of customers beyond national borders. They may also include high-growth ambitions, thereby contributing more markedly to new employment in their economies.

Recognizing that entrepreneurs are driven not only by their own perceptions about starting a business, but also by the attitudes of those around them, GEM considers the attitudes representing the climate for entrepreneurship in a society. Entrepreneurs need to be willing to take risks and have positive beliefs about the availability of opportunities around them, their ability to start businesses, and the value of doing so. At the same time, they need customers who are willing to buy from them, vendors willing to supply them,
and families and investors ready to support their efforts. Even positive societal perceptions about entrepreneurship may indirectly stimulate this activity.
The tables below summarize the measurement and definitions of the variables comprising each of the entrepreneurial attitudes, aspirations, and activities for the data collected in 2014.

**Table XV**

**Entrepreneurial Aspirations**

Source: Global Entrepreneurship Monitor, (2014)

<table>
<thead>
<tr>
<th>Growth Expectation early-stage Entrepreneurial Activity</th>
<th>Percentage of TEA who expect to employ at least five employees five years from now</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Product early-stage Entrepreneurial Activity</td>
<td>Percentage of TEA who indicate that their product or service is new to at least some customers</td>
</tr>
<tr>
<td>International Orientation early-stage Entrepreneurial Activity</td>
<td>Percentage of TEA who indicate that at least 25% of the customers come from other countries</td>
</tr>
</tbody>
</table>
**Table XVI**  
**Entrepreneurial Attitudes and Perceptions**  
Source: Global Entrepreneurship Monitor, (2014)

<table>
<thead>
<tr>
<th>Measurement</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived Opportunities</td>
<td>Percentage of 18 - 64 population who see good opportunities to start a firm in the area where they live</td>
</tr>
<tr>
<td>Perceived Capabilities</td>
<td>Percentage of 18 - 64 population who believe to have the required skills and knowledge to start a business</td>
</tr>
<tr>
<td>Fear of Failure</td>
<td>Percentage of 18 - 64 population with positive perceived opportunities who indicate that fear of failure would prevent them from setting up a business</td>
</tr>
<tr>
<td>Entrepreneurial Intentions</td>
<td>Percentage of 18 - 64 population (individuals involved in any stage of entrepreneurial activity excluded) who intend to start a business within three years</td>
</tr>
<tr>
<td>Entrepreneurship as a good career choice</td>
<td>Percentage of 18 - 64 population who agree with the statement that in their country, most people consider starting a business as a desirable career choice</td>
</tr>
<tr>
<td>High Status to Successful Entrepreneurs</td>
<td>Percentage of 18 - 64 population who agree with the statement that in their country, successful entrepreneur’s receive high status</td>
</tr>
<tr>
<td>Media Attention for Entrepreneurship</td>
<td>Percentage of 18 - 64 population who agree with the statement that in their country, you will often see stories in the public media about successful new businesses</td>
</tr>
<tr>
<td>Measurement</td>
<td>Definition</td>
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<tr>
<td>Nascent entrepreneurship rate</td>
<td>Percentage of 18 - 64 population who are currently a nascent entrepreneur, i.e., actively involved in setting up a business they will own or co-own; this business has not paid salaries, wages, or any other payments to the owners for more than three months</td>
</tr>
<tr>
<td>New business ownership rate</td>
<td>Percentage of 18 - 64 population who are currently an owner-manager of a new business, i.e., owning and managing a running business that has paid salaries, wages, or any other payments to the owners for more than three months, but not more than 42 months</td>
</tr>
<tr>
<td>Early-Stage entrepreneurial activity (TEA)</td>
<td>Percentage of 18 - 64 population who are either a nascent entrepreneur or owner-manager of a new business</td>
</tr>
<tr>
<td>Established business ownership rate</td>
<td>Percentage of 18 - 64 population who are currently owner-manager of an established business, i.e., owning and managing a running business that has paid salaries, wages, or any other payments to the owners for more than 42 months</td>
</tr>
<tr>
<td>Informal investor rate</td>
<td>Percentage of 18 - 64 population who have personally provided funds for a new business, started by someone else, in the past three years</td>
</tr>
<tr>
<td>Necessity-driven (% of TEA)</td>
<td>Percentage of those involved in TEA who are involved in entrepreneurship because they had no other option for work</td>
</tr>
<tr>
<td>Opportunity-Driven (% of TEA)</td>
<td>Percentage of those involved in TEA who (i) claim to be driven by opportunity as opposed to finding no other option for work; and (ii) who indicate the main driver for being involved in this opportunity is being independent or increasing their income, rather than just maintaining their income</td>
</tr>
</tbody>
</table>