Achieving Enhanced Levels of Human Development
Without Waiting on Advances in Economic Development

Karen Anne Pica

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Dr. Marcie Boucouvalas, Committee Chair
Dr. Gabriella M. Belli, Committee Member
Dr. Linda E. Morris, Committee Member
Dr. Ira E. Reed, Committee Member

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ABSTRACT

World leaders, policy makers, and scholars are engaged in efforts to improve human development (HD), which, for the United Nations (UN) Development Program, is about allowing people choices in their lives and providing tools with which to make those choices. Success in increasing human development will impact the daily lives of a nation's citizens as well as contribute to success in meeting the Millennium Development Goals (MDGs): eight shared UN goals to improve living conditions of people around the world.

The information currently available to those seeking to enhance human development measures focuses on a macro-level approach that advocates first advancing national economic development. Recent research on meeting the MDGs focuses on micro-level individual or community activities. Entrepreneurial and microfinance activity are two such micro-level activities that have been associated in research with advances in national economic development. Microfinance, particularly microcredit, activities have been associated in research with advances in some human development measures. Similar research concerning how entrepreneurial activity may relate directly to human development is lacking.

This research project was designed to examine the relationships of these individual activities with human development independent of economic development. Two questions guided this study: (a) Does individual activity (either entrepreneurial or microfinance) have a direct effect on human development, separate from any effect through economic development and (b) If so, do certain types of individual activity (either entrepreneurial or microfinance) have a stronger relationship with some human development measures more than others? Due to data challenges, the scope of this research was restricted to a retrospective study examining measures of entrepreneurial activity with measures of human development. A similar exploration involving microfinance activity is planned for the future.

A literature search and content analysis were conducted to determine definitions and measures. Data on nine measures were collected from 44 nations. Analyses indicated that one measure of entrepreneurial activity (own account workers-individuals owning or operating an enterprise, but hiring no employees) does have a statistically significant relationship with one measure of human development (literacy). Guidelines are also offered from lessons learned in navigating the disparate maze of conceptual and measurement issues when researching this territory.

With several years remaining in the UN Millennium Development Challenge and the UN Decade of Literacy, this research may have implications for policy makers and world leaders as they seek ways to improve both economic and human development simultaneously.

Keywords: entrepreneurial activity, human development, literacy, United Nations (UN) Millennium Development Goals, UN Human Development Program

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CHAPTER 1

INTRODUCTION

Approximately six and one half billion people share this world (United States Census Bureau, 2008) and approximately eight percent or 508 million live in locations with low levels of human development (United Nations Development Program, 2007). The phrase *human development* brings to mind different ideas for different people. Often when I speak of human development, friends and colleagues begin by asking questions regarding biological growth or psychological advancement. Conducting a literature search using the term "human development" often yields results related to psychological, biological, social, or educational advancement. The United Nations consideration of human development, which is the focus of this study, is different.

Human development for the United Nations Development Program (UNDP) is about "allowing people to lead the life they choose-and providing them with the tools and opportunities to make those choices" (United Nations Development Program, 2004, p. v). Leading a life of one's choosing involves being able to live in an environment of political freedom, with human rights, self-respect, education, and the chance to have a long, healthy life. The United Nations ascertains the level of human development via a summary index of average scores for measures of longevity, knowledge, and a decent standard of living. Together these measures combine to produce the Human Development Index (HDI). The composition of these summary measures is indicated in Table 1.1

Table 1.1 ***Measures Comprising the UN Human Development Index (HDI)***

Category	Measure
Longevity (health)	Life expectancy at birth
Knowledge (education)	Adult literacy (% of population ages 15 and above reading and writing at basic level) Gross school enrollment (% of eligible population enrolled) • Primary gross school enrollment • Secondary gross school enrollment • Tertiary gross school enrollment
Decent Standard of Living (resources)	Gross Domestic Product (GDP) per capita expressed in Purchasing Power Parity (PPP) in US$

Source: Developed using United Nations Human Development Report (HDR) 2004

The predominance of research conducted to date regarding facilitating human development has focused on the importance of national economic development. Developing a better understanding of human development and how it relates to economic development may help policy makers in emerging nations expand their focus. An expanded focus may allow policy makers to consider policies facilitating both economic development and human development rather than focusing mainly on economic development.

Background Discussion

Since 1990, the United Nations has been measuring human development through the Human Development Index (HDI) and reporting results in the annual Human Development Report (HDR). The annual reports include multiple indicators for human development with the inaugural report containing information on 39 indicators and the most recent report in 2008 containing over 250 indicators. Eleven indicators have consistently appeared in all 16 of the annual reports with others being added or modified as political and world concerns have shifted over the years. Among the indicators consistently reported since 1990 are the adult literacy rate, life expectancy, and national population while those such as cellular telephones subscribers, carbon intensity of growth, and an indicator for use of alternative energy sources have been added over time.

Since publication of the original report in 1990, the UNDP has added indicators as proxies for basic needs and equality concerns, allowing for the creation of gender development and equality indices. These additions mirror philosophical shifts in both human development and the approach to financial assistance facilitating human development. Human development for many years was defined by a focus on economic poverty. Financial assistance or aid to developing nations also focused on economic poverty in terms of poverty alleviation. In the past, most donor nations had a more prescriptive approach to how aid could be used and this approach did not normally consider input from the recipient nations on how best to serve their populations.

Over the past three-quarters of a century, both the concept of human development and the philosophical approach to financial aid or assistance has shifted. Human development in 21st century parlance is considered in terms of overall human capabilities rather than limited to economic poverty. In today's world environment, local organizations and leaders in nations receiving global financial assistance are allowed more input into how financial aid could best produce results for their citizens.

This shift has been in process for at least six decades with the start of the shift somewhere near the end of the Second World War. Despite the focus, at that time, on economic poverty and raising income levels of the nations affected by the war (Goldin, Rogers, & Stern, 2002) concerns were expressed over "the sufficiency of economic growth as a solvent of social problems" (Desai, 1991, p. 351). The focus of financial assistance continued to be the alleviation of economic poverty through increasing a nation's gross national product.

The focus on prescriptive solutions to alleviate poverty continued through the 1950s and the 1960s. Donor governments directed solutions for recipient nations that did not normally involve local governing authorities, private sector representatives, or individual citizens in the recipient nations (Easterly, 2006; Goldin et al., 2002). Income growth as a goal stretched into the Cold War years of the 1970s and 1980s with geopolitical and environmental considerations playing an important role in how aid was distributed (Goldin et al., 2002).

During the Cold War years, economic poverty was the predominant but not sole focus of discussions on the human condition. Quality of life and capabilities were also

being included (Morris, 1979; Streeten, 1981). This shift away from a one-dimensional consideration of poverty to a quality of life index (Morris, 1979), consideration of meeting basic needs (Streeten, 1981), and measuring poverty on multiple fronts (Hicks & Streeten, 1979) was the precursor to the UNDP definition and categorization of human development. These earlier concepts reflected concern with nutrition, infant mortality, income, longevity, and education/literacy as well as economic poverty which opened the door for today's robust human development focus.

Building on discussions from the 1970s, the late 1980s, and through the 1990s, the multidimensional view of poverty (Kannan, 2000; Nafziger, 2006; Sen, 2000; Wagle, 2005; The World Bank, 2006a) and reflections on overall human development have expanded with the focus now on increasing human capabilities. Donor nation assistance has shifted away from a directed approach to more of a focus on helping recipient nations develop the capabilities to help themselves (Cheema, 1997; Goldin et al., 2002). The philosophy regarding donor nation foreign aid now provides increasing responsibility to leaders of recipient nations.

The multi-dimensional approach to poverty highlights how the world view of human development has changed over time. Since 1990, citizens of the world have experienced improvements in adult literacy, an increase in life expectancy, increased access to adequate sanitation and clean water, and a decrease in infant mortality (The Worldwatch Institute, 2006). The world economy has tripled since 1990, from a gross world product of $20.3 trillion in 1990 to over $78.4 trillion in 2008 (Central Intelligence Agency, 2009). The global level of human development in the world as measured by the HDI on a scale from zero to one has improved over that same time, increasing from .65 in 1990 to .74 in 2007.

However, benefits of economic growth and improvements in the human condition have not reached all citizens as the "most significant effect of global growth in the 1990s was the emergence of a global middle-class" (Edward, 2006, p. 1681). The lives of those living in areas of low human development differ from those in the developed world. Our fellow citizens living in areas of low human development can expect to live shorter lives, will be less likely to read, more likely to see a child die before the age of five, and less likely to have the opportunity to send their children to school. Some disparities between

the *haves* of human development and the *have nots* of human development are indicated in Table 1.2.

Table 1.2 ***Human Development World Snapshot***

Human Development Indicator	Low HD nations (8%)	High HD nations (25%)
Life expectancy at birth (in years)	48.5	76.2
Adult literacy	54.4%	99% or higher
%Enrolled in school as percent of population eligible	68%	95%
%Population w/out access to adequate sanitation	66%	8%
%Population w/out access to clean water	51%	2%
Gross Domestic Product per capita	US $483	US $22,984

Source: Developed using data from UN HDR 2007, n=177

The impact of continued low human development, while most acute for those living it, is shared by all of us. Lack of access to education, low levels of literacy, inability to meet basic needs, or make a better life for one's children may manifest in ways that indirectly and directly affect those living in areas of higher human development. Disenfranchised youths or young adults are considered a prime audience for radical segments of societies with nations "where young adults accounted for more than 40 percent of all adults – were roughly two-and-a-half times more likely to experience an outbreak of civil conflict…" (The Worldwatch Institute, 2005, p. 26). Those living in more developed parts of the world may even feel environmental impacts from low human development. For example, deforestation created by logging as a livelihood affects weather trends and has been associated with increases in effects of natural disasters (The Worldwatch Institute, 2006).

Continued reductions in arable land, un- or underemployment, and lack of opportunity due to ethnicity or sex may cause citizens to flee their country for the promise of a better life in another. Nations around the world with higher levels of human development are concerned with undocumented immigration and terrorism. The issues contributing to low levels of human development are of concern to global citizens, not

just citizens living in nations with low levels of human development (George, 1992). As James Wolfensohn indicated in 2002, with the events of September 11, 2001, "…the imaginary wall that divided the rich world from the poor world came crashing down….There is no wall. There are not two worlds. There is only one" (Wolfensohn, 2002, p. 4).

The condition of our fellow human beings engenders concerns on both economic and humanitarian fronts. A citizen of a country with a high level of human development, such as the United States, may consider low human development as something that cannot impact one's life in the United States. However, US citizens are touched by global trade and refugee displacement, both of which are associated with human development.

A positive impact of globalization is the creation of markets for goods and services of citizens in countries with low levels of human development while providing increased choices for those living in countries with high levels of human development. Consider the impact of globalization in terms of imports of goods and services for citizens of the United States depicted in Table 1.3.

Table 1.3 ***United States Manufacture and Services Import Snapshot 1990 & 2004***

	1994	**2004**
Merchandise imports (value of goods purchased from rest of world	$516,987,000	$1,525,516,000
% Of imports in manufactures (commodities, machinery, miscellaneous manufactured goods)	73%	75%
Value of service imports	$97,950,000	$263,598,000
% of Services imports in insurance and financial services	4.5%	13.2%
% of Service imports in computer information, communication, business services	20.4%	30.9%

Source: Developed from The World Bank 2006b

Developing nations have increased manufacture exports from under 25% in the 1980s to 80% in 1998 and service exports from 9% to 20% during that same time frame

(The World Bank, 2006b). A United States citizen benefits through increased choices of consumer goods and increased competition for goods and services resulting in lower prices and changes in quality (The World Bank, 2006b). In today's competitive environment, "Globalization underscores the need for a flexible, dynamic labour market and a well-educated adaptable workforce" (*The Economist*, 2007, p. 35), goals that enhanced human development may help achieve.

The global marketplace favors nations with a diversified economy rather than nations relying on a primary export commodity (Collier & Hoeffler, 2002; The World Bank, 2006b). Economic diversity also helps to "…lower risk of large scale violent conflict" (Collier & Hoeffler, 2002, p. 129) in a nation. More products and services in the global sector are of benefit to us all through increased availability of goods and reduced costs. Lower internal conflict in nations may result in fewer refugees and displaced persons, a potentially positive step, certainly for the refugees, and also for the resources of countries welcoming refugees.

In 2008, the report of the United Nations High Commissioner for Refugees (UNHCR) indicated an increase in internally displaced persons in 2007 of 1.6 million persons bringing the total to 26 million worldwide (United Nations High Commissioner for Refugees, 2008). These internally displaced persons are fleeing violent conflict and persecution at home. Of the 75,300 refugees resettled by the UNHCR in 2007, the United States became home to 48,300 (United Nations High Commissioner for Refugees, 2008).

Increasing the levels of human development throughout the world could lead to increased consumer choices, increased economic trade, and potentially reduced internal conflict resulting in fewer refugees and displaced persons. These economic and humanitarian arguments for addressing human development are reinforced when examining the disparity across nations. A comparison of a day in the life of a citizen in the nation with the highest and lowest level of human development according to the United Nations *Human Development Report* 2007 is provided in Table 1.4.

Table 1.4 ***A Day in the Life of a Citizen in a High and Low Human Development Nation in 2007***

	Iceland	Sierra Leone
I will live to be	81.5 years	41.8 years
I can expect to earn (PPP US$)	$36,510	$806
My chance of having access to clean water	100%	57%
My chance of having access to adequate sanitation	100%	39%
Children under 5 who will die	3/1000	282/1000

Source: Developed from data contained in UN HDR 2007

In a nation with medium or high human development, I will likely have access to an indoor plumbing source while in some countries with low levels of human development, I will have a flying toilet where I defecate in a bag and toss it into the street. In a country with high human development, I will use more water flushing a toilet once than eight people in the developing world will see in a day. Children in nations with high human development levels will attend schools while those in areas of low human development may spend four hours or more walking or waiting for water, or spend the day gathering firewood for cooking or working on a neighboring farm to earn food.

Earlier in this paper was referenced the approximately eight percent of the world's population living in areas of low human development. This eight percent figure, like the human development index, is an average and masks the greater impact of low human development on citizens. A more precise depiction of the world situation is:

a. Approximately 776 million human beings around the world who are illiterate (UNESCO, 2009a);

b. 2.67 billion people who live without access to adequate sanitation (United Nations Development Program, 2007);

c. 1.1 billion people who live without adequate access to clean water (United Nations Development Program, 2007); and

d. 15 of every 1000 children in nations with high HDI die before their fifth birthday as compared to 184 out of 1000 children for nations with low HDI (United Nations Development Program, 2007).

Statement of Problem

In a world where 775 of every 1000 citizens in nations with high development have a cellular telephone (United Nations Development Program, 2007), is it acceptable that billions of our fellow citizens do not have access to adequate sanitation or clean water? Is it acceptable that citizens totaling the populations of North America (Canada, Mexico, and United States), Russia, Japan, and South Korea live without the ability to lead the lives they choose or the hope of making a better life for their children? As a global citizen, I feel a responsibility to contribute, through my research, information that could potentially improve the lives of my fellow citizens.

The issue is of concern to many nations around the world, and on September 18, 2000, 189 United Nations members adopted the *United Nations Millennium Declaration*. By adopting the resolution, world leaders recognized their "responsibility to uphold the principles of human dignity…and duty therefore to the entire world's people, especially the most vulnerable and, in particular, the children of the world, to whom the future belongs" (United Nations Millennium Declaration, 2000, p. 1). The Millennium Declaration outlined challenges to world leaders to improve living conditions and human development levels by 2015. The challenges presented in the form of the Millennium Development Goals (MDGs) are comprised of eight goals concerning health, education, equality, the environment, and international partnerships for development. Full information on the goals as well as targets for each goal is contained in Appendix A.

The goals are written with an awareness that the responsibility for achieving results resides with both developed and developing nations. Developed nations have an obligation to share resources and knowledge and developing nations must take ownership and responsibility for the success of the goals. This relationship, with richer nations under an obligation to share and recipient nations having an obligation to work towards success, echoes the changes that have occurred in the area of financial assistance.

Reaching the goals set forth in the MDGs and helping our fellow citizens will require efforts taking many forms including global partnerships, policy reforms, trade

adjustments, foreign aid, business investment, and individual activity. While the philosophies and approaches to human development and financial assistance have shifted over the past 60 years, the fundamental essence of the goals has not. Today's goals still revolve around the same themes as those of earlier years: to improve the human condition and create opportunities.

When seeking ways to achieve success with the Millennium Development Goals and raise levels of human development in a nation, policy makers typically focus on increasing national economic development as a primary means, and necessary condition, for improving human development (Caldwell & Caldwell, 2002; Dolan & White, 2007; Goldin et al., 2002; Ranis & Stewart, 2000; Ranis, Stewart, & Ramirez, 2000). Just as the MDGs advocate a shared responsibility among nations for achieving success, advancing human development in a nation may be a shared objective with individuals interested in helping themselves at the same time policy makers are working to advance economic development.

Recognizing that individuals want better lives for themselves and for their children and have a vested interest in success on human development measures, recent research by scholars on improving living conditions focuses on micro-level activities at the individual or community level (Casapia, Joseph, & Gyorkos, 2007; Gaiha & Kulkarni, 2006; Krishna et al., 2006; Ratzan, 2005; The World Bank, 1996). This approach recognizes the essential role individuals have in their own life situations and advocates viewing the poor and underprivileged not as beneficiaries of policies and actions but as "clients….owners and managers of their assets and activities (The World Bank, 1996, p. 8).

Examples of two micro-level activities considered in the literature and also associated with national economic development are entrepreneurial activity and microfinance activity. Research exists associating entrepreneurial activity with advances in economic development (Acs & Audretsch, 2001; Carree & Thurik, 2002; Pietrobelli, Rabellotti, & Aquilina, 2004; Redding & Tam, 1995; Rodrik, Subramanian, & Trebbi, 2004). Research also exists regarding how economic development may be facilitated through microfinance activity (Ahlin & Jiang, 2005; Hassan, 2002). However, when looking for information on how these individual activities may be related to human

development directly rather than through any indirect effect through economic development, information becomes difficult to find.

In the case of microfinance, some studies do explore microcredit loans as they relate to certain human development measures (Anderson, 2007; Faridi, 2004; Islam, 2007; Khandker, 2005; Mohindra & Haddad, 2005; Pitt, Khandker, Chowdhury, & Millimet, 2003; Weiss & Montgomery, 2005). Microfinance, however, is comprised of credit, savings, and insurance products and services and research discussing how the other elements of microfinance are related to human development is difficult to find. Conducting a literature search into the relationship of entrepreneurial activity directly with human development identified a gap in literature.

Purpose of the Study and Guiding Questions

The purpose of this research was to examine how individual activity in the form of entrepreneurial activity and microfinance activity was related to human development independent of national economic development. Specifically, the goal was to see if human development was positively impacted by either microfinance activity or entrepreneurial activity without waiting for improvements in economic development.

The importance of microfinance was recently highlighted on the international scene by two major events. The United Nations designated 2005 as the year of microcredit and in 2006 the Nobel Peace Prize was awarded to the Grameen Bank and founder Muhammad Yanus. The Nobel committee recognized Yanus and the Grameen Bank he founded for "creating economic and social development from below" (The Norwegian Nobel Committee, 2006, p.2). The Grameen Bank is a bank in Bangladesh specializing in providing microcredit loans to individuals typically considered high risk by traditional lending institutions.

Microcredit loans are one of three elements of microfinance with the other two financial elements being microsavings and microinsurance. Microfinance is a concept that includes financial products and services designed to provide assistance and opportunity for those with limited access to resources. Microfinance includes micro-loans or microcredit, loans issued with little or no collateral usually for small amounts ranging from $20 and higher, microsavings accounts and insurance. These financial

services and products are targeted to populations in a nation typically underserved or neglected by commercial banks, lending institutions, and insurance providers.

Enhanced national economic development often facilitates increases in the levels of human development of a country (United Nations Development Program, 2005; The World Bank, 2004). Economic development, as cited earlier, may be enhanced by entrepreneurial activity and microfinance activity. This often takes years to achieve. What if nations did not need to wait, what if leaders could focus on both economic development and human development at the same time? What impact may be seen in human development from either microfinance activity or entrepreneurial activity without necessarily waiting for advances in economic development?

Policy makers and leaders, particularly those in developing nations, are often called upon to make difficult choices with regard to building both macro and micro level capacity. Leaders working to improve the state of a nation may need to make choices between increasing infrastructure and investing in people. Does one concentrate on attracting foreign direct investment and aid to assist in improvements or does one consider building the capacity of one's citizens as a solution? Are these necessarily opposing or separate considerations or the same way to achieve advances? A research goal was to explore the relationships among human development, entrepreneurial activity, and microfinance activity to provide information that may be useful to world leaders in making these decisions. I was rewarded with a small yet interesting result concerning entrepreneurial activity and human development.

Considering that economic development may be facilitated by individual activity such as entrepreneurial activity, and economic development is related to advances in human development, does entrepreneurial activity relate directly to human development? How much does entrepreneurial activity impact human development without waiting for national economic development? My long-term goal is to research if and how human development is associated with entrepreneurial activity for the purposes of investigating policy implications. As policy makers are now focusing primarily on facilitating economic development, the goal of my dissertation was to explore how an expanded focus on facilitating human development might prove beneficial to nations.

In my attempt to determine if human development is positively impacted by either entrepreneurial activity or microfinance activity independent of economic development, my research was guided by two questions.

1. Does individual activity (either entrepreneurial or microfinance) have a direct effect on human development, separate from any effect through economic development?

2. If so, do certain types of entrepreneurial activity have a stronger relationship with some human development measures more than others?

Research Considerations

The goal of this research was to examine how entrepreneurial activity and microfinance activity were each related (separately) to human development. The initial purpose of the study was to conduct two parallel investigations, one encompassing entrepreneurial activity and human development and the other concerning microfinance activity and human development. The relationship of both activities to human development is worthy of examination. Due to the complex and multi-variable nature of the problem, the present investigation was limited to entrepreneurial activity. This was a retrospective longitudinal study with data collected at two distinct points in time 10 years apart.

Organization

Chapter Two of this dissertation provides an overview of the process and approach used in developing and navigating this research project. Chapter Three, Manuscript 1, provides background and the conceptualization of an argument about the potential facilitators for human development and for reaching the UN Millennium Development Goals. Chapter Four, Manuscript 2, reports on the results of this study based on entrepreneurial and human development data and Chapter Five contains the conclusion and implications.

The definitions of terms, sources of data, and measures considered for this analysis are contained in Appendix B - Information on Constructs, Variables and Metrics Considered, Appendix C – Rationale for Variables and Data Sources, and Appendix D –

Glossary. Detailed descriptions of the definitions and measures are included in Chapters Two, Three, and Four. The variables examined in this study are outlined in Table 1.5.

Table 1.5 ***Variables for Analysis***

Independent Variables	**Dependent Variable**
Entrepreneurial Activity*	**Human Development***
1. employers (those owning or operating a business, employing others) 2. own account workers (those owning or operating a business, not employing others)	1. human development index 2. under 5 mortality rate 3. literacy rate 4. net primary school enrollment 5. life expectancy 6. sanitation access 7. water access

* all measures are based on individual nations

Summary

In a world of almost 650 billion people, including several living in space, almost eight percent of our fellow citizens continue to live in locations of low human development, without the ability or opportunity to lead a life of their choosing (United Nations Development Program, 2007). Leading a life of one's choice involves being able to live in an environment of political freedom, with human rights, self-respect, education, and the chance to have a long, healthy life. Over the past 50 years, the view of poverty has shifted from a one dimensional consideration of economic poverty (Goldin et al., 2002) to a multi-dimensional view that includes poverty of opportunity, literacy, education, and economics (Kannan, 2000; Nafziger, 2006; Sen, 2000; Wagle, 2005; The World Bank, 2006a). The new view essentially mirrors the United Nations Development Program construct of human development.

Despite the shift to a multidimensional view of poverty, enhancing national economic development continues to be a primary focus for increasing human development (Goldin et al., 2002). A gap in the literature has been identified in regards to how select individual activities that impact national economic development may relate directly to human development. Specifically, entrepreneurial activity and microfinance activity are identified through research cited earlier as being associated with enhances in economic development. Some research exists regarding the relationship of certain

elements of microfinance activity with certain measures of human development and no research has yet been identified regarding relationships among entrepreneurial activity measures and human development. These relationships are the basis of my exploration in this dissertation.

CHAPTER 2

GENESIS AND CONCEPTUALIZATION OF RESEARCH: KEY CONCEPTS, PROCESS ISSUES, AND DECISION POINTS

Working to help others help themselves is a pursuit shared by many around the world, including me. Governments, organizations, policy officials, and scholars throughout the world have been engaged in researching ways to improve the lives of citizens around the globe for many years. These efforts have coalesced under a unified umbrella with the United Nations dedicated focus on human development and publication of the first Human Development Report in 1990.

Human Development for the United Nations is about allowing people choices in their lives and providing tools in order to make those choices. This focus on choice and tools results in better living conditions for those around the world. The United Nations (UN) concept of human development is discussed and measured by success on a variety of indicators involving health and well-being, knowledge, education, and economic resources.

Navigating the maze of key conceptual and measurement issues when researching this territory, however, offers challenges, and decision points must be made by any inquirer in determining how best to proceed. This chapter is offered both to illuminate these process issues and decision points from a research perspective and to also provide guidance to future researchers, while simultaneously describing both the content and process of inquiry from genesis and conceptualization through to conclusion.

In 2000, 189 nations embraced the UN agenda in pursuit of advancing human development by signing on to the Millennium Development Goals (MDGs): eight shared goals of international leaders to improve the living conditions of citizens around the world (Appendix A). Success with the MDGs is measured by advancing certain human development indicators such as net enrollment in primary school, literacy, and Gross Domestic Product (GDP) per employed person. National leaders have been seeking ways to raise key human development indicators and achieve success with the MDGs. Low levels of human development have been considered as contributors to environmental degradation, emigration, and societal conflict. Leaders of the world have social,

environmental, and economic reasons for seeking ways to advance human development levels as well as reach success with the Millennium Development Goals.

Problem and Hypothesis

As world leaders and policy makers look for ways to achieve success with the MDGs and advance human development, they seek information. Advancing national economic development appears most often in literature as a way to advance human development. The information most available to policy makers focuses on a macro level approach that advocates building the economic development of a nation, which will then facilitate human development. This takes time, most likely multiple generations.

Recognizing that individuals want better lives for themselves and for their children and have a vested interest in success with the MDGs, recent research by scholars on improving living conditions focuses on micro-level activities at the individual or community level. Two such individual activities are entrepreneurial activity and microfinance activity. Both of these individual level activities have been associated in research with advances in national economic development. Advancing economic development takes time and yet more time is needed for the benefits of advanced economic development to filter into human development improvements. What if something could be done quicker? Can parents work to improve the living conditions of their children and then those children further improve conditions in their community? If a child received a better education as a result of a parent's efforts, could that not contribute to economic development?

Entrepreneurial activity and microfinance activity have been associated with advances in national economic development. Economic development has been associated with advances in human development. Recognizing individuals will work hard to help themselves and build better lives for their children, how can individuals improve their living conditions and human development without waiting on national economic development? How do individual activities impact human development? If a child can receive a better education than a parent, will this lead to better choices and more economic activity in the future? If individual activity can help with human development, will that not then help with national economic development? If a nation's

workforce is healthier and more literate, will this help attract the foreign direct investment and new enterprises world leaders are seeking?

Examining these questions through a review of literature did not yield much research. Some research does exist concerning how microfinance activities are related to human development. For example, there is some information regarding how children of mothers who receive microcredit loans have better nutrition than others not receiving microcredit (Pitt, Khandker, Chowdhury, & Milliment, 2003). In addition to this quantitative study, there is also anecdotal information on recipients of microcredit and how their children are now able to receive an education where they could not before (Anderson, 2007; Islam, 2007). However, if investigating the literature seeking information regarding entrepreneurial activity and human development, one will be disappointed. There does not appear to be any published research studies examining this relationship.

If individual activity facilitates economic development and economic development facilitates human development, does individual activity interact with human development independent of economic development? Figure 2.1 represents the current, literature-based model and the hypothesized model proposed in this study, which implies a direct relationship between individual activity and human development independent of economic development.

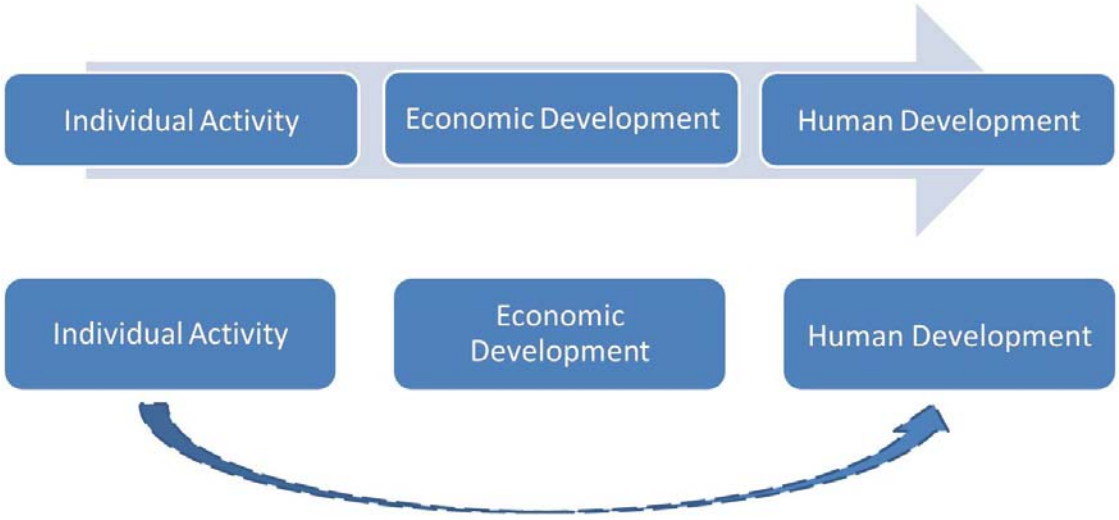

Figure 2.1 **Current and proposed models of paths to human development.**

Two individual activities with the potential for facilitating human development are entrepreneurial activity and microfinance activity. Before the proposed model could be investigated, it was important to operationally define its components and determine relevant and appropriate measures for each component.

Once the pertinent variables were identified, the following questions could be addressed:

1. Does individual activity (either entrepreneurial or microfinance) have a direct effect on human development, separate from any effect through economic development?

2. If so, do certain types of entrepreneurial activity have a stronger relationship with some human development measures more than others?

Measuring Key Concepts

Entrepreneurial activity, microfinance activity, economic development, and human development may be defined and measured in many ways. Each is multidimensional and not easily defined. It was necessary to define and measure them in ways both familiar and acceptable to the public policy, human development, and financial communities. To accomplish this objective, a content analysis of literature was used to define and select measures. In reviewing the literature, I keyed in not only on definitions and measures, but also how a researcher related the importance of their selected measure of human development to the betterment of a nation.

Economic Development

Of the concepts to define, economic development was the most challenging. Discussions and definitions varied across literature with economic development and economic growth appearing as interchangeable. Economic development and economic growth were discussed in similar fashions and involved accumulation of capital, increases in businesses, products, or capacity. A common theme across research was an increase in an identifiable and measurable consumable or commodity.

Measuring economic development likewise involved discussions regarding increases, changes, or growth. The primary measures considered in literature for economic development were either Gross National Product (GNP) or Gross Domestic

Product (GDP). Both have appeared over time in the United Nations Human Development Reports with the first reports using GNP (United Nations Development Program, 1990), both GNP and GDP appearing in later reports in the 1990s and the most recent report discussing only GDP (United Nations Development Program, 2007). Likewise information and reports from The World Bank contain references to both. Economic activity is discussed using GNP, which considers value added to an economy from both within the nation and from abroad. The World Bank uses GDP when discussing economic growth, which considers production in a nation.

As the focus of the proposed model concerned raising human development through individual activity, it was important to focus on what could be done in a nation rather than considering remittances provided by family members living abroad. GDP per capita as expressed in purchasing power parity (PPP) was the more appropriate measure of economic development for use in this study. GDP per capita expressed in PPP allows for comparisons across nations and economic currency. Purchasing power parity translates one US dollar worth of goods into what those same goods would cost in another nation as expressed in US dollars. The definition and metric for economic development is in Table 2.1.

Table 2.1 ***Definition and Metric for Economic Development***

Economic Development Definition	**Metric**
Economic output of those living in a country	Gross Domestic Product per capita (GDP/capita) expressed in purchasing power parity (PPP)

Human Development (HD)

The United Nations defines human development as allowing people to live the lives of their choosing. The UN measures human development through an index of six constructs: life expectancy, adult literacy, three measures of schooling (primary, secondary, and tertiary), and GDP per capita. These measures are combined to produce the UN Human Development Index (HDI).

Since 1990, the United Nations has published an annual report containing the HDI as well as other indicators of human development. The number of measures reported over the years has changed with the times and political environment, with the first report containing 39 indicators (United Nations Development Program, 1990) and the most recent over 250 (United Nations Development Program, 2007).

Current literature on the UN concept of human development was examined in order to define and find appropriate measures for human development. The ideas of capability and choice were prevalent in all literature reviewed. In many cases, the definition predominantly used was some variation of the United Nations definition. Adopting the UN *definition* for human development posed no issues, however, *measuring* human development using only the HDI was problematic for several reasons.

First, the HDI includes GDP per capita and including an element of economic development in the measure would be troublesome for any analysis of the relationship between entrepreneurial activity and human development independent of economic development. Second, three measures were included for schooling, with enrollment in primary school, secondary school, and tertiary school all rolled into gross school enrollment. As my research focused on what changes might be evidenced in one generation, tertiary school (school beyond high school) did not seem relevant. Additionally, in seeking data for the study, it became obvious that nations did not collect all three of these types of school enrollment and even United Nations' collection of data had varied over the years. Some measure of primary school enrollment was important, however, and needed to be included in the measures for human development.

Finally, the very literature examined to determine the best definition for human development called into question the ability of the HDI to really represent the state of human development in a nation. When authors critiqued the HDI, they invariably proposed additional measures for inclusion when assessing HD in a nation. After a thorough content analysis of the measures considered important by others, measures were reviewed against the success indicators for the Millennium Development Goals to ensure there would be logic in connecting any results of my research to the MDGs. The variables and metrics resulting from this analysis are in Table 2.2.

Table 2.2 ***Variables and Metrics for Human Development***

Human Development Variables	**Metrics**
Under five mortality rate	# deaths per 1000 live births (of those five years of age or younger)
Literacy rate	% of population 15 and older who can meet reading/writing standard (a short, simple statement related to one's daily life)
Net primary school enrollment	% of eligible population enrolled in primary school
Life expectancy	Age in years
Sanitation access	% of population with access to appropriate (as defined) sanitation
Water access	% of population with access to fresh water

Entrepreneurial Activity

The business and economic community literature was used to determine the definition and measures for entrepreneurial activity. Based on a content analysis of diverse definitions, the essence of entrepreneurial activity may be defined as: (a) starting a new business or company, (b) becoming self-employed, or (c) managing a young business. A review of current literature, standards of measurement, and publicly available data sources from the International Labor Organization and The World Bank confirmed the viability of the chosen definition.

Initially, six measures were identified for entrepreneurial activity. The measures were employers, own account workers, employers per labor force, own account workers per labor force, small and medium scale enterprises (SMEs) in a nation, and the entry rate of new businesses. Of the six measures, employers and own account workers (see Table 2.3) were determined to be the best representation of entrepreneurial activity. Employers and own account workers each expressed as a percentage of the overall labor force may be considered for future research. As for this study, the simple rather than ratio measures were considered the best representation. Another excluded measure was a variable for small and medium scale enterprises (SMEs) and this measure was excluded as longitudinal data were not available for analysis. The final measure excluded was entry

rates. This measure identifies how many new businesses enter a formal economy over a certain period of time. However, in reviewing the data for collection, there was no certainty that discussions on entry rate only considered small businesses and not entry rates for large businesses opening new offices or other business entries. As this research focused on entrepreneurial activity at the individual level, entry rates of medium or large corporations was not considered a good representation of individual activity.

Table 2.3 ***Variables and Metrics for Entrepreneurial Activity***

Entrepreneurial Activity Variables	**Metrics**
Employers	The number of persons owning or operating an enterprise or engaging in an independent profession or trade while employing others
Own account workers	The number of persons owning or operating an enterprise or engaging in an independent profession or trade without employing others

Microfinance Activity

Following the same process used for defining and measuring human development and entrepreneurial activity, I analyzed literature for microfinance activity. Microfinance activities are financial solutions with the primary purpose of helping individuals out of poverty. Microfinance activities are directed to segments of a nations' population that represent a higher financial risk for traditional financial institutions. Microfinance activities fall into three categories: credit, savings, and insurance. The measures selected are those collected and reported by microfinance institutions around the world and are included in Table 2.4.

Table 2.4 ***Variables and Metrics for Microfinance Activity***

Microfinance Activity Variables	Metrics
Active borrowers	# of microcredit recipients in a nation
Amounts disbursed	$ value of microcredit in a nation
Average loan per recipient	Average amount of loan for each recipient
Depositors	# depositors into microsavings accounts
Microinsurance	Microinsurance coverage in a nation

Entrepreneurial Activity versus Microfinance Activity

At this point, one might question why entrepreneurial activity is being discussed separately from microfinance activity. Are they not pretty much the same thing? Is not the whole point of microfinance activity to help small scale entrepreneurs?

Microfinance activity is comprised of three segments: credit, savings, and insurance. Each segment is intended to help individuals out of poverty and build a better life for themselves. Microcredit is the provision of small loans to citizens normally considered high risk individuals. Microsavings accounts are opportunities provided by banks for individual to open very small savings accounts, providing access to regular banking accounts for saving money not previously available. Microinsurance is the provision of small amounts of insurance to low income citizens.

Microfinance products and services are certainly available and of benefit to small scale business owners. However, the products are not used exclusively by entrepreneurs. In many nations of the world, family and religious obligations are taken very seriously and are sometimes costly. Microcredit loans are also used by families in need of financial resources to meet these obligations (Basu & Srivastava, 2005). Likewise microsavings accounts are used by individuals who may or may not be entrepreneurs. For instance, women earning a few extra pennies or dollars sometimes seek safer places than their house to keep money. Money left in the home is at risk of being used for a variety of expenses rather than remaining in savings. In these cases, women may open a very small savings account to hide away money and while these women might not be

entrepreneurs, they are certainly benefitting from the availability of microfinance products.

Microfinance products are not exclusively available to entrepreneurs so categorizing microfinance activity as solely an entrepreneurial activity is not accurate. Additionally, there other than financial benefits for participants in microfinance programs (Brown, 2005; Zohir & Matin, 2004). These benefits are related to self-perception and the types of choices individuals make. Research indicates individuals in poverty have a lower consideration of self than others and this impacts the types of choices they make (Delvetere & Huybrechts, 2005) and beneficiaries of microfinance activity have an enhanced sense of self that impacts the choices they make. Because human development is concerned with allowing people to live lives of their choosing and providing tools to make those choices, microfinance activity is as much a human development activity as an entrepreneurial activity.

Data Collection Process

Having defined the concepts and decided on measures, the next step was data collection. My research design called for analyzing changes over one generation with one generation being defined as 16-20 years. All data were collected from publicly available sources. Major challenges were discovered with the microfinance data. I identified one source for information on microinsurance and another source containing information on microcredit and microsavings. While one stop shopping was available for microcredit and microsavings information, data were reported not by entire nation but by providers in that nation. Developing a profile for one single nation may involve collecting data from as many as 25 or more different providers in a nation. Once I complete data collection, I hope to make the data set available to other researchers.

The sample design for this research included 10 nations in each HDI category, controlling for economic development by using GDP to separate nations into high/medium/low categories along the same lines as the HDI. To accomplish this, I reviewed all the United Nation Human Development Reports (HDRs) from 1990, the first year of publication, to 2007, the most recent year of publication. I also examined data from The World Bank. I discovered that there were not enough nations reporting on all selected measures to identify 10 nations in each HDI category.

To determine which nations I could study, I reviewed 177 nations for data on entrepreneurial activity measures. I began by examining sources of data for entrepreneurial activity starting in 2007. From this analysis, I found 71 nations which I divided into low, medium and high HDI and had 6 countries in low, 22 in medium and 43 in high. From here I looked at these nations to determine how far back I could reach and still have consistent data for at least 10 years. This narrowed my 1996 sample to 48 nations with the distribution of low/med/hi HDI as 3/10/35. A few more nations were excluded due to data problems and the final 1996 sample was comprised of three nations with low human development, eight with medium, and 33 with high. This created a skewed sample for analysis, which required consideration when interpreting results.

Even for the measures of human development, differences existed between definitions used by The World Bank and the United Nations. For each measure in this study, I made a determination to collect from either one source or the other and in some cases this meant reviewing the HDRs for all 10 years and manually entering data for the nations of interest versus downloading measures from a readily available data source. Given the massive data finding effort already undertaken and the lack of available data, the decision was made to restrict the empirical part of the study to (a) only entrepreneurial data, and (b) two time points 10 years apart.

The following chapters, two presented in manuscript form and then the final chapter, provide detailed background, research, and analysis regarding the question of how entrepreneurial activity may be related to human development independent of economic development.

CHAPTER 3
MANUSCRIPT 1

Entrepreneurial and Microfinance Activity: Potential Facilitators for Human Development and for Reaching the U.N. Millennium Development Goals

ABSTRACT

The international community is actively engaged in activities to reach the United Nations Millennium Development Goals (MDGs). While human development around the world has generally improved since the United Nations began reporting the human development index (HDI) in 1990, disparities exist among nations of the world, contributing to the challenges in achieving success with the MDGs. Advancing human development, which will facilitate achievement of the MDGs, may be accomplished through a multi-focused approach that includes individual activities. This manuscript outlines an argument for considering individual activity in the form of entrepreneurial activity and microfinance activity as elements of a multi-focused approach for advancing human development and reaching the Millennium Development Goals.

Key words: human development; entrepreneurial activity; microfinance activity; economic development; Millennium Development Goals

Introduction

Over six and one half billion people share this world (United States Census Bureau, 2008) and just over 500 million live in regions around the globe with low measures of human development (United Nations Development Program, 2007). Our fellow citizens living in areas of low human development will live shorter lives, be less likely to read, more likely to see a child die before the age of five, and be less likely to have the opportunity to send any surviving children to school. Human development is defined by the United Nations Development Program as having the opportunity to live a life of one's choosing and is measured by indicators such as longevity, literacy, primary school enrollment, and gross domestic product per capita.

The impact of continued low human development, while most acute for those living it, is shared by all of us. Lack of access to education, low levels of literacy, inability to meet basic needs or make a better life for one's child may manifest in ways that indirectly and directly affect those living in areas of higher human development. Disenfranchised youths or young adults are considered a prime audience for radical segments of societies with nations "where young adults accounted for more than 40 percent of all adults – were roughly two-and-a-half times more likely to experience an outbreak of civil conflict…" (The Worldwatch Institute, 2005, p. 26). Even environmental impacts may result from low levels of human development. For example, deforestation created by logging as a livelihood affects weather trends and has been associated with increases in the effects of natural disasters (The Worldwatch Institute, 2006).

The issues contributing to low levels of human development are of concern to global citizens, not just those living in nations with low levels of human development (George, 1992). As James Wolfensohn indicated in 2002, with the events of September 11, 2001, "…the imaginary wall that divided the rich world from the poor world came crashing down….There is no wall. There are not two worlds. There is only one" (Wolfensohn, 2002, p. 4). World leaders agree on the humanitarian imperatives of helping those in need and in 2000, members of the United Nations signed the *Millennium Declaration*, pledging to achieve the Millennium Development Goals by 2015.

The United Nations (UN) Millennium Development Goals (MDGs) are the shared goals of the international community to improve the living situation of citizens around the world by 2015. The eight goals are to reduce poverty and hunger, improve access to education, enhance gender equality, maternal health, and child survival, combat disease, safeguard the environment and develop global partnerships. According to the *UN Millennium Development Goals Report 2008*, nations are progressing in some of these goals while other goals are at risk for being missed by 2015. The measures used in assessing progress on the MDGs consist of many measures also used in assessing the human development of a nation.

Much of the international focus on the MDGs has concentrated on the first goal of reducing hunger and poverty (Holland, 2008). Similarly at the national level, a primary means of achieving success on the MDGs, as indicated by the measures, is a direct focus on economic development (Caldwell & Caldwell, 2002; Dolan & White, 2007; Ranis & Stewart, 2000; Ranis, Stewart, & Ramirez, 2000). While economic development is a viable aim, a multi-focused approach to achieving the MDGs has also been advocated (Casapia, Joseph, & Gyorkos, 2007).

One element in a multi-faceted approach is the recognition of the importance of individual level activity. Millennium Development Goal eight calls on developing nations to take increasing responsibility for achieving development goals. Aligned with this goal is the participatory (Casapia et al., 2007) or common interest group (Gaiha & Kulkarni, 2006) focus of improving human development. This approach seeks to involve individuals or local communities in program decisions or interventions intended to raise human development measures (Krishna et al., 2006; Ratzan, 2005) and achieve success in the MDGs. The individual level activity and involvement recognizes individual empowerment to improve one's own life situation and targets reduction of "…poverty as it is understood and defined locally" (Krishna et al., 2006, p. 998).

As noted earlier, analysis and research on increasing human development measures often focuses primarily on how economic development activities support human development measures such as life expectancy, infant mortality, and literacy. Individual level participatory activity such as entrepreneurial[1] and microfinance[2] activity are associated with improved economic development. Economic development has been

associated with improved human development measures (Caldwell & Caldwell, 2002; Ranis & Stewart, 2000; Ranis et al., 2000). Might these not be sequenced to infer an indirect benefit of entrepreneurial activity or microfinance activity to human development via advanced economic development?

Pitt, Khandker, Chowdhury, & Millimet, (2003) have associated microfinance activity with direct improvements in health measures of children of microcredit recipients. Direct improvements are those in evidence within a few years and are not dependent on any improvement in the national economic level. However, little to no empirical information is available regarding how entrepreneurial activity and other forms of microfinance outside of microcredit may be directly related to human development measures without the indirect intervention of economic development.

Provided in this manuscript is a theoretical assessment of why individual activity, namely entrepreneurial activity and microfinance activity, should be examined as direct rather than indirect facilitators of human development and in advancing progress towards a nation's millennium development goals. This manuscript is organized into sections providing information and background on the concepts as well as the groundwork for future analysis. Sections of the manuscript provide an overview of the interactions and literature on individual activity, economic development and human development; information on human development and the current global marketplace; and implications and future considerations.

Human Development Background

Human development, as conceptualized and measured by the United Nations, is "…the process of enlarging people's choices" (United Nations Development Program, 1990, p. 10). Since 1990, the United Nations Development Program (UNDP) has been gathering and reporting the Human Development Index (HDI) as well as other human development measures in an annual Human Development Report (HDR). The Millennium Development Goals reflect recognition of the importance of enhancing human development by focusing on the multi-dimensional nature of poverty as evidenced by the eight goals. Achieving the MDGs is a challenge that necessitates consideration of direct and indirect methods to advance both economic and human development in parallel.

The concept of human development has matured over the past 60 years from a focus on economic poverty (Goldin, Rogers, & Stern, 2002) to a more robust concept encompassing human capability and choice (Fakuda-Parr, 2003; Johnson, 2002; Osman-Gani, 2004; Sen, 1997; Streeten, 1981, 1994). The multi-dimensional view of poverty in use today essentially reflects the same concepts as human development by including poverty of opportunity and choice, life expectancy and literacy (Kannan, 2000; Nafziger, 2006; Sen, 2000; Wagle, 2005; The World Bank, 2005a). Literature discussing poverty mirrors that of human development with the construct of poverty discussed as a lack of opportunity to attain resources or the lack of opportunity to lead a life of value[3].

Ensuring that local community leaders and those affected by poverty have a voice in the interventions and proposed program solutions for reducing poverty in all its forms and facilitating a life of one's choosing is central to the participatory focus of The World Bank (The World Bank, 1996). A participatory focus allows those living in poverty to define what it means to them (Krishna, et al., 2006) as well as determine appropriate interventions to ameliorate their living situation (Casapia et al., 2007; Gaiha & Kulkarni, 2006; Justino, 2006). An example of local level individual activity that is improving living conditions for participants is the Millennium Villages Project. This project is an effort designed to help individuals help themselves and relies on community involvement and activity. One of the project's stated goals is to move villagers from "…subsistence farming to self-sustaining commercial activity" (United Nations Millennium Project, 2008). The project has grown from one village in 2004 to 12 villages in 2008 and has reported success in increasing food output for villagers to the point that excess products can be sold for income.

This increase in food and income will likely directly impact the living conditions and opportunities for both the participants and their families living in these Millennium Villages. This may be achieved without needing to wait on any indirect impact achieved through an improved national economic situation. Similar results were found by Croghan, Beatty, & Ron (2006) regarding one unique measure of human development, that of under five mortality rate. Their research showed improvements in the under-five mortality rate of select nations was achieved through direct targeted interventions such as family planning and maternal and child health services and these improvements were not

dependent on advances in the overall economic development of the nations in the study. This type of direct relationship with individual activity and human development measures is the subject of this manuscript.

Improving Human Development

Economic development is associated in research and literature with improvements in human development measures such as life expectancy (Caldwell & Caldwell, 2002) and education (Ranis & Stewart, 2000, Ranis et al., 2000). By economic development, I am referring to growth in national economic activity[4], as measured by changes in gross domestic product per capita over time[5]. Human development has also been associated in research and literature with improvements in economic development (Amin & Lloyd, 2002; Croghan et al., 2006; Krueger & Lindahl, 2000; Ranis et al., 2000; Romer, 1990; Streeten, 1994).

Human development is about "allowing people to lead the life they choose-and providing them with the tools and opportunities to make those choices" (United Nations Development Program, 2004, p.v). Leading a life of one's choice involves being able to live in an environment with access to education, clean water, and sanitation, with the opportunity to have a long, healthy life, and with the possibility of making a better life for the next generation of one's family. The United Nations measures human development through a summary index of measures of longevity, knowledge, and a decent standard of living. Consider how an individual's own activity, such as starting a small enterprise or a small savings account, might be able to facilitate the choice to lead the life of one's choosing, or improve the standard of living for oneself, one's children, or one's local community.

Providing a facilitating environment in which individual activity such as entrepreneurial or microfinance activity may help reduce poverty is not a new idea. In fact, research into individual activities and poverty alleviation has appeared in literature for the past 20 years. Helping individuals improve their lives through expanding capabilities and choices is discussed by various researchers exploring human development (Alkire, 2002; Guichard, 2003; Johnson, 2002; Robeyns, 2005; Sen, 1997). Empirical evidence exists regarding the relationship of one such individual activity, entrepreneurial activity, and enhanced national economic development[1].

As derived from a review of literature[6], entrepreneurial activity is defined as: (a) starting a new business or company, (b) becoming self-employed, or (c) managing a young business. Microfinance activity is another individual activity that may directly facilitate achievement of the MDGs. Microfinance activity has recently been identified as one of a suite of development solutions considered sustainable investments (Baue, 2008). Microfinance activity is defined as: (a) the provision of small loans (microcredit), (b) the ability to start very small savings accounts (microsavings), and (c) access to insurance for higher risk, lower-income citizens (microinsurance). These microfinance programs are designed with the primary objectives of helping citizens out of poverty[7].

The reader might question the separation of microfinance activity from entrepreneurial activity or the consideration of microfinance activity as separate from economic development. Microfinance activity encompasses loans, savings, and insurance products and services. Empirical evidence does exist regarding the relationship among microfinance activity measures and enhanced economic development (Ahlin & Jiang, 2005; Basu & Srivastava, 2005; Bowman, 2007; Imboden, 2005). Research regarding the impact of microfinance activity on economic poverty (Faridi, 2004; Khandker, 2005; Mohindra & Haddad, 2005; Weiss & Montgomery, 2005) is also available.

Microfinance activities have also been associated in the literature with improved health measures for children of mothers receiving microcredit loans (Pitt et al., 2003). Anecdotal information exists from recipients of microcredit loans regarding the positive impact of this participation on a child's access to education (Anderson, 2007; Islam, 2007). Brown (2005) identified a relationship between society's negative view of poverty and poor adult identity with a subsequent negative influence on the activities one chooses to undertake. Delvetere & Huybrechts (2005) have identified an enhanced self-perception associated with participation in microfinance programs, a positive self-perception that may influence activities one chooses to undertake. These relationships regarding self-identity and activity are the basis for my consideration of microfinance activity with human development rather than considering microfinance activity only as an economic development activity.

Regarding the relationship of individual activity, economic development and human development, the current and proposed models of the relationships are presented in Figure 3.1.

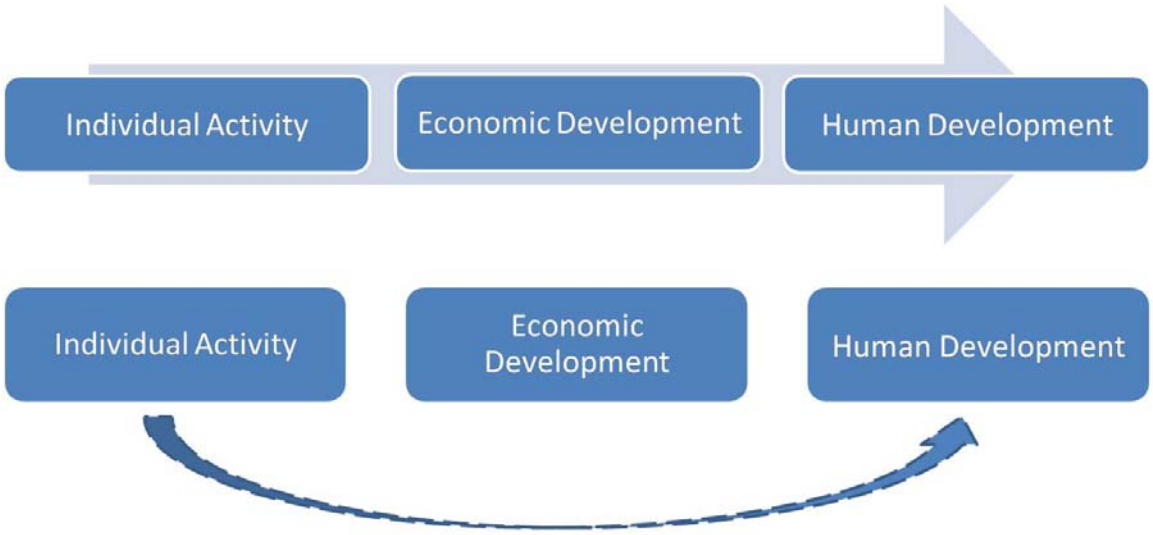

Figure 3.1 **Current and proposed models of paths to human development.**

Human Development and the Global Market

As noted in the introduction, more than 500 million of our fellow citizens live in regions around the world with low levels of human development. These fellow citizens, simply by virtue of birth location, have limited ability to lead the life they choose and are without access to "…the tools and opportunities to make those choices" (United Nations Development Program, 2004, p.v). An illustration of the disparity in choices across the world today is depicted in Table 3.1.

Table 3.1 ***Human Development (HD) World Snapshot by Level of HDI***

UN Human Development Index (HDI) Category	Nations with low HDI ≤.50	Nations with medium HDI .50 to 799	Nations with high HDI ≥.80
World population	8%	65%	25%
Nations	22	85	70
Life expectancy at birth (in years)	48.5	67.5	76.2
Literacy rate	54.4%	78%	(reported as 99%)
Net primary school enrollment	43%	75%	96%
% of Population without access to adequate sanitation	74%	70%	10%
% of Population without access to clean water	57%	27%	4%
Gross Domestic Product (GDP) /capita (purchasing power parity)	US $483	US $1412	US $22,984

Source: Developed using data from the UN HDR 2007

A review of the information in Table 3.1 identifies disparities across nations. As compared to the first year of the Human Development Report in 1990, more nations are included in the report (130 in 1990, 177 in 2007). In 1990, the nations were almost evenly distributed among categories, with 44 in the low range of HDI, 40 in the middle, and 46 in the high range of HDI. In the 2007/2008 HDR, the majority of the nations fall in the range of medium human development. This new "…global middle-class" (Edward, 2006, p. 16) has benefitted from increases in measures comprising the HDI; however, there are still millions of global citizens without the same opportunity as evidenced by the following:

a. Approximately 776 million human beings around the world who are illiterate (UNESCO, 2009);

b. 2.67 billion people who live without adequate access to sanitation (United Nations Development Program, 2007);

c. 1.1 billion people who live without adequate access to clean water (United Nations Development Program, 2007); and

d. 15 of every 1000 children in nations with high HDI die before their fifth birthday as compared to 184 out of 1000 children for nations with low HDI (United Nations Development Program, 2007).

One of the potential contributors to the differences noted in Table 3.1 may be the increase in globalization of world markets and societies. Globalization opens new markets for goods and services of citizens around the world. Benefits range from new market opportunities for citizens in nations with lower human development to consumer benefits for citizens in nations with higher human development. Consider the changes in 10 years related to imports of goods and services for citizens of the United States depicted in Table 3.2.

Table 3.2 ***United States Manufacture and Services Import Snapshot 1994 & 2004***

	1994	**2004**
Merchandise imports (value of goods purchased from rest of world)	$516,987,000	$1,525,516,000
% of Imports in manufactures	73%	75%
Value of service imports	$97,950,000	$263,598,000
% of Services imports in insurance and financial services	4.5%	13.2%
% of Service imports in computer information, communication, business services	20.4%	30.9%

Source: Developed using data from The World Bank (2006a)

Developing nations have increased manufacture exports from under 25% in the 1980s to 80% in 1998 and service exports from 9% to 20% during that same time frame (The World Bank, 2006a). A citizen of the United States benefits through increased choices of consumer goods and increased competition and services resulting in lower prices and changes in quality (The International Monetary Fund, 2007; The World Bank, 2006a).

While manufacture and service exports have increased for developing nations, a more diversified economy is also more attractive in the global marketplace than one

based on a single or primary export commodity (Collier & Hoeffler, 2002; The World Bank, 2006a). Economic diversity helps to "…lower risk of large scale violent conflict" (Collier & Hoeffler, 2002, p. 129) in a nation. In today's competitive environment "Globalization underscores the need for a flexible, dynamic labour market and a well-educated adaptable workforce" (*The Economist*, 2007, p. 35), needs that may be met by improved human development.

Implications and Next Steps

Policy makers are key officials in determining resource allocations and activities in a nation (Clarke, 2005; Friedman, 2002; Glaeser, La Porta, Lopez-de-Silanes, & Shleifer, 2004; Potter & Proto, 2007; Singh & Santiago, 1997; ul-Haq, 1995). Officials generally see economic development as a way to reduce poverty and raise human development measures (Caldwell & Caldwell, 2002; Ranis & Stewart, 2000; Ranis, Stewart, & Ramirez, 2000) and generally focus greater attention on the economic development (Dolan & White, 2007) of a nation than on the human development. Considering the importance of the Millennium Development Goals and the lives to be changed and saved by achieving these goals, a multi-focused approach to achievement should be considered.

Individual involvement is a key aspect of a multi-focused approach. Entrepreneurial and microfinance activity are already identified with advances in economic development. Economic development is considered a viable approach in facilitating advances in human development measures. A parallel approach to achieving human development goals that considers the impact of individual activity is worth further exploration.

Endnotes

[1]Entrepreneurial activity has been demonstrated to be associated with enhanced economic development (Acs & Storey, 2004; Amini, 2004; Paulson & Townsend, 2005; Pietrobelli, Rabellotti, & Acquilina, 2004; Reynolds, 2005; Spring & McDade, 1998; Stephen, Urbano, & vanHemmen, 2005; Sternberg & Wennekers, 2005; Weder, 2003; Wong, Ho, & Autio, 2005).

[2]Microfinance activity has been associated in research with enhanced economic development (Ahlin & Jiang, 2005; Basu & Srivastava, 2005; Bowman, 2007, Imboden, 2005). Research regarding the impact of microfinance activity on economic poverty (Faridi, 2004; Khandker, 2005; Mohindra & Haddad, 2005; Weiss & Montgomery, 2005).

[3]Poverty has been discussed by researchers as a lack of opportunity to attain resources or lead a life of value (Afsar, 2004; Arimah, 2004; Brown, 2005; Collier & Dollar, 2002; Heinz, 1997; Mestrum, 2003; Moore, 2003; Noble, Wright & Cluver, 2006; Rijserbam, 2003; Roosa, Deng, Nair, & Burrell, 2005; Van der Veen & Preece, 2005; Villar, 2004).

[4] Economic development is defined as growth in economic activity (Aksal, 1998; Barbier, 1987; Jackson & Rodkey, 1994; Roberts, 2004; The World Bank, 2005a, 2005b; Vandewalle & Pfeifer, 1996; Wennekers, van Stel, Thurik, & Reynolds, 2005).

[5]Economic development is measured by changes in gross domestic product (GDP) per capita over time (Birdsall, 2001; Cardoso, 2005; Edward, 2006; Evans, 2003; Kaul & Tomaselli-Moschovitis,1999; McGillivray & White, 1993; Ranis & Stewart, 2000; The World Bank, 2005c, 2006b)

[6]The definition of entrepreneurial activity, that of starting or managing a new business as a self-employed individual, is derived from a review of literature (Acs, Arenius, Hay, & Minniti, 2004; Acs & Armington, 2004; Acs & Storey, 2004; Berkowitz & DeJong, 2005; Carree & Thurik, 2002; Goedhuys & Sleuwagen, 2000; Jackson & Rodkey, 1994; Kruegel & Brazael, 1994; Lee, 1997; Morris, Pitt, & Berthon, 1996; Paulson & Townsend, 2005; Pietrobelli et al., 2004; Stephen et al., 2005, Van Stel, Carree & Thurik, 2005; Wennekers et al., 2005).

[7]Microfinance programs are designed to help citizens out of poverty (Ahlin & Jiang, 2005; Arch, 2005; Basu & Srivastava, 2005; Eversole, 2003; Godquin, 2004; Holvoet, 2005; Imboden, 2005; Khandker, 2005; Nair, 2005; Semboja, 2004; Weiss & Montgomery, 2005).

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CHAPTER 4
MANUSCRIPT 2

Entrepreneurial Activity and the Millennium Development Goals: Achieving Advances in Literacy through Individual Activity

ABSTRACT

Nations around the world are working to achieve the United Nations Millennium Development Goals (MDGs) by 2015. Success with the goals means a better life for citizens around the world and is predicated on achieving advances in human development measures such as access to clean water, reduction in under five mortality rate, gender equality, combating disease, and increasing primary school education rates. A multi-focused approach that includes parallel efforts in advancing both a nation's economic and human development is a solution to assist nations with achieving the MDGs. This manuscript offers an argument as to why a form of individual activity, namely entrepreneurial activity, should be included in the multi-focused approach to the achieving the Millennium Development Goals. Presented are the results of a study that focused on the relationship between measures of entrepreneurial activity and human development. Key questions addressed in this research are:

1. Does entrepreneurial activity have a direct effect on human development, separate from any effect through economic development?

2. If so, do certain types of entrepreneurial activity have a stronger relationship with some human development measures more than others?

The results of this research illuminate a link between one measure of entrepreneurial activity, namely "own account workers" (entrepreneurs whose primary source of income is their business and who do not employ others), and literacy.

Key words: Millennium Development Goals; literacy; human development; entrepreneurial activity; economic development.

Introduction

"Better educated and healthier people are empowered to make better choices and lead fuller lives, which also makes them more productive and their economies more competitive" (Annan, 2000, p. 23). Mr. Kofi Annan, former Secretary-General of the United Nations, used these words in his April 2000 report outlining the role of the United Nations in the 21st century. This statement was a challenge to nations to achieve greater success in primary education, a measure of human development as well as the second goal of the United Nations (UN) Millennium Development Challenge. These words also challenge us as a community of scholars and world citizens to examine various paths that can be taken to advancing human development measures around the world.

Since 1990, the United Nations has published annual reports focused on human development. Human Development (HD) for the United Nations is about "allowing people to lead the life they choose-and providing them with the tools and opportunities to make those choices" (United Nations Development Program, 2004, p. v.). The United Nations measures and reports the level of human development through a summary index, the Human Development Index (HDI). The HDI is comprised of average scores for national measures of longevity, knowledge, and a decent standard of living. The concept of human development encompasses more than the elements in the HDI as evidenced by the number of indicators in the annual Human Development Reports (HDR). The first HDR reported contained 39 measures for human development with the most recent report (2007/2008) containing over 250.

Human development is a concern for all nations of the world as well as the United Nations. In 2000, 189 nations expressed their commitment to enhancing human development by accepting the Millennium Development Challenge and the accompanying Millennium Development Goals (MDGs). The Millennium Development Goals are the shared goals of international leaders to improve the living conditions of citizens around the world by 2015. The goals are to: (a) eradicate extreme poverty, (b) ensure children around the world complete primary education, (c) promote gender equality, (d) reduce child mortality, (e) improve maternal health, (f) combat HIV/AIDS and other diseases, (g) ensure environmental sustainability, and (h) develop a global

partnership for development. Success with the MDGs is measured by advances in human development measures, so achieving success with the MDGs is advancing human development levels in a nation.

Across the world today, large disparities exist among those world citizens living in nations with high levels of human development (76.2% of world population) and fellow citizens living in nations with low levels of human development (8% of world population). Nations with low levels of human development have an average gross domestic product (GDP) per capita of $483 while those in nations with high human development have an average GDP per capita of $22,984. Our fellow citizens living in areas of low human development number more than 500 million and can expect to live shorter lives (48.5 years instead of 76.2 years), will be less likely to read (54.4% versus 99% or higher), and more likely to lack access to adequate sources of clean water (51% versus 2%). While not readily apparent from reading the UN HDRs, these figures were calculated by the author using data from the 2007/2008 UN HDR.

The impact of continued low human development, while most acute for those living it, is shared by all of us. Lack of access to education, low levels of literacy, inability to meet basic needs, or make a better life for one's children can manifest itself in ways that indirectly and directly affect those living in areas of higher human development. For example, disenfranchised youth or young adults are considered a prime audience for radical segments of societies, and nations "where young adults accounted for more than 40 percent of all adults – were roughly two-and-a-half times more likely to experience an outbreak of civil conflict…" (The Worldwatch Institute, 2005, p. 26).

In a world where there is an average of 775 cellular phone subscriptions for every 1000 citizens in nations with high human development (United Nations Development Program, 2007), is it acceptable that billions of our fellow citizens do not have access to adequate sanitation and clean water? In today's world, is it acceptable that citizens totaling the populations of North America (Canada, Mexico, and United States), Russia, Japan, and South Korea live without the ability to lead the lives they choose or the hope of making a better life for their children? What alternative solutions can be implemented

to help reduce the 776 million illiterate citizens in the world or the citizens without access to adequate sanitation who must defecate in a bag and throw it into the street?

World leaders and policy makers are seeking information and avenues to enhance human development and succeed with the Millennium Development Goals. Advancing national economic development is considered a prime method for advancing human development (Caldwell & Caldwell, 2002; Dolan & White, 2007; Ranis & Stewart, 2000; Ranis, Stewart, & Ramirez, 2000). The information most readily available to policy makers focuses on building economic development first with advances in human development to follow. This process takes time, most likely more than one generation. Meanwhile, parents in nations with low levels of human development will continue to make choices between schooling a child, sending them in search of water or fuel, or sending them away to work and contribute to the family income.

Recognizing that individuals want better lives for themselves and their children, recent research to support achievement of the Millennium Development Goals focused on micro-level activities at the individual or community level. Such research pointed to a multi-focused approach that centers on individual activity at the micro-level (Casapia, Joseph, & Gyorkos, 2007; Gaiha & Kulkarni, 2006; Krishna et al., 2006; Ratzan, 2005; The World Bank, 1996). This approach recognizes the essential role individuals have in their own life situations and advocates viewing the poor and underprivileged not as beneficiaries of policies and actions but as "clients….owners and managers of their assets and activities (The World Bank, 1996, p. 8).

Entrepreneurial activity is an example of one such individual activity. Entrepreneurial activity has been associated with improved national economic development[1]. Advancing economic development takes time and still more time is needed for the benefits of advanced economic development to filter into human development improvements. What if something could be done quicker? Can parents work to improve the living conditions of their children without waiting on national economic development? How do individual activities such as entrepreneurial activity impact human development? If individual activity can help with human development, will not that then help with national economic development? If a nation's workforce is

healthier and more literate, will this help attract the foreign direct investment and new enterprises world leaders are seeking?

Entrepreneurial activity seems to exemplify the benefits of empowerment and national advancement implicit in Mr. Annan's statement provided at the beginning of this manuscript. Entrepreneurial activity is associated with national economic development[1]. Economic development is associated with enhanced human development (Caldwell & Caldwell, 2002; Dolan & White, 2007; Ranis & Stewart, 2000; Ranis, Stewart, & Ramirez, 2000). If entrepreneurial activity is related to economic development and economic development to human development, what is the relationship of entrepreneurial activity with human development? Is there a direct relationship that would support more focus on individual activity as a way to enhance human development or is the relationship only an indirect relationship through economic development? Figure 4.1 provides both the current literature-based relationships of these three concepts as well as the model being proposed in this manuscript.

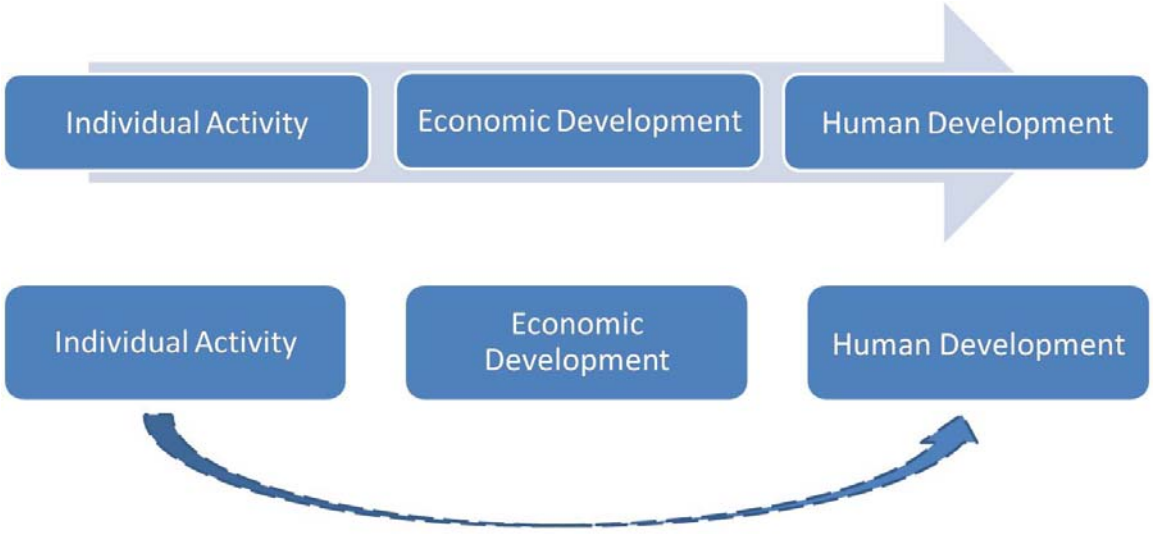


Figure 4.1 **Current and proposed models of paths to human development.**

A robust literature search seeking research on the proposed model in Figure 4.1 identified a gap in literature. This manuscript summarizes my research and results into the relationship among measures of entrepreneurial activity and measures of human development. The research goal was to determine if, controlling for economic

development, entrepreneurial activity had a relationship with human development. If a relationship did exist, a second goal was to determine if certain measures of entrepreneurial activity had a stronger relationship with some measures of human development than others.

Measures

Human development, entrepreneurial activity, and economic development are each multidimensional concepts that are not readily defined. A content analysis of the relevant literature produced the definitions, variables, and metrics that follow.

Human Development

Human development for the United Nations Development Program (UNDP) is about "allowing people to lead the life they choose-and providing them with the tools and opportunities to make those choices" (United Nations Development Program, 2004, p. v.). Leading a life of one's choice involves being able to live in an environment of political freedom, with human rights, self-respect, education, and the chance to have a long, healthy life. The *United Nations Human Development Report* 2007/2008, the most recent annual report, contains over 250 measures for human development. Of these, only six are included in the Human Development Index (HDI), the composite index used in comparing human development around the world over time and these are identified in Table 4.1.

Table 4.1 ***Measures Comprising the UN Human Development Index (HDI)***

Concept	Measure
Longevity (health)	Life expectancy at birth
Knowledge (education)	Adult literacy (% of population ages 15 and above reading and writing at basic level) Gross school enrollment (% of eligible population enrolled) • Primary gross school enrollment • Secondary gross school enrollment • Tertiary gross school enrollment
Decent Standard of Living (resources)	Gross Domestic Product (GDP) per capita expressed in Purchasing Power Parity (PPP) in US$

Source: Developed using the UN HDR 2005

In considering how to define and measure human development, literature from researchers examining the UN concept of human development was reviewed. The ideas of capability and choice were prevalent in the literature reviewed (Alkire, 2002; Arimah, 2004; Fakuda-Parr, 2003; Guichard, 2003; Johnson, 2002; Ranis & Stewart, 2000; Robeyns, 2005; Sen, 1997; Streeten, 1994; United Nations Development Program, 1990). In many cases, the definition predominantly used in research was some variation of the United Nations definition. Adopting the UN *definition* for human development posed no issues. *Measuring* human development using only the HDI, however, was problematic for several reasons.

First, the HDI includes Gross Domestic Product (GDP) per capita. GDP per capita was the measure chosen in this study for economic development (see *Economic Development* section below). As this measure was already incorporated into the HDI, controlling for economic development (using GDP per capita) would be troublesome for analysis. Second, the HDI includes three measures for schooling (primary, secondary, and tertiary school enrollment). This research focused on achievements parents could effect for their children or over one generation and therefore, tertiary school (school beyond grade 12) was not of interest. In seeking data for the study, I also noted nations

did not collect all three of these types of school enrollment and even United Nations collection of data had varied over the years.

Some measure of primary school enrollment was important, however, and needed to be included in the measures for human development. I chose net primary school enrollment, which represents the percentage of eligible school age children actually enrolled in the appropriate grade at a given time. Finally, among the literature I reviewed to decide on the definition for human development, some authors discussed the idea that the UN HDI may not truly represent the state of human development in a nation. When authors critiqued the HDI, they invariably proposed additional measures for inclusion and in considering whether to add these additional measures, I also reviewed my selected measures against the success indicators for the MDGs to facilitate connection of any study results to the MDGs. The final measures selected for human development are identified in Table 4.2.

Table 4.2 ***Variables and Metrics for Human Development (HD)***

Variables	Metrics
Under five mortality rate	# deaths per 1000 live births (of those five years of age or younger)
Literacy rate	% of population 15 and older who can meet reading/writing standard (a short, simple statement related to one's daily life)
Net primary school enrollment	% of eligible population enrolled in primary school
Life expectancy	age in years
Sanitation access	% of population with access to appropriate (as defined) sanitation
Water access	% of population with access to fresh water

Entrepreneurial Activity

Based on a content analysis of diverse definitions, the essence of entrepreneurial activity may be defined as: (a) starting a new business or company, (b) becoming self-employed, or (c) managing a young business. A review of literature[2] and an examination

of standards of measurement from such organizations as the International Labor Organization and the small and medium scale enterprise data publicly available from The World Bank confirmed the viability of the definition but presented obstacles in terms of data collection. The variables chosen for entrepreneurial activity are in Table 4.3.

Table 4.3 ***Variables and Metrics for Entrepreneurial Activity (EA)***

Variables	Metrics
Employers	The number of persons owning or operating an enterprise, engaging in independent profession or trade, employs others.
Own account workers	The number of persons owning or operating an enterprise, engaging in independent profession or trade, hires no employees.

The variables in Table 4.3 were chosen as they were the best representation of the definition of entrepreneurial activity used in this study. The selected measures and data represent entrepreneurial activity in the formal rather than informal sector of a nation's economy. Entrepreneurial activity was considered as a whole and no differentiation was made among entrepreneurial activity in different sectors of an economy, such as services, manufacturing or farming. There was also no distinction drawn in this analysis between entrepreneurial activity of choice or necessity.

Economic Development

Of the concepts to define, economic development was the most challenging. Discussions and definitions varied across literature with economic development and economic growth appearing as interchangeable and both being discussed in terms of accumulation of capital, increases in businesses, products, or capacity[3]. For this research, economic development is defined as the economic output of those living in a county.

Measuring economic development likewise involved discussions regarding increases, changes, or growth. The discussions concerning measuring economic development center on either Gross National Product (GNP) or Gross Domestic Product (GDP). Both have appeared over time in the United Nations Human Development Reports with the first report in 1990 using GNP and the most recent report issued in 2007

citing GDP. Gross Domestic Product measures output of residents of a nation (The World Bank, 2006; Evans, 2003) while Gross National Product incorporates value added from both residents and non-residents (Kaul & Tomaselli-Moshovitis, 1999).

The focus of this research was on individual activity and human development within a nation. The measure for economic development needed to be consistent and comparable and also available for collection. For this research, economic development was represented as Gross Domestic Product (GDP) per capita (Birdsall, 2001; Evans, 2003; Ranis & Stewart, 2000; The World Bank, 2006) expressed in purchasing power parity. Purchasing power parity (PPP) translates one US dollar worth of goods into what those same goods would cost in another nation as expressed in US dollars and allows for international comparisons over time.

Data Selection and Collection

The nations included in the cross-sectional analysis were determined by the availability of data at two points in time, 1996 and 2006. The data set used in this analysis was developed after reviewing the availability of data on key measures for human development and entrepreneurial activity. The final data set included 44 nations spread across the three human development categories of low, medium, and high. Although this created a skewed sample with the majority of nations already registering elevated measures for human development, it was the only sample possible given available data.

A full list of nations included in the data set, as well as their respective HDI for both time points is found in Table 4.4.

Table 4.4 ***Nations in Data Set Organized by HDI in 1996 and 2006***

HDI in 1996	**HDI in 2006**			**N in 1996**
	Low	*Medium*	*High*	
Low	Cote d'Ivoire	Ghana Pakistan		3
Medium		Ecuador El Salvador Maldives Turkey Vietnam	Cuba Estonia Romania	8
High		Colombia Russian Fed Thailand	Argentina Australia Austria Barbados Canada Chile Costa Rica Cyprus Czech Rep Denmark Finland Greece Hong Kong Hungary Iceland Ireland Israel Italy Japan Latvia Mexico Poland Portugal Singapore Slovak Rep Spain Sweden Switzerland Trinidad & Tobago Uruguay	33
N in 2006	1	10	33	44

The profile of economic activity for nations in this sample identified nations with economies primarily based on services (63% of nations) rather than industrial (30%) or agrarian (7%) activities. Even for the nations in the sample with low levels of human development, the economic activity was still primarily services based (47%) as opposed to industrial (24.7%) or agrarian (28.1%).

Results

As data were collected for two points in time rather than over a full 10 years, the analyses were based on the changes in measures from the 1996 to 2006 collection points. As shown in Table 4.5, the changes in human development measures produced statistically significant results that were expected as well as results that were unexpected yet anticipated based on proposed theory.

Table 4.5 ***Correlation Matrix of Changes in Human Development, Economic Development, and Entrepreneurial Activity Measures***

Variable	1	2	3	4	5	6	7	8	9
Human Development									
1. <5 mortality	1								
2. literacy	-.071	1							
3. primary school completion	-.308	.571**	1						
4. life expectancy	-.671**	-.183	.177	1					
5. sanitation access	-.011	-.310	-.400	.247	1				
6. water access	.021	-.280	-.244	.120	.705**	1			
Entrepreneurial Activity									
7. employers	-.060	-.045	.076	.020	-.065	.111	1		
8. own account workers	-.240	.460**	.172	-.052	-.002	-.132	-.034	1	
Economic Development									
9. GDP/capita	.244	-.277	-.298	.040	.612**	.701**	.089	-.202	1

Ns vary from 31-44 nations, the exception is for sanitation access which includes only 14-21 nations
** p<.005 level; * p<.05 level (two tailed tests)

The strongest positive relationship within the human development variables was between changes in sanitation and water access (.71), followed by changes in literacy and primary school completion (.57). Change in life expectancy was negatively related to change in under-five mortality (-.67). As one would imagine, a change in one direction in the death of children under five would have a change in the other direction for life expectancy. Similarly, an increase in school enrollment would be expected to produce an increase in literacy. Only one human development measure, change in literacy, was

moderately related to changes in the entrepreneurial activity of own account workers (.46), and two human development measures were related to changes in economic development. GDP was highly related to changes in both water access (.70) and sanitation access (.61).

Neither measure of entrepreneurial activity was found to have a statistically significant relationship with GDP per capita. While this may be appear contrary to cited literature regarding the relationship of entrepreneurial activity with economic development, this result was consistent for the nations comprising the majority of this sample. Literature surrounding entrepreneurial activity indicates that as the national economic development increases, entrepreneurial activity decreases (Acs, Arenius, Hay, & Minniti, 2004; Acs, Audretsch, & Evans, 1994; Amini, 2004). In this sample, economic development increased for almost all nations which would imply a decrease in entrepreneurial activity. For the overall sample there was a decrease in one measure of entrepreneurial activity, employers, and an increase in the other, own account workers.

To better understand the nature of the relationship identified by the correlation between changes in literacy and own account workers, a detailed inspection of subsets of nations was used along with quantitative analyses of the entire sample. Using a change in means between 1996 and 2006 for each measure in the data set, improvements in all measures were identified as evidenced by upward changes in means except for a downward change in the case of under-five mortality rate. The one exception was for employers where the mean decreased by 33.7%. Based on the profile of economic activity for the nations in this sample, this decrease was not unexpected.

The other measure of entrepreneurial activity, own account workers, increased by 31% which was contrary to expectations based on the literature. Large increases in own account workers were seen in several nations in the low and medium HDI categories. Increases in own account workers for nations in the high HDI category were primarily due to newly independent states emerging from the dissolution of the Soviet Union. Of the 44 nations in this sample, 21 nations demonstrated positive literacy rate change and 14 of these 21 also reported a positive change in own account workers. The nation with the largest change in own account workers was also the nation with the largest change in literacy rate.

To investigate the theory regarding individual activity in the form of entrepreneurial activity impacting human development, in this case literacy, the change in own account workers was analyzed against the change in literacy in a regression analysis. The results indicated 21% of the variation in change in literacy can be explained by changes in own account workers (r^2=.21, p=.004). Figure 4.2 contains a graphic representation, which shows that most of the nations in this data set had no change in own account workers, with a number of those having a positive change in literacy rate.

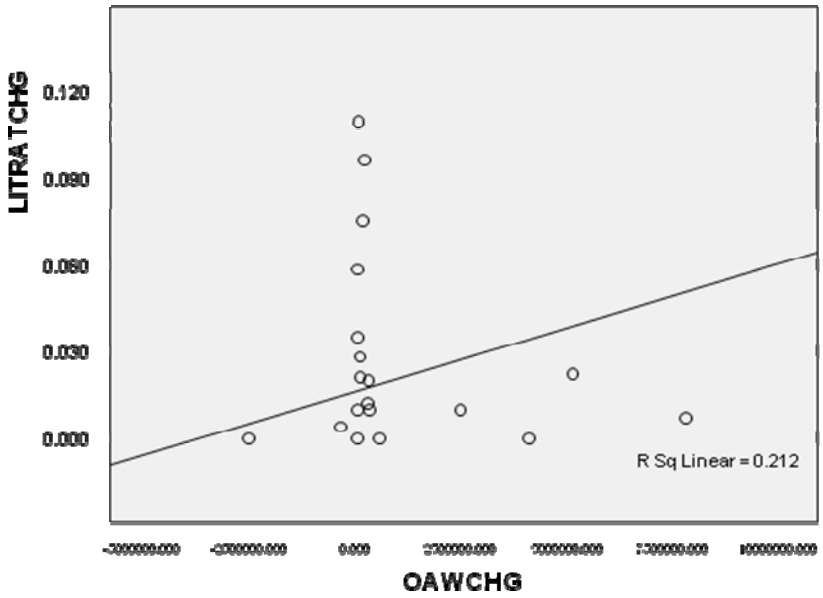
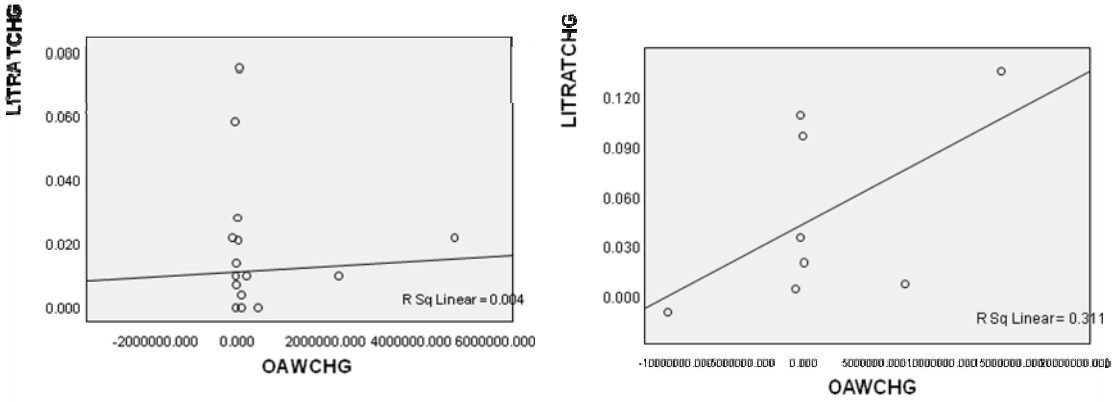


Figure 4.2 **Scatterplot of changes in literacy and own account workers.**

The majority of the nations (30/44) remained in the same category of human development (high) at both points in time in the study. For these nations, there was no statistically significant relationship with changes in own account workers and literacy. Likewise, for the nations in the low and medium HDI categories (low med nations), the r^2 was a non-statistically significant 0.31 (p=.15). This lack of statistical significance is, in part, due to the very small sample size (n = 8), (see Figure 4.3).



nations with Hi HDI both years **low med HDI nations**

Figure 4.3 **Changes in literacy and own account workers by HDI category.**

To examine how own account workers contributed to the change in literacy without the impact of economic development, both a hierarchical regression and path analysis were conducted. Own account workers is one measure of entrepreneurial activity and entrepreneurial activity has been identified as having a non-linear relationship with economic development (Acs, Arenius, Hay, & Minniti, 2004; Acs, Audretsch, & Evans, 1994; Amini, 2004). Because of this non-linear relationship, it is reasonable to inquire whether a similar relationship might be evident with entrepreneurial activity and human development.

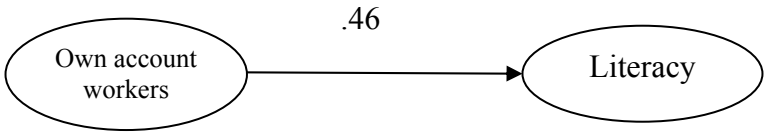
Controlling for economic development, the hierarchical regression of changes in literacy on changes in own account workers, produced statistically significant results in the linear and cubic models. Entered first, change in GDP accounted for 18.5% of the variance in change in literacy (p=.01). Entered second in a linear model, change in own account workers added an additional 14.8% (p=.01). The quadratic contribution to variance explained was not statistically significant (1.8% added, p=.37), but the cubic contribution was, adding an additional 14.4% (p=.007) for a total variance explained of 49.6%. This analysis implies that while changes in GDP contributed to changes in literacy, own account workers was an important contributor to changes in literacy and the relationship with literacy and own account workers mirrors the changes over time seen with entrepreneurial activity and economic development.

Turning to the question concerning whether or not own account workers affects literacy directly or only through economic development, the path analysis of the linear model revealed the effect was a direct rather than indirect effect. The effect size of change in own account workers on change in literacy for this sample was .46 and this was primarily a direct effect (.39) with a small indirect effect (.05, calculated from-.13*-.37) through GDP/capita change. Table 4.6 contains the information on the data used for the direct versus indirect analysis while Figure 4.4 is a pictorial representation of the direct and indirect relationships.

Table 4.6 ***Hierarchical Regression of Own Account Workers and GDP on Literacy***

Variables Entered	**ΔR^2**	**R^2**	**Beta (Step 1)**	**Beta (Step 2)**
Step 1 – OAW	.215	.22	.46	.39
Step 2 – GDP	.128	.34		-.37

Model 1 – Direct Relationship



Model 2 – Direct and Indirect Relationship

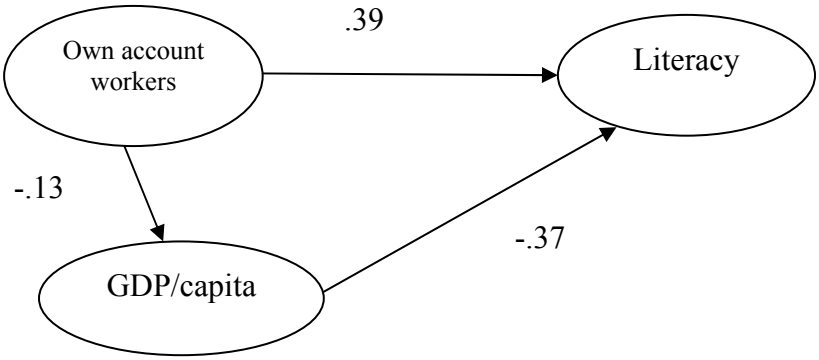


Figure 4.4 **Linear model direct and indirect relationships of own account workers, GDP, and literacy.**

While the quantitative analysis produced tentative yet interesting results, a detailed inspection of subsets of the data set yielded a richer conceptualization of the relationship of own account workers with literacy and also a curious finding with GDP. The initial correlation analysis identified an inverse relationship with GDP per capita and changes in literacy and this was supported by an inspection of nations with different HDI and GDP patterns. Evidence suggesting more support for a direct rather than indirect effect of own account workers with literacy was provided by analyzing this inverse relationship with GDP. In those nations demonstrating an inverse relationship of GDP with literacy, own account workers and literacy changes were both in the same direction and opposite of GDP. Examining the three nations that moved down one category of human development, a strong correlation between changes in own account workers and changes in literacy emerged (see Figure 4.5) while for the nations moving up one category of human development for which all data for analysis were available (three cases), a perfect linear relationship was identified (see Figure 4.6). As these were very small groups, however, caution must be exercised regarding interpretation of the identified relationship.

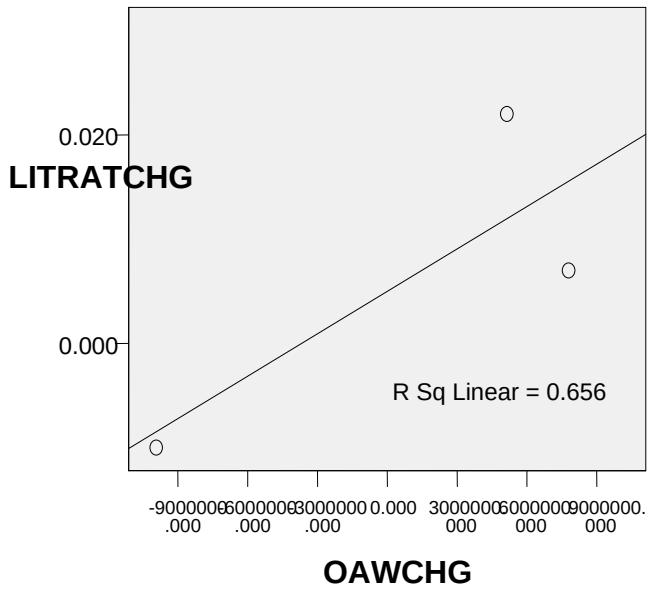


Figure 4.5 **Changes in literacy and own account workers for nations moving down one category of HDI.**

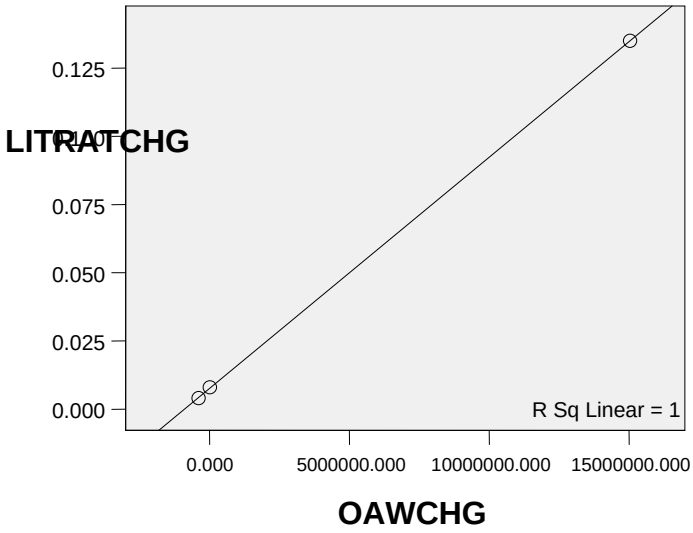


Figure 4.6 **Changes in literacy and own account workers for nations moving up one category of HDI.**

The three cases of Cote d'Ivoire, Pakistan, and Thailand provide good illustrations of the different results regarding own account workers, literacy, and GDP in this study. Cote d'Ivoire was one of the nations in this sample that did not change human development categories and was in the low HDI category in both 1996 and 2006. During that time, the GDP/capita dropped 4% or $69. However, own account workers increased by 3.7% and literacy by 11%. The other measure of entrepreneurial activity also increased (2.4%) as did the school enrollment rate (11%). Examining the changes in measures for Pakistan provides even more dramatic results. Pakistan moved from low to medium HDI and experienced a 3% increase in GDP per capita. During that time, the own account workers increased by 1000% and literacy increased by 13.5%. In these cases, own account workers and literacy were related and the direction of change was positive while in the case of Thailand, the direction of change was negative. From 1996 to 2006, Thailand experienced a 27% increase in GDP per capita but a 99% decrease in own account workers. During that time the literacy rate dropped by 1% as well. These cases exemplify that own account workers and literacy tended to either increase or decrease in the same direction, regardless of the direction of change of GDP.

Conclusion

While previous thinking has been that improvements in the human condition followed macro-economic development, this investigation suggests these may be linked at the micro-level with entrepreneurial activity spurring literacy. This study is a first in examining the data sets for entrepreneurial activity with human development in this fashion. The various analyses illuminated interesting results regarding two of the eight measures examined (own account workers and literacy). These results suggest policies focused on facilitating entrepreneurial development may help nations advance their human development measures as well as help in achieving success in at least one of the Millennium Development Goals.

Public policy makers are influential in determining activities, resourcing, and actions of nations (Clarke, 2005; Friedman, 2002; Glaeser, La Porta, Lopez-de-Silanes, & Shleifer, 2004; Potter & Proto, 2007; Singh & Santiago, 1997; ul-Haq, 1995). Officials responsible for policy actions may base decisions on a multitude of inputs, including research and readily available information. Policy officials are criticized when difficult choices lead to setting policy in one direction versus another, for example, decisions leading to inadequate investment in education and adult literacy (ActionAid, 2009; Hinzen, 2007). The UNESCO Literacy Initiative for Empowerment explicitly identifies policy support for literacy as a key objective (UNESCO, 2009a).

Policy makers will likely continue to struggle with allocating limited resources. Without new knowledge or an increased awareness of how individual activities, such as entrepreneurial activity, may spur human development and how human development, such as literacy, may contribute to the overall economic development of a nation, policy decisions will likely continue to be driven towards economic development rather than human development. Global initiatives, such as the Literacy Initiative for Empowerment and the Decade of Literacy, coupled with research results supporting attention to individual activity may contribute to changes in public policy.

Literacy is important to the development of a nation. Literacy aids citizens in the marketplace by making better informed decisions (Viswanathan, Gajandiran, & Venkatesan, 2008). Literacy is related to improved health (Green, Bianco, & Wyn, 2007) and has even been proposed as a basic human right (Limage, 2007; UNESCO, 2009b).

Improvement in literacy is a supporting measure for the UN Millennium Development Goal Two on achieving universal primary education. Literacy is also the focus of the United Nations Decade 2003-2012 (UNESCO, 2009a) with "Literacy as Freedom" as a slogan. Key focus areas in the decade for literacy include "creating an environment supportive of literacy, ensuring community involvement… (and) …building partnerships at all levels" (Hinzen, 2007, p. 273). Literacy is one of the key competencies to be explored in the upcoming CONFINTEA VI, the Sixth International Conference on Adult Education (UNESCO, 2009b). Literacy may even be one of the more important elements of human development that can be used to increase other measures as it is has been cited as a "powerful concept to guarantee sustainable development; to promote democracy, justice and gender equity; and to contribute to the construction of a world where violent conflicts would be replaced by a culture of peace based on dialogue and justice" (Gomez, 2005, p. 37).

The results of this study, while based on a restricted and skewed sample, suggest how individual activity in the form of entrepreneurial activity may enhance at least one human development metric, that of literacy. Enhancing this analysis by collecting longitudinal data over consecutive years may provide more insight into when diminishing returns might be seen for entrepreneurial activity with literacy. The nations in this sample were primarily nations with elevated levels of human development which are not the nations most in need of improvement. They were, however, the nations for which data were available. If appropriate steps to collect data are not undertaken soon, such analyses for other nations may not be possible even in a few years.

Analyzing differences by economic sector of a national economy could also contribute to the policy discussions. For example, it might be possible to find more rapid advances in literacy by concentrating on own account workers in agrarian economies rather than service economies. In order to make this decision, future analyses need to consider the economic sector of the entrepreneurial activity. Other recommended points for analysis include the sex of the own account worker as well as the motivation, meaning is the own account worker an entrepreneur of necessity or of choice. Including information such as motivation for activity as well as sector of the economy could

engender a discussion or policy changes directing attention to both the informal and formal economies or to increasing activity in one or the other.

Creating a facilitating environment for entrepreneurial activity that increases literacy rates may contribute to further investment and economic advances in a nation. Before this study, a large body of research already existed regarding how an individual activity such as entrepreneurial activity contributes to the national economic development of a nation. The results of this research identify how the same individual activity can contribute to advances in human development as well, in this case, literacy. These results identify that the contribution of individual activity such as entrepreneurial activity may contribute directly to human development without needing to wait in advances in national economic development. This is a key finding that, while it may not yet result in changes to national policy, should engender discussion on if and how other individual activities may help people help themselves while at the same time contributing to the overall improvement of a nation.

Endnotes

[1]Empirical evidence exists regarding the relationship of entrepreneurial activity and enhanced economic development (Acs & Audretsch, 2001; Acs & Storey, 2004; Amini, 2004; Carree & Thurik, 2002; Paulson & Townsend, 2005; Pietrobelli, Rabellotti, & Aquilina, 2004; Redding & Tam, 1995; Reynolds, 2005; Rodrik, Subramanian, & Trebbi, 2004; Spring & McDade, 1998; Stephen, Urbano, & vanHemmen, 2005; Sternberg & Wennekers, 2005; Weder, 2003; Wong, Ho, & Autio, 2005).

[2]The definition of entrepreneurial activity is derived from a review of literature (Acs et al., 2004; Acs & Armington, 2004; Acs & Storey, 2004; Berkowitz & DeJong, 2005; Carree & Thurik, 2002; Goedhuys & Sleuwagen, 2000; Jackson & Rodkey, 1994; Kruegel & Brazael, 1994; Lee, 1997; Morris, Pitt, & Berthon, 1996; Paulson & Townsend, 2005; Pietrobelli et al., 2004; Stephen et al., 2005, Van Stel, Carree & Thurik, 2005; Wennekers et al., 2005).

[3]By economic development, I am referring to growth in national economic activity (Aksal, 1998; Barbier, 1987; Jackson & Rodkey, 1994, Roberts, 2004; The World Bank, 2005a, 2005b; Vandewalle & Pfeifer, 1996; Wennekers, vanStel, Thurik, & Reynolds, 2005.)

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CHAPTER 5

SUMMARY AND CONCLUSION

The purpose of this research was to add to the limited body of knowledge available on achieving human development independent of national economic development. The goal was to expand information available to policy makers seeking to improve the human development of a nation or seeking to achieve advances with the United Nations (UN) Millennium Development Goals (MDGs). The predominance of literature on enhancing human development currently available to those in positions of influence centers on first achieving economic development of a nation (Caldwell & Caldwell, 2002; Dolan & White, 2007; Ranis & Stewart, 2000; Ranis, Stewart, & Ramirez, 2000). For this research, the UN definition of human development was used "allowing people to lead the life they choose-and providing them with the tools and opportunities to make those choices" (United Nations Development Program, 2004, p.v).

Chapter One introduced the ideas, concepts, questions, and need for this research. Of the six and one half billion people who share this world (United States Census Bureau, 2008), approximately eight percent or 508 million live in locations with low levels of human development (United Nations Development Program, 2007). The concept of human development has shifted over time, maturing from a focus on economic poverty during the Cold War (Goldin, Rogers, & Stern, 2002) to consideration of quality of life (Morris, 1979) to the multi-dimensional construct used today that includes nutrition, longevity, income, and literacy among other things (Kannan, 2000; Nafziger, 2006; Sen, 2000; The World Bank, 2006a; Wagle, 2005).

While the concept of human development has shifted over time, the research focusing on ways to achieve advances in human development has remained primarily focused on the importance of national economic development (Goldin et al., 2002). Considering the time required to advance national economic levels in a nation, this study was an exploration of how advances in human development might be achieved without waiting on national economic development. In particular, how entrepreneurial activity, a

facilitator of economic development, might be associated directly with human development rather than indirectly through economic development was examined.

Chapter Two of this dissertation provided an overview of the genesis and conceptualization of this research and a rationale for appropriate measures of economic development, human development, and two types of individual activity (entrepreneurial and microfinance). Chapter Three was the first of two manuscripts and essentially summarized the idea that the impact of continued low human development, while most acute for those living it, is shared by all of us. Lack of access to education, low levels of literacy, inability to meet basic needs or make a better life for one's child may manifest in ways that indirectly and directly affect those living in areas of higher human development.

World leaders agreed on the humanitarian imperatives of helping those in need and, in 2000, members of the United Nations agreed to the *United Nations Millennium Declaration* and pledged to achieve the Millennium Development Goals by 2015. While economic development is a viable aim, a multi-focused approach to achieving the MDGs has also been advocated (Casapia, Joseph, & Gyorkos, 2007). Provided in Chapter Three was a theoretical assessment of why individual activity, namely entrepreneurial activity and microfinance activity, should be examined as direct rather than indirect facilitators of human development and in advancing progress towards a nation's Millennium Development Goals.

Chapter Four, a second manuscript, provided empirical data showing why one form of individual activity, namely entrepreneurial activity, should be included in the multi-focused approach to achieving advances in human development as well as success with the Millennium Development Goals. This chapter, the conclusion, brings all the pieces back together and also provides a discussion of challenges and next steps.

Summary of Results and Conclusions

The data analysis provided both some expected and unexpected results that support the idea of advancing human development without waiting on national economic development. The relationships among the changes in six human development measures were as expected, with strong correlations between the changes in measures for under-five mortality rate and life expectancy, school enrollment and literacy, and access to

clean water and adequate sanitation. As one would imagine, a change in one direction in the death of children under five would have a change in the other direction for life expectancy. Similarly, an increase in school enrollment would be expected to produce an increase in literacy.

While these human development measures were related to each other, only two of these measures were correlated in a statistically significant manner with the measure for economic development. This finding suggests that for the nations in this sample, economic development, as measured by Gross Domestic Product (GDP) per capita, was not as important for changes in human development as were other human development measures. The change in GDP per capita was strongly correlated with the changes in access to clean water and sanitation, suggesting that economic development is important for facilitating access to healthier living conditions. Perhaps this is due to the ability to enhance infrastructure or perhaps it is related to movement of people to areas with existing water and sanitation infrastructure. It is interesting to note that neither access to clean water or adequate sanitation was correlated with any changes in under-five mortality or life expectancy. This could be due, in part, to the particular nations in this sample and examining a larger set of developing nations would be illuminating.

Neither measure of entrepreneurial activity was found to have a statistically significant relationship with GDP per capita. While this may appear contrary to cited literature regarding the relationship of entrepreneurial activity with economic development, this result is consistent for the nations comprising the majority of this sample. Literature surrounding entrepreneurial activity indicates that as the national economic development increases, entrepreneurial activity decreases (Acs, Arenius, Hay, & Minniti, 2004; Acs, Audretsch, & Evans, 1994; Amini, 2004). In this sample, economic development increased for almost all nations which would imply a decrease in entrepreneurial activity and therefore, for employers and own account workers.

For employers, (individuals owning or operating an enterprise and employing others), this sample followed expected results while for own account workers (individuals owning or operating an enterprise and not employing others) an increase of 31% was seen which was contrary to expectation based on literature. Large increases in own account workers were seen in several nations starting and remaining in the low and medium HDI

categories. Increases in own account workers for nations starting and remaining in the high HDI category was primarily due to newly independent states emerging from the dissolution of the Soviet Union.

Unexpected results were mixed. This research was designed to examine an hypothesized relationship with measures of entrepreneurial activity and human development. The proposed relationship would have entrepreneurial activity directly impacting human development rather than indirectly through economic development. Of the two measures for entrepreneurial activity and six measures for human development, only one of each was identified as having a statistically significant relationship based on correlations. Controlling for economic development, changes in the entrepreneurial measure of own account workers (self-employed while not employing others) was found to explain 14.4% of the variance in changes in literacy. A path analysis confirmed the relationship was primarily a direct rather than indirect relationship through economic development. Exploratory analysis identified a weak inverse relationship between GDP per capita and changes in literacy and this was supported by a qualitative inspection of data from selected nations.

The three cases of Cote d'Ivoire, Pakistan, and Thailand created a good example of the direct effect of own account workers with literacy. Cote d'Ivoire was one of the nations in this sample that did not change human development categories and was in the low HDI category in both 1996 and 2006. During that time, the GDP per capita dropped 4% or $69. However, own account workers increased by 3.7% and literacy by 11%. The other measure of entrepreneurial activity (employers) also increased (2.4%), as did the school enrollment rate (11%). The case of Pakistan provides even more dramatic results. Pakistan moved from low to medium HDI and experienced a 3% increase in GDP per capita. During that time, the own account workers increased by 1000% and literacy increased by 13.5%. The relationship with own account workers and literacy was in a positive direction in these cases but could also be in a negative direction as in the case of Thailand. From 1996 to 2006, Thailand experienced a 27% increase in GDP per capita but a 99% decrease in own account workers. During that time the literacy rate dropped by 1% as well.

In summary, in all three cases own account workers and literacy were positively related (both increasing in two cases and both decreasing in one case). The change in GDP was inversely related to both changes in own account workers and literacy for Cote d'Ivoire, which remained in the low HDI category, and for Thailand, which went down in HDI (from high to medium). In contrast, the change in GDP was positively related to both changes in own account workers and literacy in Pakistan, which went up in HDI (from low to medium).

Various potential explanations exist for why only one measure of entrepreneurial activity (own account workers) turned out to be related to only one measure of human development (literacy). For the overall sample, from 1996 to 2006 employers decreased by 34% while own account workers increased by 31% and literacy increased by .02%. Such a large drop in employers may provide a potential explanation for the difference in the results for the two measures of entrepreneurial activity. If data for the full 10 years were available, an expected result would be an overall downward trend in employers as well as own account workers with an overall increase in literacy as well as other measures of human development. As entrepreneurial activity loses its appeal with increases in GDP and as GDP per capita increased by 75% in this sample, both measures of entrepreneurial activity should be expected to decrease.

In this sample, some nations in all categories of human development experienced upward changes in own account workers, this is particularly true for the newly independent states formed after the dissolution of the Soviet Union. There are a few cases in this sample, such as Pakistan, where large increases in own account workers also affected the mean. The next iteration of this research will include data collection for all 10 years of the date range as well as inclusion of any data available through 2009 in an effort to identify any trends for changes in entrepreneurial activity. Follow-on research will also include stratification of nations by other factors such as when the nation transitioned from manufacturing to services economy, in an effort to better analyze entrepreneurial activity trends and better isolate the effect of entrepreneurial activity on human development.

In regards to the emergence of only one relevant measure of human development with own account workers, of the six measures examined in this study, only four may

have been realistically expected to show improvement over a 10 year period. Own account workers obtain their primary income from their enterprise and do not regularly employ others. Assuming an individual does not relocate to another area but rather starts their business activity in the same location in which they live, achieving advances in all six human development measures may be difficult. Small accretions in family resources would be an expected result of business activity. With these additional resources, a parent might be able to take a child out of the labor force and enroll them in school. Therefore, between the 10 years of data sampling for this study, one could have seen an increase in both school enrollment as well as literacy, both of which happened.

For the overall sample, increases were seen in both school enrollment and literacy, however, only a small change in literacy was able to be explained by own account workers. This could suggest that while schooling increased, the change in resources produced by own account workers created a greater return on investment through the child being provided the opportunity to attend school. The measure for school enrollment includes only primary school, which is through the sixth grade. The increase in resources related to the status of own account workers may have provided an opportunity for others in the family or local community unit not of school age to learn to read and write. With additional resources introduced via business activity, other adults in the family or local family unit may have been able to reduce outside work activities resulting in increased discretionary time. Coupled with the school-age child now attending school and learning to read, the child may have been sharing this learning with others in the family thereby multiplying the benefits. This is a potential explanation for the fact that while both school enrollment and literacy increased only the increase in literacy was related to the change in own account workers.

Of the other measures for human development, status as an own account worker may not have been able to effect changes over 10 years. Unless a family moved, the small amount of resources initially generated by starting a small business would not be adequate enough to overcome infrastructure challenges impacting access to clean water or sanitation. The conditions leading to a longer life such as increased nutrition and disease prevention may certainly be impacted by greater resources achieved through business activity but will take longer than 10 years to show up. Finally, the lack of

relationship with under-five mortality rate is a curiosity and needs to be examined more closely for explanations.

Delimitations and Limitations of Study

Accomplishing results in this study required setting certain parameters for research as well as data collection. The definitions and measures identified for entrepreneurial activity, human development, and economic development were delimitations. Although they were identified and chosen through a content analysis of literature, different measures could have produced different results. The data collection produced a limitation due to the fact that no data existed for the time period in question for some measures and, for others, data were sporadically reported. Although the choice of the six human development measures was well reasoned, the need to restrict the data collection to two time points over a 10 year period limited the possibility of demonstrating any trends in the association between entrepreneurial activity and human development.

The decision to use nations included in the United Nations Human Development Reports was also well reasoned, as human development measures were readily available and definitions were consistent across years. The final sample of nations used in this study was limited, however, by how many years those same nations reported entrepreneurial activity. Of the 44 nations most consistently reporting entrepreneurial activity most (30) were nations with high levels of human development at both points of time in this study and this produced a skewed sample of nations as well as limited analysis of the nations with the most to gain from such research.

The time frame chosen for analysis was also both a limitation and delimitation. One of the parameters of this study was changes over one generation. One generation was defined as 16-20 years so the analysis would have been delimited to the time period between 1986 or 1990 at the earlier and 2006 at the later end. While the United Nations began publishing the Human Development Reports in 1990, an analysis of nations identified entrepreneurial data were only available consistently starting in 1996, so the data analysis was limited to the time period between 1996 and 2006. While full longitudinal analysis of all 10 years for all variables was of interest, this study was delimited to two points in time.

Finally, the data collected on entrepreneurial activity were only for the formal sector; no data were collected on the informal entrepreneurial sector and no distinctions were drawn among the types of entrepreneurial activity. Informal sector entrepreneurs may be more likely to be entrepreneurs of necessity versus entrepreneurs of choice and may be more likely to be providing services rather than manufacturing. All these observations need to be considered when refining this research study or conducting future research.

Data Challenges

In a diverse world with a multitude of cultures and priorities, measures may be one way to bridge gaps and unite divergent groups. Discussions on deaths of children under the age of five are not political discussions but humanitarian discussions concerned with saving lives. World leaders, policy makers, scholars, and humanitarians can agree on the need to reduce maternal mortality numbers while disagreeing on the how or when. Differences in collection, self-reporting, and definitions of human development and microfinance measures need to be resolved. Attention to data challenges is necessary in order to facilitate better analysis and achieve a greater understanding of not only reaching the Millennium Development Goals but in researching ways to alleviate poverty in all its forms.

Researchers interested in analyzing human development measures have sources such as the United Nations Development Program (UNDP), The World Bank, and the Central Intelligence Agency (CIA) World Factbook from which to gather data. However, one must exercise caution because, even among these sources which use common terminology, there are slight differences in definitions for measures. For example, information on primary schooling differs for the UNDP and the World Bank Indicators with one using primary school enrollment and the other primary school completion when reporting the measures. There is a need to use data from both sources as some nations have data reported under one source for certain years and data reported in another source for other years. As an added challenge, during the data collection phase, one of the primary sources of data, The World Bank, effected changes to one of the databases for entrepreneurial activity, which necessitated searching for an archived version of the data. This represents one of the challenges in using publicly available data.

Microfinance data, while more readily available now than 15 years ago, would still benefit from improved collection. Data on individuals receiving microcredit loans are not easily obtainable, even in a redacted form to ensure privacy, so analyses and comparisons of those recipients with and without repayment difficulties is not possible.

As with developing a profile of microcredit or microfinance recipients, developing national profiles of microfinance activity is laborious. While much of the data for such profiles exists, one must review multiple sources (sometimes 25 or more) for collection. These obstacles in data collection may be prohibitive for researchers.

Implications for Future Research

This study is a first in examining the data sets for entrepreneurial activity with human development in this fashion. The analyses illuminated interesting results regarding two of the eight measures examined (own account workers and literacy). These results suggest policies focused on facilitating entrepreneurial activity may help nations advance their human development measures as well as help in achieving success in at least one of the Millennium Development Goals, that of achieving universal primary education. As public policy makers and world leaders struggle with resource allocation, determining where and how much to allocate is always a challenge. If more information, such as that contained in this study, were available to decision makers, they could be better equipped to make policy decision that would facilitate both economic and human development.

Government policy makers are influential in determining activities, resourcing, and actions of nations (Clarke, 2005; Friedman, 2002; Glaeser, La Porta, Lopez-de-Silanes, & Shleifer, 2004; Potter & Proto, 2007; Singh & Santiago, 1997; ul-Haq, 1995). Officials responsible for policy actions may base decisions on a multitude of inputs, including research and readily available information. While this research may be able to contribute to policy discussions regarding entrepreneurial activity and human development, a much more robust contribution could be made if these results could indicate at what point an investment achieved the greatest return in terms of human development. With that information, a policy maker could direct resources or energy to one area and then transition to another at the right point in time. Specifically, if this analysis had included a full longitudinal perspective regarding own account workers,

employers, and literacy the results would have identified at what point attention should shift from employers to own account workers to facilitate the highest rate of literacy. If information were available on how many of the own account workers were women or men, that may illuminate in which direction policies and energies could be focused.

Analyzing differences by economic sector of a national economy could also contribute to the policy discussions. For example, are advances in literacy achieved more rapidly when own account worker activity is concentrated in the agrarian or services sector of an economy? Since not all own account workers are active in the formal economy, adding entrepreneurs from the informal economy into the analysis may introduce results indicating that informal sector own account workers engender changes in other measures of human development.

Likewise, understanding the motivation for entrepreneurial activity could facilitate better policies and a greater understanding of the impact on human development measures. Some own account workers and employers are drawn to starting business activity out of necessity while others see an opportunity. Including in follow-on research a way of identifying entrepreneurs of necessity, those who are entrepreneurs because they must be in order to survive, and entrepreneurs of choice, those who want to be, would be very useful when analyzing results for human development and also provide information regarding how to allocate scarce public resources. It may be that greater benefits in literacy can be seen when entrepreneurs of necessity are introduced into an economy and greater benefits to life expectancy can be achieved by aiding entrepreneurs of choice.

Policy officials are often criticized when difficult choices lead to setting policy in one direction versus another; for example, decisions leading to inadequate investment in education and adult literacy (ActionAid, 2009; Hinzen, 2007). The UNESCO Literacy Initiative for Empowerment explicitly identifies policy support for literacy as a key objective (UNESCO, 2009b). Lacking specific knowledge or awareness of how human development measures such as literacy may contribute to the overall economic development of a nation, policy makers will likely continue to struggle with limited resources. As a result policy decisions will likely continue to be driven towards economic development rather than human development. Global initiatives, such as the

Literacy Initiative for Empowerment and the Decade of Literacy, supported by research results, such as those identified here, may provide information that can expand policy considerations.

The concepts and guiding research questions for this study included a parallel examination of microfinance activity with human development. The concentration on entrepreneurial activity for this analysis provided insight that will be applied to the next phase of the research, that of examining if and how microfinance activity directly relates to human development. Collection of the microfinance data are ongoing and once completed, the analyses will be applied to the microfinance questions. The expected results for microfinance activity with human development include a direct relationship with key human development measures related to health, education, and economic resources.

Concluding Thoughts

This study provided multiple challenges from defining and measuring concepts to identifying data sources. The research process involved struggles from disappearing data sources to too many data sources. However, in reviewing literature concerning the lives of our fellow citizens, these struggles and challenges are insignificant. Those of us, like me, living in nations of high human development may struggle with the idea of how one person from such a privileged perch may be able to make a difference for others around the world. Inspiration can be gained from reading the literature regarding how affected individuals are taking control of their own lives. Inspiration may also be found when reading stories of how a single individual, like Mr. Yanus the founder of the Grameen Bank, a leading microfinance institution, changed the lives of hundreds of thousands of others by opening the doors to credit and savings. Literature containing stories of hope, the hope of parents working to make a better life for their children, the hope of researchers seeking to contribute to the empowerment and human development of others is inspirational. In some small way, I hope this research provides a contribution that may generate positive change and inspire others to take on the challenges of advancing human development.

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Appendix A
United Nations Millennium Development Goals

The United Nations Millennium Development Goals represent a commitment of nations "…to a new global partnership to reduce extreme poverty…" (United Nations Development Program, 2008) with poverty conceptualized in a multi-dimensional form. Table A-1 provides the goals and target measures for 2015.

Table A.1 ***Millennium Development Goals and 2015 Targets***

Goal	2015 Target
Eradicate extreme poverty and hunger.	Halve the proportion of people living on less than $1/day (using 1990 as baseline). Halve the proportion of people who suffer from hunger (using 1990 as baseline).
Achieve universal primary education.	Ensure boys and girls everywhere will be able to complete a full course of primary schooling.
Promote gender equality and empower women.	Eliminate gender disparity in primary and secondary education.
Reduce child mortality.	Reduce by two thirds the mortality rate among children under five.
Improve maternal health.	Reduce by ¾ the maternal mortality ratio. Achieve universal access to reproductive health.
Combat HIV/AIDS	Halt and begin to reverse the spread of HIV/AIDS. Achieve universal access to treatment for HIV/AIDS for all those in need. Halt and begin to reverse the incidence of malaria and other major diseases.
Ensure environmental sustainability.	Integrate the principles of sustainable development into country policies and programs and reverse loss of environmental resources. Reduce biodiversity loss by achieving a significant reduction in rate of loss. Reduce by half the proportion of people without sustainable access to safe drinking water and basic sanitation. Achieve significant improvement in the lives of at least 100 million slum dwellers by 2020.
Develop a global partnership for development.	Further develop an open, rule-based, predictable, nondiscriminatory trading and financial system. Address the special needs of the least developed countries.

Source: Developed using information from the United Nations Millennium Project 2008

Appendix B
Information on constructs, variables and metrics considered

Construct	Variable	Metric	Measure Type
Human Development			
HD1	Human Development	UNDP Human Development Index	#
HD2	Under 5 mortality rate	# deaths per 1000 live births	%
HD3	Literacy rate	% of population who can meet reading/writing standard (a short, simple statement related to one's daily life)	%
HD4	Net primary school enrollment	% of eligible population enrolled in primary school	%
HD5	Life expectancy	Age in years	#
HD6	Sanitation access	% of population with access to appropriate (as defined) sanitation	%
HD7	Water access	% of population with access to fresh water	#
Entrepreneurial Activity			
EA1	Employers	Person owning or operating an enterprise, engaging in independent profession or trade, employs others.	#
EA2	Employers/overall labor force	% of business owners per number of people in overall labor force	%
EA3	Own account workers	Person owning or operating an enterprise, engaging in independent profession or trade, hires no employees.	#
EA4	Own account workers/overall labor force	% own account workers per number in overall labor force	%
EA5	SMEs	# small and medium scale enterprises	#
EA6	Entry rates	# new enterprises registered in formal sector as % of total registered firms	%
Microfinance Activity			
MFA1	Active borrowers	# of microcredit recipients in a nation	#
MFA2	Amounts disbursed	$ value of microcredit in a nation	%
MFA3	Average loan per recipient	Average amount of loan for each recipient	#
MFA4	Depositors	# depositors into microsavings accounts	%
MFA5	Microinsurance	Microinsurance coverage in a nation	#

Appendix C
Rationale for variables and data sources

Human Development

Elements considered when defining and measuring human development are included below.

a. The Human Development measures selected are drawn from the United Nations Development Program Human Development indicators.

b. Data for human development are consistently available for these indicators from 1990-2006.

c. The selected measures are indicators which can have meaning for citizens around the world and can create empathy in a reader outside my academic circle.

d. Other considerations are the expanding definition of poverty to cover more than economic poverty and the Millennium Development Goals and associated targets and measurements for the targets.

Table C-1 provides information on sources of data, how I proposed labeling the data as well as additional rationale for why these elements were considered important and by whom.

Table C.1 ***Human Development Data Sources, Labels, Selection Rationale***

Data Sources	Labels	Selection Rationale	References & comments
UNDP HDR http://hdr.undp.org/statistics/	HD1 - Human Development Index	UNDP measure of human development since 1991.	United Nations Development Program
UNDP HDR http://hdr.undp.org/statistics/	HD2 - Under 5 mortality rate	Increases in income matched by increases in health, life expectancy and reduction in infant mortality	(The World Bank, 2004)
UNDP HDR http://hdr.undp.org/statistics/	HD3 - Literacy rate	increased literacy related to increased salary	(Green & Riddell, 2001)
UNESCO http://stats.uis/unesco/org UNDP HDR http://hdr.undp.org/statistics/	HD4 - Net primary school enrollment	Associations between health and education and income, indicates ability for students to attend school vs. work	(The World Bank, 2000)
UNDP HDR http://hdr.undp.org/statistics	HD5 - Life expectancy	Importance of living in and of itself and that is serves as a proxy for other things such as availability of health care, sanitation, water	(Sen, 1998)
UNDP HDR http://hdr.undp.org/statistics/	HD6 - Sanitation access	Millennium Development Goals	
UNDP HDR http://hdr.undp.org/statistics/	HD7 - Water access	Millennium Development Goals	

Entrepreneurial Activity

Measures for entrepreneurial activity are drawn from measures used by international and national organizations focused on entrepreneurial activity and research of entrepreneurial activity. Measures are proxy for entrepreneurial activity and are comparable across nations. Researchers using all or part of these measures include: Acs & Armington (2004), Acs, Audretsch, Braunerhjelm & Carlsson (2005), Acs & Storey, (2004), Amini (2004), Audretsch (1999), Audretsch, Carree, vanStel, & Thurik (2005), Berkowitz & DeJong (2005), Carree & Thurik (2002), Goedhuys & Sleuwaegen (2000), Thurik (1999), vanStel, Carree, & Thurik (2005), Wennekers, van Stel, Thurik, & Reynolds (2005), and Wong, Ho, & Autio (2005). Table C-2 provides information on sources of data, how I proposed labeling the data as well as additional rationale for why these elements were considered important and by whom.

Table C.2 ***Entrepreneurial Activity Data Sources, Labels, Selection Rationale***

Data Sources	Labels	Selection Rationale	References & comments
http://laborsta.ilo.org International Labor Organization	EA1 – Employers		Definitions from International Classification by Status in employment (ICSE) definition 1993
http://laborsta.ilo.org	EA2 - Employers as part of overall labor force		
http://laborsta.ilo.org http://unstats.un.org United Nations Statistics	EA-3 Own account workers		
http://laborsta.ilo.org	EA4 - Own account workers as part of overall workforce		
www.ifc.org International Finance Corporation, World Bank Group (data from 1990-2003)	EA5 - Small and medium scale enterprises (SMEs)	importance of SMEs to local economies which is important for HD advances Small and new firms account for many newly created jobs Microentrepreneurs more than ½ of economic activity in developing nations	(The World Bank, 2004) (Wong et. al., 2005) Paulson & Townsend, 2005) (Stephenson, 2006)
www.ifc.org	EA6 - Entry rates		

Microfinance Activity

Measures for microfinance activity are drawn from measures used by international and national organizations either providing microfinance products or focused on oversight of the microfinance industry. Microfinance encompasses products including credit, savings, and insurance. There is no single source for microfinance data and it is very difficult to find information on a national level. Due to the significant effort required to collect the microfinance data from these multiple sources, the analysis of microfinance activity with human development has been deferred for post-doctoral work. Table C-3 provides information on sources of data, how I proposed labeling the data as well as additional rationale for why these elements were considered important and by whom.

Table C.3 ***Microfinance Activity Data Sources, Labels, Selection Rationale***

Data Sources	Labels	Additional Rationale	References & comments
www.microcreditsummit.org www.mixmarket.org www.accion.org www.ratingfund.org www.bwtp.org individual institutions	MFA1 - Active borrowers	Receipt of credit helps targeted populations get out of poverty	(The World Bank, 2005)
www.bwtp.org www.ratingfund.org www.microcreditsummit.org individual institutions	MFA2 - Amount disbursed in loans		
Calculations from sources	MFA3 - Average loan amount per borrower		
www.ratingfund.org	MFA4- Depositors in microsavings accounts	Helps to reduce stresses on families and mitigate disruptive events, helping to keep microcredit for business vs. personal uses in emergencies	(Naponen & Kantor, 2004)
Report from microfinance gateway on microinsurance in nations	MFA5 - Microfinance insurance		

Appendix D
Glossary

access to sanitation - adequate access to sanitation with adequate defined as a disposal system that can prevent human, animal, and insect contact with excreta, derived from the United Nations Human Development Reports.

access to clean water source "The share of the population with reasonable access to any of the following types of water supply for drinking: household connections, public standpipes, boreholes, protected dug wells, protected springs and rainwater collection. Reasonable access is defined as the availability of at least 20 liters a person per day from a source within 1 kilometer of the user's dwelling" (United Nations Development Program, 2005, p. 354).

employer – person owning or operating an enterprise, engaging in independent profession or trade, employs others. Derived from the International Classification by Status in Employment (ICSE) standards.

gross domestic product – "the sum of value added by all resident producers in the economy plus any product taxes (les subsidies) not included in the valuation of output" (United Nations Development Program, 2005, p. 358).

human development index – "A composite index measuring average achievement in three basic dimensions of human development – a long and healthy life, knowledge and a decent standard of living" (United Nations Development Program, 2005, p. 354). Score is composed of three measures life expectancy, knowledge, and gross domestic product (GDP) per capita. Life expectancy is defined as life expectancy at birth. Knowledge is defined as a combination of the rates of adult literacy and the ratio of primary, secondary, and tertiary school enrollments of the eligible population.

life expectancy at birth – "The number of years a newborn infant would live if prevailing patterns of age-specific mortality rates at the time of birth were to stay the same throughout the child's life" (United Nations Development Program, 2005, p. 358).

literacy rate - "The percentage of people ages 15 and above who can, with understanding, both read and write a short, simple statement related to their everyday life" (United Nations Development Program, 2005, p. 358).

microfinance – Banking and/or comprehensive financial services targeted to low and moderate income households. The financial services include credit, low balance savings accounts, payment services, money transfers, insurance for households and microenterprises.

net primary school enrollment – the number of primary school age children enrolled in primary school as a percentage of the population eligible for primary school, derived from the United Nations Human Development Reports.

own account workers – person owning or operating an enterprise, engaging in independent profession or trade, hires no employees. Derived from the International Classification by Status in Employment (ICSE) standards.

under 5 mortality rate – the probability of a child dying before reaching the age of 5 with probability expressed as a rate per 1,000 live births. World Bank Indicators http://devdata.worldbank.org.ezproxy.lib.vt.edu:8080/dataonline/
UNDP Human Development Reports http://hdr.undp.org/statistics/

Appendix E – IRB Confirmation

----- Original Message -----
From: Carmen Green
To: flamingogirl
Cc: kpica@vt.edu
Sent: Monday, November 26, 2007 8:15 AM
Subject: Re: confirmation on subjects review

Good Morning,

This email may serve as confirmation that you do not need IRB approval.

Thanks!
Carmen

Carmen T. Green
IRB Administrator

Virginia Polytechnic Institute and State University
Office of Research Compliance
2000 Kraft Drive, Suite 2000 (0497)
Blacksburg, VA 24060
Phone: (540) 231-4358
Fax: (540) 231-0959