

SOCIAL INSTITUTIONS AND CULTURE AS DRIVERS OF CROSS - NATIONAL
ENTREPRENEURIAL ACTIVITY: APPLICATION AND EXTENSIONS OF
INSTITUTIONAL ANOMIE THEORY OF ENTREPRENEURSHIP

By

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A dissertation submitted in partial fulfillment of
the requirements for the degree of

DOCTOR OF PHILOSOPHY

WASHINGTON STATE UNIVERSITY
Department of Management and Operations

MAY 2006

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To the Faculty of Washington State University:

The members of the Committee appointed to examine the dissertation of
MANJULA S. SALIMATH find it satisfactory and recommend that it be accepted.

Chair

ACKNOWLEDGEMENT

I would like to acknowledge with deep gratitude, the support and advice provided by my chair, Professor John B. Cullen. This dissertation would not have been possible without his wise guidance. It is said in the *Upanishads*, the ancient Hindu scriptures, that for the student seeking knowledge, the *Guru*, or the one who illumines the mind, is essential. It seems to me, that after crossing the oceans and half the globe in search of a worthy mentor, my aspirations to receive the right guidance were richly rewarded. I am both humbled and inspired by his knowledge, and remain indebted to him for his guidance and many kindnesses along the way. I hold him in the highest regard and reverence and am grateful to God for giving me the opportunity to work with him.

I am also blessed with the good fortune of having the expertise and support of a wonderful committee and I am thankful to Professor U. N. Umesh, Professor Jerry Goodstein and Professor Jean L. Johnson for their able, timely, and constructive comments on my dissertation. Their phenomenal capabilities, dedication, sincerity, and patience have helped to strengthen my research in myriad ways. I hope that I remain at least partially worthy of their time and commitment to my scholarly progress.

I would also like to acknowledge the financial support and facilities that were graciously provided by Washington State University, and the Department of Management and Operations, during my term as a doctoral student and teaching assistant.

Finally, I thank my wonderful husband Shanmukh, and beloved daughter Varada, who made many sacrifices and put up with my long absences while I worked extended hours. I am also grateful to my dear parents, family, teachers, and good friends who cheered me on this truly memorable journey of pursuing a second doctoral degree.

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Abstract

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May 2006

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This study explores the determinants of entrepreneurial activity across nations. Taking a macro perspective that focuses on the big picture, national culture and social institutions are hypothesized to interact in interesting ways to set the stage for the creation of a new venture. A recent theoretical development, Institutional Anomie Theory of Entrepreneurship, is used as an integrative theoretical framework to explain the process by which macro level variables such as social institutions and national culture affect individual entrepreneurial activity. The study offers, for the first time, an empirical

test of Institutional Anomie Theory of Entrepreneurship and also provides interesting extensions to the theory that are grounded Turner's institutional complex.

Data for 71,694 individuals in 29 countries (i.e., Argentina, Australia, Belgium, Brazil, Canada, Denmark, England, Finland, France, Germany, Hungary, India, Ireland, Israel, Italy, Japan, Korea, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Russia, Singapore, South Africa, Spain, Sweden, USA) were analyzed using hierarchical linear modeling to test twelve cross level hypotheses. Results indicate substantial support for the relationship between national culture and social institution variables and entrepreneurship. Specifically, three of the four national culture variables (individualism, monetary fetishism and achievement) provided significant results. In the case of social institutions, seven of the eight social institutions (i.e., dominance of the economy, family, education, religiosity, political constraints, labor relations and stratification) provided significant results as per theoretical predictions. The results therefore supported a number of the predicted relationships. The study provides insights that are of salience to governments and policy makers seeking to achieve economic growth by promoting entrepreneurship, and scholars interested in understanding the contextual drivers of cross-national differences in entrepreneurial activity.

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DEDICATION

This dissertation is dedicated to my dear husband Shanmukh
for his unwavering support and encouragement,
and to my lovely daughter Varada,
who fills my life with joy.

Chapter 1. Introduction

Importance of entrepreneurship research

Entrepreneurship, or the study of new venture creation, has gained increasing attention from governments and policy makers. This is because entrepreneurship is viewed as critical to a nation's economic growth and development since it creates both employment and wealth for the country. The factors of production may be necessary but are not sufficient for national prosperity (Baumol, 1990). For instance, it has been shown that often massive investments in human and physical capital in many third world and centrally planned economies failed to produce much prosperity as growth is not dependent upon the mere aggregation of the factors of production. In order for the various factors of production to translate into economic growth, human creativity and productivity are essential. Hence it is now being recognized that entrepreneurship is needed to combine the inputs in profitable ways.

Many consider entrepreneurs to be the major catalysts that propel countries into a spiral of rising economic prosperity, and consequently, entrepreneurs are often viewed as living national treasures. On a practical level, many countries, with the aim of development and growth attempt to increase the entrepreneurial potential and activity within their nations by creating an inviting and supportive institutional infrastructure to promote new venture creation, i. e., by providing supporting infrastructure, tax incentives, grants, etc. The implicit assumption is that an institutional environment that encourages productive entrepreneurship becomes the ultimate determinant of economic growth (Baumol, 1990).

Recent econometric evidence points to the fact that entrepreneurship is indeed a vital determinant of economic growth (Audretsch and Thurik, 2000; Audretsch, Carree, van Stel and Thurik, 2002; Carree and Thurik, 1999; Carree, van Stel, Thurik and Wennekers, 2001; Audretsch, Carree and Thurik, 2002). Further it is has been found that a lack of entrepreneurship results in costs in terms of foregone economic growth (Audretsch, Carree, van Stel, and Thurik, 2002), hence a lack of entrepreneurship can have negative cost consequences for the countries.

While entrepreneurship has been viewed as critical to a nation's economic growth and development, it is surprising that very little is known about the cross-national antecedents of entrepreneurial activity. Though some theories exist such as Weberian theory (1958) about the protestant ethic fuelling entrepreneurial spirit in the west, and McClelland's (1961) theory about the achieving potential of societies, they tend to focus on a single social institution, and further, may not be generalizable to other countries and contexts. In an increasingly global world, scholars are questioning the validity of most management theories, and debating their relevance to non-western contexts. Hence, there is much value and need in developing an understanding of organizational phenomena such as entrepreneurship, from a cross-national perspective to address this gap. Yet, despite the recognition of the implications of cross-national variation in entrepreneurship to economic well being, our understanding of its antecedents is limited at best. As some would argue (e.g., Covin and Slevin, 1989), a consideration of environmental factors (such as social institutions and national culture) therefore becomes a reasonable starting point for an analysis of entrepreneurship

Entrepreneurship as the creation of new enterprise

Calling attention to the new discipline of “entrepreneurial academics”, Vesper (1988) has proposed that new venture creation is the hallmark of entrepreneurship, a notion that has been accepted by other academics (Gartner, 1989; Cooper, 2003:28-29) and the GEM researchers such as Reynolds (Reynolds, Bosma, Autio, Hunt, DeBono, Servais, Lopez-Garcia, and Chin, 2005) and Acs (Acs, Arenius, Hay, and Minniti, 2005). As such, Churchill and Muzyka (1994) noted that there has long been a school of thought that considers the creation of an organization as a necessary condition for entrepreneurship

In a similar vein, Low and MacMillan (1998) suggest that entrepreneurship be defined as the “creation of new enterprise” and that the purpose of entrepreneurship research should be to “explain and facilitate the role of new enterprise in furthering economic progress” (1998:141). Further, they argue that researchers should consider multiple levels of analysis. Davidsson and Wiklund (2001) state equivocally that in order to make a contribution to cumulative knowledge on entrepreneurship, future research should address the pursuit of opportunity and new combinations, i.e., *new enterprise*.

Shane and Venkataraman (2000) draw attention to hierarchies (the creation of new firms) and markets (the sale of opportunities to existing firms) as the two different institutional arrangements that exist for the exploitation of opportunities in the economy. Yet it is interesting that the common assumption is that most entrepreneurial activity occurs through new startups. This assumption does not always hold true because

opportunities may be pursued both within and outside organizations and they may be sold to existing organizations or pursued independently.

As such, they argue that it is possible that new enterprise is mainly introduced by newly founded firms in some industries, whereas other equally dynamic industries may have existing firms as agents that introduce new enterprise. Hence it has been suggested that “operationalizing entrepreneurship as rate of organizational founding is dubious practice” (Davidsson and Wiklund, 2001: 94). Following these guidelines, *I study the new enterprise activity and not founding rates of firms.*

Relevance of an Institutional Analysis of Entrepreneurship

On a theoretical level, while much prior research is devoted to the study of micro level explanations for entrepreneurial behavior such as the nature of the individual, traits, and personality characteristics, more value can be gained by an understanding of the macro environmental conditions that would foster or hinder entrepreneurship, since the latter is more amenable to manipulation and change than the former. Besides, any individual characteristic will interact with contextual factors that facilitate or inhibit the manifestation of entrepreneurship.

Due to its focus on the largest structures of society, institutional analysis provides a “big picture” view. Like aerial snapshots of societal terrain, institutional pictures give us a broad organizational perspective and an image of the context in which other and more specific socio cultural processes occur. Meso (intermediate) and micro level approaches to organizational analysis generate fine-grained detail about socio cultural processes that are of equal importance. Big pictures, by their inherent nature, cannot

provide this extent of detail. Hence it should be noted, “institutional analysis is but *one* way of looking at the social universe, but nonetheless an important and often neglected way to understand societies and organizations” (Turner, 1997).

The institutional environment refers to the set of political, economic, social and legal conventions that establish the foundational basis for production and exchange (Oxley, 1999). Resource dependency theory assumes that the institutional environment plays a central role in the process in which organizations must effectively manage dependencies in order to acquire and maintain critical resources (Steensma, Marino, Weaver and Dickson, 2000).

In general, the "choice-within-constraint" view of institutions (Ingram and Clay, 2000; Nee and Ingram, 1998) explains how social institutions provide rules and enforcement mechanisms that constrain actors toward general patterns of behavior, attitudes, and values (Ingram and Clay, 2000). Studies on the topic of national context (Cullen, Parboteeah and Hoegl, 2004; Parboteeah and Cullen, 2003; Schooler, 1996) seem to imply that not only do national culture and social institutions affect business culture, but they also create induced-factor conditions that are likely to add to the entrepreneurial potential of any society.

Social institutions therefore affect individuals through regulative and incentive mechanisms that impinge on the conditions of life and affect individual psychological functioning (Kohn, Slomczynski, Janicka, and Khmelko, 1997). Through human interaction, social institutions produce formal and informal norms that provide people with a freedom/constraint duality of prescribed behaviors, attitudes, and values within acceptable limits (Fararo and Skvoretz, 1986; Ingram and Clay, 2000; Meyer and Rowan,

1977). They are “frameworks of programs or rules establishing identities and activity scripts for such identities” (Jepperson, 1991: 146). As such, they provide “programmed actions” (Berger and Luckmann, 1967: 75) or “common responses to situations” (Mead, 1972: 263). In addition, institutions have structures that embrace values or standards of good/bad, appropriate/inappropriate, worthy/unworthy against which individuals’ roles (i.e., mother, father, doctor, lawyer etc.) are evaluated. In sum, social institutions work by structuring appropriate courses of actions through incentives and sanctions. To remain members in good standing of their social groups, organizational and individual actors have constraints on their behaviors, attitudes, and values (Barley and Tolbert, 1997).

The notion “that institutions affect the performance of economies is hardly controversial” (North, 1990: 3), yet there is a paucity of analytic frameworks that appreciate and elucidate the role of institutions in entrepreneurial activities. Recently there is renewed interest in trying to focus the attention of researchers and scholars on this highly relevant topic: for example The International Entrepreneurship and Management Journal is bringing out a special issue on “The institutional approach to entrepreneurship” in 2007.

Multilevel Approach to Entrepreneurship

In a multilevel approach, rather than a single level, the processes, causes or effects across more than one level of analysis is investigated. The nature of the entrepreneurial phenomenon is complex, as it takes place and has effects on different societal levels simultaneously, thereby necessitating its study at multiple levels of analysis (Davidsson

and Wiklund, 2001). As early as 1934, Schumpeter linked the entrepreneurial activities of individuals to the creation and destruction of industries as well as economic development. Beginning with Weber's analysis of ascetic Protestantism's contributions to the entrepreneurial spirit, sociologists have offered cultural and societal level interpretations of entrepreneurial phenomena. In fact, the increased interest in entrepreneurship is due in part to the belief that entrepreneurial processes have profound effects on employment and economic growth at the societal level (Baumol, 1993; Birch, 1979; McGrath, 1999).

When considering multilevel analysis, an important concern exists not just for appropriate empirical analysis, but also the appropriateness and the suitability of different conceptualizations of entrepreneurship as all theories are not equally well suited for all levels of analysis (Davidsson and Wiklund, 2000, 2001). Following these prescriptions the present study uses both analysis and theoretical frameworks that consider a multilevel approach to entrepreneurial activities.

Present Study

Following Van de Ven's (1993) suggestion that the study of entrepreneurship is deficient if it focuses exclusively on the characteristics and behaviors of individual entrepreneurs and treats the social, economic and political infrastructure for entrepreneurship as externalities, a recent and growing body of research has focused on new venture creation and the relation between environmental conditions and the nature of entrepreneurial activity (see Gnyawali and Fogel, 1994). In adherence to Van de Ven's

(1993) call, I take a social system perspective that considers external environmental conditions as appropriate for explaining the process of entrepreneurship.

Baumol (1990) suggests that the structure of rewards and the rules of the game modify the nature of economic activities. The relative payoffs society offers to such activities can allocate entrepreneurial effort to productive, unproductive or destructive ends. Relative rewards for different types of activities have a considerable influence on the prosperity and growth of an economy, though other variables undoubtedly also play substantial roles (Baumol, 1990) since it affects and induce a more felicitous allocation of resources. For example, tax rates, access to educational opportunities, political policies, etc. can be used to re channel entrepreneurial effort. Consequently, I take entrepreneurial goals as a given and emphasize modification in the structure of the rewards to different activities as the more promising line of inquiry.

Low and MacMillan (1998) suggest that future research should consider contextual issues and identify the processes that explain rather than describe entrepreneurial phenomena. Further, they suggest that recognizing the multidisciplinary dimensions of entrepreneurship would add to our understanding. Similarly, Ucbasaran, Westhead, and Wright (2001) call for a focus on contextual and multidimensional research in entrepreneurship. Referring to the extant literature, Gnyawali and Fogel (1994) bemoan the lack of an integrated, theory driven comprehensive framework for studying the environmental conditions favorable to entrepreneurship. These suggestions are incorporated in the present study.

Framing the study in broad Durkheimian logic, i.e., predicting individual phenomena by broad societal level factors, I use a relatively novel approach to new firm

creation based primarily on the work of Merton and extensions by Messner and Rosenfeld. The general understanding is that social institutions in conjunction with national culture create a context that legitimizes and favors the development of preferences for self-employment, and other entrepreneurial activities such as the creation of a new start up, innovation, etc (Ingram and Clay, 2000). A more specific explanation of the national context as a facilitator or inhibitor of entrepreneurial activity and process explanations across levels of analysis are explored in the dissertation. When societal arrangements and institutions value the creation of wealth and the pursuit of happiness but do not adequately provide adequate institutional paths for their attainment, individuals find many positive (and negative) innovative ways to nourish their dreams such as engaging in new venture creation. A recent theoretical framework, institutional anomie theory of entrepreneurship (Johnson and Cullen, 2005) that views entrepreneurship as a case of positive deviance, and its extensions, is empirically tested.

My research explores the efficacy of national contextual factors in promoting positive innovative ways to achieve objectives such as entrepreneurial activity and is grounded in the institutional anomie theory of entrepreneurship. As such, the primary focus is on the contextual factors that drive entrepreneurial activity across nations. More specifically, among the many contextual factors that would impact this complex phenomenon, I study the macro environmental variables that are unique at the national level i.e., the social institutional context and national culture. As such, my study attempts to explore contextual drivers of entrepreneurship in nations. Preliminary tests of the proposed model indicate some support for the rationale.

The findings of the first preliminary study (Salimath, Cullen, and Parboteeah, 2005a) showed that entrepreneurial predisposition or intent was in fact influenced by national context. In this study responses from 30,833 individuals in 22 nations as well as national level data on multiple indicators were analyzed using a country institutional profile reflecting regulatory and cognitive dimensions. Results supported the proposition that entrepreneurial predisposition/self employment among nations can be explained by differences in both the institutional context (extent of a redistributive economy, unionization, post-industrialization) as well as national culture (individualism).

The second of these investigations (Salimath, Cullen, and Parboteeah, 2005b; 2005 c) looked at entrepreneurial activity or behavioral indicators. Here, responses from 49,332 individuals in 22 nations as well as national level data on multiple indicators were analyzed. Results again showed that contextual variables were significantly related to entrepreneurial activity.

The present investigation looks at the impact of contextual variables on entrepreneurial activity, using IATE as a theoretical framework to test the hypotheses. Further, I extend the theoretical framework of IATE by considering Turner's (1997) core institutional systems (economy, kinship, religion, polity, law and education).

Data from over 70,000 individuals in 29 countries (Argentina, Australia, Belgium, Brazil, Canada, Denmark, England, Finland, France, Germany, Hungary, India, Ireland, Israel, Italy, Japan, Korea, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Russia, Singapore, South Africa, Spain, Sweden, USA) are analyzed using appropriate multilevel modeling techniques.

Implications

The practical implications of my research are varied and interesting. It is of immediate and direct salience to governments as it can provide guidelines to ensure adequate institutional environment for entrepreneurship, which has direct implications for national economic growth and wealth creation. It is also of salience to businesses as it provides some decisional heuristics about the supportiveness of the country environment to companies seeking to globalize operations. Further, it allows for the increase in new venture success rate due to the recognition of institutional and cultural constraints/facilitators. In addition, it can ensure the success of multinationals that rely on independent small businesses for variety of support functions, thereby increasing the success rate of all businesses, large, small, and entrepreneurial. In a similar same vein, the franchising success rate can be inferred due to the same logic. Finally, forecasts about intrapreneurship and innovation in existing businesses may be made since an environment that is conducive to entrepreneurship will encourage typical behaviors such as innovation within existing businesses as well. As argued at the beginning of the chapter, there remains one overwhelmingly important reason to care about the causes of entrepreneurial activity: the outcomes that new organizations produce for economies and societies (Schoonhoven and Romanelli, 2001: 7). The significance of understanding entrepreneurship as a dynamic of root change in industries, economies and societies cannot be understated. In sum, aside from the academic relevance of understanding the determinants of entrepreneurship, the results can have far reaching implications of great practical relevance to policy makers, governments, entrepreneurs, venture capitalists, multi-national companies, international and franchised operations.

Chapter 2. Literature Review

In this chapter, I will briefly overview the extant literature in entrepreneurship focusing on studies that are relevant to my research topic. After a brief introduction to set the context, legitimacy, and validity of my research in the entrepreneurship field in general, I will review the relevant studies that have used my database, followed by a review of research that focuses on my key variables, national institutions and social culture. The chapter ends with a summary that highlights the insights gained from prior research, the gap that the present study will fill, and sets the stage for the theory development in the next chapter.

Prior research in the field of entrepreneurship, based on the nature of questions that they seek to answer, can be divided into three main streams: *what* happens when entrepreneurs act, *why* they act, and *how* they act (Stevenson and Jarillo, 1990). The first is concerned not the entrepreneurs or the actions per se, but with the outcomes or results and is the approach favored by economists such as Schumpeter, Casson or Kirzner. The second is the psychological/sociological approach pioneered by McClelland where the focus of interest is the individual entrepreneur and the environment as it relates to the why of the entrepreneurs action. The third stream is focused on how entrepreneurs act or the analysis of entrepreneurial management.

One popular line of enquiry into the “causes” of entrepreneurship has focused on the individual entrepreneur’s psychological characteristics or attributes, and may be traced to of Collin and Mason’s (1964) “The Enterprising Man”, where they identified the desire for independence at the core of entrepreneurship. When a diverse body of

individuals engages in entrepreneurship, it is improbable that entrepreneurship can be explained solely by individual characteristics independent of the context.

A second line of enquiry views entrepreneurship as a social role and was pioneered by McClelland's (1961) "The Achieving Society" where he took a psycho-sociological approach to state that the reason why some societies at certain points of time exhibited high economic and social growth was primarily due to differences in need for achievement among the populations in these societies. This point of view brought all the theoretical resources of sociology to bear upon entrepreneurship. This spawned initial research on how the environment affects entrepreneurship (for e.g., Greenfield, Strickon and Aubrey, 1979; Delacroix and Carroll, 1983; Pennings, 1982, 1982a). The obvious practical consequence of this research for public policy has resulted in the "environment as motivator" approach with political overtones and implications for policy advocacy and much current research, such as the present falls under this perspective.

Despite criticisms (Cooper, Dunkelberg and Woo, 1988) that it is not possible to establish causal linkages between any variable and a complex phenomena such as entrepreneurship (they are at best correlated or antecedent) and the failure to distinguish between individuals and organizations due to its focus on the individual entrepreneur, the contributions of the "entrepreneur from its causes" approach are extremely important in understanding cross national variation in entrepreneurship. This approach reminds us that apart from the individual, the environment is also important, not only in the sense that the environment variables open up opportunities to exploit market inefficiencies, as in the economist's approach, but also in the sense that different environments can be more or less conducive and favorable to new venture success (Stevenson and Jarillo, 1990). Ac

and Karlsson (2002) for instance recognize this interdependence and call for future research on the relationship between institutions, entrepreneurship, economic development and public policy.

Given the potentially important economic and social effects of the creation of new enterprise, it becomes critical to understand the environmental *determinants*. What conditions favor business start-ups and what conditions hamper them? Several conceptual models are available. At the micro level, many disciplines including economics, psychology and sociology have developed occupational choice models for understanding entrepreneurial decisions (see Acs and Audretsch, 2003 for overviews of the literature). “However new organizations do not emerge *de novo* from the idiosyncratic and isolated invention of individual entrepreneurs” but are affected by the constraining and motivating nature of contexts in which individuals live and work. (Schoonhoven and Romanelli, 2001)

At the regional level, Reynolds, Storey and Westhead (1994) identified seven key entrepreneurial processes underlying new firm start ups including the demand for goods and services, urbanization / agglomeration, small firm presence and government policies. At the country level, Global Entrepreneurship Model (GEM) researchers (Reynolds, Hay and Camp, 1999; Reynolds, Hay, Bygrave and Camp, 2000; Reynolds, Camp, Bygrave, Autio and Hay, 2001; Reynolds, Bygrave, Autio, Cox and Hay, 2002; Reynolds, Bygrave, Autio, 2003) have developed a model with nine different framework conditions (financial, government policies, programs, education and training, R&D transfer, commercial and legal infrastructure, internal market openness, access to physical infrastructure, cultural and social norms) that determine entrepreneurial opportunity and

capacity as it affects national economic growth. I summarize below some of the salient findings and conclusions that this body of work has generated to showcase some of the different questions that have been the focus of this research.

Global Entrepreneurship Monitor (GEM) Research

In 2005, *Small Business Economics* put forth a special issue dedicated to scientific research using data collected as part of the Global Entrepreneurship Monitor (GEM) and considered new venture creation as the hallmark of entrepreneurship. The seven papers presented at the first GEM research conference in Berlin, 2004, and in the special issue highlighted three major aspects. First, empirical evidence showed that role of nascent entrepreneurial activity differed across the stages of economic development and that there was a U-shaped rather than a linear relationship, such that a positive effect on economic growth existed for highly developed countries, but had a negative effect for developing nations (Wennekers, van Stel, Thurik and Reynolds, 2005) Second, different types of entrepreneurship (opportunity vs. necessity) may have a different impact on a nation's innovativeness and economic growth. Thirdly, entrepreneurship can only be understood by an appreciation of context such as networks and policy framework conditions (Stenberg and Wennekers, 2005). The implication is that entrepreneurship policy must be adapted to prevailing national circumstances.

Some representative research using the GEM data is provided for illustrative purposes. Wong, Ho and Autio (2005) looked at the role of new firms and technological innovation as separate determinants of growth, and found that only high growth potential firms have an impact on national growth. Van Stel, Carree, and Thurik (2005) reported

that entrepreneurial activity affects economic growth but this effect depends on the level of percapita income, showing a positive effect for developed and negative effect for developing countries. Acs and Varga (2005) showed that spatial structure of economies had some impact on macroeconomic growth. All these studies indicate that growth is indeed affected by environmental aspects that are unique to the country.

While some studies have shown that the institutional environment affects entrepreneurial firms in various ways such as its effect on risk related decisions among managers (Makhija and Stewart, 2002), yet others have shown that this relationship is fairly complex. For instance, the impact of taxes on level of entrepreneurial activity has been demonstrated to be both complex and even paradoxical (Verheul, Wennekers, Thurik, and Reynolds, 2002). On the one hand high tax rates reduce the return on entrepreneurship, while on the other hand self-employment may offer greater opportunities to evade or avoid tax liabilities.

Similarly, the effect on social security may also be two sided. Firstly there is a negative impact in so far as generous social security for employees increases the opportunity costs of entrepreneurship. Secondly, social security in general may have a positive effect on entrepreneurial activity by creating a safety net in case of business failure.

By far the most interesting conclusion from the GEM research is that the road to an entrepreneurial society is a long one and governments have to be patient as the influence of public policy on the rate of entrepreneurial dynamics may be relatively modest (Wennekers et al, 2005). This implies that long term effects on entrepreneurial activity are likely to be realized when public policy changes reflect institutional

rearrangements rather than cosmetic or politically motivated changes, providing support to the value in studying the role of institutions in entrepreneurial research. Consequently, I study the effect of the cultural and social institutional environment within a country on entrepreneurial activity.

National Culture and Entrepreneurial Activity

There is a wealth of data linking national culture variables to entrepreneurial behavior and activity. In a review of the Minnesota Innovation Research Project, Van de Ven (1993a) emphasized how important culture is in legitimizing and enabling entrepreneurial behavior. International entrepreneurship researchers have argued that a country's culture, values, beliefs, and norms affect the entrepreneurial orientation of its residents (Busenitz and Lau, 1996; Knight, 1997; Tiessen, 1996). Shane (1992) studied how Hofstede's (1980) cultural dimensions were related to national levels of innovativeness, as measured by patent statistics, and found that high individualism and low power distance positively influenced inventiveness. In the footsteps of McClelland (1961), Lynne (1991) related cultural values to relative growth in national income and concluded that emphasis on "competitiveness" and "valuation for money" in a country was positively related to growth in national income. Ahlstrom and Bruton (2002) used culture to explain the strategic actions taken by high tech entrepreneurial firms in China to navigate the often-hostile institutional environment. While some studies point to the importance of culture, there are contradictory findings as well. For instance, while Tan (2002) argues that compared to the cultural context, national environment was more influential on entrepreneurs' perceptions of the environment and their strategic

orientation, Thomas and Mueller (2000) report that intention to become an entrepreneur is positively related to culture (risk tolerance and independence).

Much research interest has focused on two specific aspects of culture in relation to entrepreneurship: the dimensions of individualism and uncertainty avoidance. Hofstede (2001) describes individualism as the relationship between the individual and society or group, while uncertainty avoidance is related to norms, values and beliefs regarding a tolerance for ambiguity and risk. Due to the high correlation between the entrepreneurial traits of independence, individual achievement, and tolerance for ambiguity and uncertainty and Hofstede's measure of individualism, and uncertainty avoidance respectively, there is some consensus (especially among trait approaches to entrepreneurship), that entrepreneurial activity may be positively related to individualism, and negatively related to uncertainty avoidance. Individualistic cultures view people as unique and value people for their achievements, status and other unique characteristics. On the other hand, collectivist cultures view people largely through the groups to which they belong, and social groups such as the family, social class and organization all take precedence over the individual. Research at the individual level has shown that successful Nepalese entrepreneurs considered independence, individual merit, internal control, competition, and hedonism to be important (Bhawuk and Udas, 1996). Similarly, extant research (Hisrich, Peters, Shepherd, 2005) associates risk taking and risk seeking behavior (which is correlated with uncertainty avoidance), to entrepreneurial activity.

An extensive literature that links national culture to other aspects of entrepreneurial behavior such as innovativeness (beyond the scope of the present study) also exists. For instance, Shane (1992) showed that the national cultural values of

individualism and power distance explained national differences in rates of inventiveness; uncertainty avoidance was linked to innovation championship (Shane, 1995); and that even after controlling for economic factors such as per capita income and industrial structure, the cultural values of power distance, individualism and uncertainty avoidance explained variation in national rates of innovativeness (Shane, 1993). Research has also indicates that national culture influences research and development activity, another aspect of entrepreneurial behavior that is beyond the scope of the study. Thus, Kedia, Keller and Julian (1992) found that research and development productivity was higher in countries that were low in power distance and high in masculinity. Further, national culture has also been linked to corporate entrepreneurship (again, beyond the scope of the study). Morris, Avila and Allen (1993) reported that corporate entrepreneurship is highest in moderately individualistic culture, while Venkataraman, Scott, McGrath and MacMillan (1993) elaborated that the cultural values of uncertainty avoidance and power distance explain the different approaches to the corporate venturing process in different countries. These representative studies are presented here only as evidence that national culture has been shown to be linked to different conceptualizations of entrepreneurial behavior and hence the present study follows in this long standing tradition by exploring national cultural and social institutional explanations of entrepreneurial activity.

To a large extent, research exploring the relationship between national culture and entrepreneurship seems to be restricted to uncertainty avoidance and individualism, while other dimensions of national culture in the context of entrepreneurship remain relatively unexplored. Perhaps, this is because these aspects of culture seem to be more closely tied to the trait approach that views entrepreneurs as being risk seeking and driven by

individualistic concerns. Though achievement motivation has been addressed in part by McClelland and Weber, there is paucity of research on the dimensions of universalism and monetary fetishism, the additional dimensions of culture that are present in institutional anomie theory of entrepreneurship.

Given the long-standing tradition of research that explores the cultural aspects of entrepreneurship, the present study takes a cross-national approach to entrepreneurship that focuses on relevant elements of national culture.

Social Institutions and Entrepreneurial Activity

North (1990) has noted that a national context can be conceptualized in terms of its unique formal and informal institutional structure. Institutions may be formally devised, such as laws, regulations, policies and other codified procedures; or they may have developed informally over time, embodied in cultural norms, belief systems, practices and customs (Hofstede, 1980; Pennings, 1993). A nation's complex tapestry of formal and informal institutions, together forms the basis of its economic and social system (Williamson, 2000) and, being very rarely the same, are one of the causes for differences between countries.

Institutions are the humanly devised constraints that shape human interaction or the "rules of the game in a society" (North, 1990:1). The major role of institutions in a society is to establish generally consistent, stable and accepted structure for human interaction (Williamson, 2000; North, 1990). Institutions provide the framework and structure to facilitate certain kinds of exchange as well as a framework on which people have some confidence with respect to determination of outcomes (North, 1989). They

reduce uncertainty by establishing a stable platform for human interaction. They consist of both formal (political, economic, legal, etc) and informal constraints (norms, culture, codes of behavior, etc). The rules of the game imposed by a country's institutional mosaic affect the costs of transacting in that environment (Coase, 1937; Williamson, 1985). Ultimately, the rules of the game and the transaction costs associated with them provide incentives for certain behaviors and disincentives for others (Healy, 1985). It is reasonable to assume therefore that actors may weigh the costs and benefits of a range of strategies in a given social context based on their framing of the situation (Klandermans, 1984).

Studies on agglomeration show that overall, economic variables account for only a portion of the variance in entrepreneurial activity across regions (Minniti, 2005). Hence actual or potential economic conditions cannot be the entire story. In order to understand entrepreneurial decisions and the development of economic activity better, it is necessary to look into the importance of the local social environment (Aldrich and Fiol 1994; Blau, 1994; Granovetter, 1985).

Minniti and Bygrave (1999) consider the decisional algorithms that would cause entrepreneurs to pursue a new opportunity and argue that subjective returns to entrepreneurship (compared to other activities) are influenced by the existing rate of entrepreneurial activity in the individual's vicinity, indicating contextual effects.

Audretsch and Keilbach, (2004) provide a new construct, "entrepreneurship capital" which they define as a regions endowment with factors conducive to the creation of new business. This involves aspects such as a high endowment with individuals willing to take the risk of starting a new business, the existence of a regional milieu that

encourages start up activities, the existence of formal and informal networks, and also a general social acceptance of entrepreneurial activity and the activity of bankers and venture capitalists willing to share risks. Such contexts, generating a high propensity for new firms are rich in entrepreneurship capital. Other contexts, where the start up of new firms is inhibited, can be characterized as being weak in entrepreneurship capital.

Studies have explored the relationship between environmental conditions and new venture creation (Keeble and Walker, 1994; Reynolds, Storey and Westhead, 1994); business survival (Romanelli, 1989; Stearns, Carter, Reynolds and Williams, 1995); business closure (Keeble and Walker, 1994; Westhead and Birley, 1994); the competitive strategies pursued by organizations (Romanelli, 1989; Zahra, 1996); and business performance (Covin and Slevin, 1989; Vaessen and Keeble, 1995; Westhead and Wright, 1999). Both resource dependency (Pfeffer and Salancik, 1978) and population ecology (Hannan and Carroll, 1992) have been used to guide research and provide explanations of how the environment affects new firm formation rates (e.g., Shane and Kolvereid, 1995). Within the evolutionary perspective, Aldrich (1990) states that the founding of new organizations can be influenced by intra-population, inter-population, and institutional factors.

Although the general themes of institutional and ecological founding are distinct, they share a common focus on the collective organization of the environment and some research has used insights from both fields to understand organizational foundings (Baum and Oliver, 1996). Similarly, Messallam (1998) estimated the effect of ecological and environmental variables on organizational founding rates and found that the organizational founding rate depends on ecological settings as well as governmental

policies that apply to foreign trade, cabinet changes, and regulation changes that govern investment firms.

Social structuration studies suggest that access to opportunities is structured by social factors (such as caste, economic welfare, etc) in sociology. Social structure and the heterogeneity of opportunities play a major role in the geographic concentration of entrepreneurial activity (Sorenson and Audia, 2000). Further, Djankov et al (2002) in a study of approximately 80 economies, found that those countries where the cost of business start ups were the highest, were more likely to be poor, corrupt and undemocratic and that countries where it was easy to start a business were prosperous.

Institutions create an incentive structure in an economy that facilitates certain kinds of transactions. They consist of both formal and informal constraints as well as their enforcement characteristics. The structure of rights and the character of their enforcement define the existing opportunities of the entrepreneurs that are realized when they perform exchanges. Hence organizations will be created to take advantage of the opportunity provided within a given institutional framework. For instance, Markman, Gianiodis, Phan, and Balkin (2004), exploring the effect of incentive systems found that incentives to scientists and their departments were negatively related to entrepreneurial behavior, but had a positive effect if given to university technology transfer office personnel. Further, Co (2004) found that formal institutional factors such as laws and regulations affected entrepreneurship in the Philippines.

The success of former Soviet and especially Central Asian entrepreneurs continue to be shaped by these environmental factors. For instance, Berkowitz and DeJong (2005) showed that regional entrepreneurship was related to subsequent economic growth in

Russia. Davidsson and Henrekson's (2002) work represents an initial attempt to relate national differences in entrepreneurial activity to institutional and cultural differences in Sweden.

Recently, there is path-breaking research that has applied neo-institutional theory to macro economic industry and firm outcomes (Delios and Henisz, 2000; Henisz and Delios, 2001; Henisz and Zelner, 2005). This stream of research argues for the link between the structure of a nation's political institutions/ political hazards and economic growth, investment, market entry mode, and mechanisms of change in emergent institutions. It is plausible to assume that the political opportunity structure affects the framing of issues that can lead to the generation of new ventures.

Extant research has shown that tax rates influence rates of entrepreneurship (Bears, 1982; Holt, 1987; Staber, 1989). Interestingly, Keuschnigg and Nielsen (2004) found that progressive tax always impairs entrepreneurship while the effect on welfare can be positive or zero. Alternatively, it is shown that high tax rates are associated with higher rates of entrepreneurship since self-employment creates a better opportunity for underreporting income than does wage employment (Carson, 1984; Blau, 1987; Aronson, 1991; Evans and Leighton, 1987; Long, 1982). This finding suggests that shifts in tax rates over time might explain changes in new business formation rates.

Prior research has shown that individual education is positively associated with a tendency to become an entrepreneur, "probably because the entrepreneur may find a higher rate of return on his or her educational investment when self employed than could be obtained as an employee" (Aronson, 1991:7). Evans and Leighton (1987) found that education is weakly associated with a tendency to start businesses among men, but is

strongly associated with this tendency among women. Other scholars have found that educated people are more likely than uneducated people to start businesses (Reynolds, 1991; Van de Ven, Hudson and Schroeder, 1984). These findings have been confirmed in the UK (Cross, 1981; Storey, 1982).

Some studies (e.g. Reynolds 1997; Delmar and Davidsson 2000) indicate a positive relationship between the education of nascent entrepreneurs and new firm formation. Other studies, in Germany (Klandt and Szyperski, 1988), and in the UK (Westhead and Storey, 1994), suggest that education is a key differentiating factor between high technology entrepreneurs versus the general population of entrepreneurs, since the former exhibit high levels of educational attainment. On the other hand, “advanced education beyond the bachelor’s degree did not help but was negatively related to performance” (Stuart and Abetti 1990: 151). This was confirmed in the US as well (Bates, 1990). In addition to direct effects, a CEO's level of education has an indirect effect on the potential of start-ups. For instance, entrepreneurs with higher degrees were more likely to raise money from capital markets easily, survive longer in the market (Bates, 1990), and invest in firm R & D (Scherer and Huh, 1992).

The results of the GEM research indicate that the effect of individual education is not simple (Reynolds et al, 2001). Education was related to sector and expected firm growth such that entrepreneurs with higher levels of educational attainment were much more likely to be engaged in business than consumer services, and expected to create more jobs than the less educated. Further, the patterns for men and women differ substantially. While women’s participation in entrepreneurial activity increases with higher levels of educational attainment, male participation declines among those that go

beyond secondary education. Finally, the educational profile varies again between opportunity and necessity-based entrepreneurship. (For e.g., higher educated women are less engaged in necessity entrepreneurship and more engaged in opportunity entrepreneurship, but results are not as clear for men). In general though, the majority of entrepreneurs (62%) have not gone beyond secondary school, while only 3% represent graduates, with the remaining 35% having university experience.

Some studies report the use of institutional frameworks to frame their studies. For instance, Spencer and Gomez (2004) used a country institutional profile to identify normative, cognitive and regulatory institutional structures that may influence a country's entrepreneurial activity. They found that cognitive institutions (awareness of how to run a small business) explained the prevalence of small firms in a country, but they did not test for cross level hypotheses.

Institutional theorists acknowledge that cultural constraints do not completely determine human action (DiMaggio, 1988; 1991; Oliver, 1991). Rather, institutions set bounds on rationality by restricting the opportunities and alternatives we perceive and, thereby, increase the probability of certain types of behavior. Furthermore, scholars have indicated that, when considering different types of entrepreneurial activity such as self-employment, small business and initial public offerings, it is important to note that these reflect progressively sophisticated forms of entrepreneurship. Hence, it is logical to suppose that these three types of activities are influenced by different institutional structures (Spencer and Gomez, 2004).

Perhaps noteworthy to the study of institutional factors is Minniti's (2004) simulation using a spin-glass model, which found that certain political and institutional

settings are more conducive to entrepreneurship than others and implying that short term policies aimed at increasing the prevalence of entrepreneurship are likely to be ineffective.

The present study complements sociological and economic work that has examined the population-level factors affecting firm creation such as Stinchcombe's (1965) work on societal factors that enhance incentives to organize and organizing ability. A review of factors enhancing firm foundings describes the effects of environmental carrying capacity, interpopulation processes, and institutional factors (see Aldrich, 1990; and Singh and Lumsden, 1990). Similarly, Baumol (1993) has related the institutional environment to the supply of people who are willing to create firms.

In this study, I do not examine the creation of new organizations per se. Earlier, scholars have provided reviews on firm creation using different lenses such as organizational ecology (Aldrich, 1990; Singh and Lumsden, 1990), economics (Caves, 1998; Geroski, 1995), and organizational theory (Gartner, 1985; Katz and Gartner, 1988; Low and MacMillan, 1988). Rather I focus on the macro level determinants of entrepreneurial activity such as new ventures.

Summary

This brief overview of extant research indicates that entrepreneurship is a fairly complex social phenomenon. Initial studies focused mainly on the traits of entrepreneurs, while later studies consider a greater variety of factors. A growing body of recent literature has begun to draw attention to the relationship between the entrepreneurial sector and the macro economy (for e.g., Acs, Carlsson and Karlsson, 1999; Wennekers

and Thurik, 1999; Thurik, Uhlaner and Wennekers, 2002). For example, Lynskey (2004) studied the role of social institutional variables on Japan. Similarly, Baumol (1990) argued explicitly that institutional arrangements affect the quantity and type of entrepreneurial efforts, while Thurik, Uhlaner and Wennekers (2002) provide a justification for the consideration of macro economic factors including institutions and culture. Further, studies on entrepreneurship have been extended to many disciplines, each of which has developed its own interpretation of entrepreneurship and focused on its own unit of analysis (Lynskey, 2002).

Thus there is a pluralism of approaches in examining entrepreneurship, but at the same time these studies do not have a well-developed integrative theoretical framework that would contribute to an enhanced understanding of the effects of social institutions and national culture on entrepreneurial activity. The present study therefore fills in this gap by using institutional anomie theory of entrepreneurship as a theoretical framework to study social institutions and national culture effects on entrepreneurial activity across nations.

Chapter 3. Theoretical Rationale

Although there is no universal and generally accepted definition of entrepreneurship, many assessments are unified by the notion that entrepreneurship is about creating something new. The Global Entrepreneurship Monitor (Reynolds, Bosma, Autio, Hunt, De Bono, Servais, Lopez-Garcia and Chin, 2005) defines people who are entrepreneurially active as adults in the process of setting up a business they will (partly) own and or currently owning and managing an operating young business. This definition coincides with those who consider venture creation as the most appropriate focus of entrepreneurship research (Gartner, 1990). It should be noted that unlike other national economic characteristics, like GDP or inflation, national entrepreneurship could be considered as the net result of individual decisions to pursue entrepreneurial opportunities. In this perspective, every person engaged in behavior related to new business creation, no matter how modest, is relevant to national level of activity. Further, Shane and Venkatraman (2000) caution that entrepreneurial activity may be pursued both outside as well as within an existing organization, and point out that despite this fact, many consider start ups alone to be an adequate measure of this construct. However, in the context of IATE, and the anomie induced notion of entrepreneurship, the traditional and perhaps more conservative consideration of entrepreneurial activity is considered as most appropriate (i.e., I consider new venture creation which is pursued outside, and not within, an existing organization).

Building theory in entrepreneurship has been acknowledged as being particularly difficult because it often involves a multi level analysis, where the analysis needs to move from between the individual, group, firm, or population level (Davidsson and

Wiklund, 2001; Busenitz et al, 2003; West, 1997). Similar to the above-cited cross-national investigations of entrepreneurship, I empirically test twelve cross level hypotheses to assess the impact of macro nation level variables (national culture and social institutions) on individual level entrepreneurial activity across nations.

Among the attempts to provide theoretical explanations for the heterogeneity in the rate of entrepreneurship among countries, several frameworks are provided. It is a point of debate however, whether typological frameworks go beyond classificatory schemes to *explain* entrepreneurial phenomena, especially across levels of analysis.

Sociologists refer to "institutional complementarities" to account for this diversity of social systems of innovation (e.g. Amable, 2000), and other literature refers to so-called "national innovation systems" (e.g. Lundvall 1998; Nelson 1993). Bartholomew (1997) articulates how national institutional patterns, such as access to educational institutions, the accessibility of sources of finance and the availability of pools of educated labor, help to determine the manner in which innovation emerges in a country. Other scholars have studied how patent rights (Nelson 1982; Scherer 1999), societal norms (Kluckhohn and Strodtbeck 1961; Shane 1992, 1995; Knack and Keefer 1997) and shared cognitive schemas (Busenitz and Lau 1996a) affect the level of entrepreneurship and innovation within an economy.

Perhaps the most well known framework is the cognitive, normative, and regulative "pillars" of institutional structure" (Scott, 1995: 33), which has spawned many mini versions. For instance, Hawkins (1993) identified comparable barriers to new business creation and entrepreneurship, and examined structural variables, government barriers and cultural barriers of specific relevance to Japan. In yet another case of

application, Kostova (1997) borrowing from Scott's institutional approach, introduced a three-dimensional country institutional profile, consisting of a country's governmental policies (a regulatory dimension), widely shared social knowledge (a cognitive dimension), and value systems (a normative dimension). Separate research on small firms has also highlighted corresponding resource constraints on innovation; these can be broken down into several components: finance; management and marketing; skilled labor; and information (Freel, 2000). Research using these frameworks posits that firms are embedded in country-specific institutional arrangements (Whitley 1994; Busenitz et al. 2000), which affects the level of entrepreneurship and the innovation activity of firms operating in such an environment.

A more promising line of enquiry, which at least provides more process related explanations than mere classificatory schemes, indicates that within a country, factors such as culture, and institutions such as law, tax, and educational systems, may appear as constant or near constants, *hence cross national studies (or longer time frames) are necessary to study the influence of such factors* (Davidsson and Wiklund, 2001). As enduring national differences stem in large part from the characteristics of the cultural and social institutional milieu, this becomes a reasonable starting point for theorizing about the determinants of entrepreneurial activity.

For instance, Baumol's (1990) basic thesis is that the supply of entrepreneurs can be regarded as a constant, but that the societal value of their self-interested ingenuity varies depending upon the structure of rewards. Hence, the conclusion from this institutional view is that the proper way to encourage entrepreneurship is to create conditions that make entrepreneurial pursuit of self-interest in accord with societal wealth

creation. New enterprise creation does not necessarily lead to economic progress and under some conditions (illegal drug dealing, rent seeking via litigation, etc) may be deviant, leading to destructive and unproductive ends (Baumol, 1990). In line with this thinking, the GEM report (Acs et al., 2005) seems to imply that the entrepreneurial phenomenon is perhaps statistically deviant, as less than 10% of individuals are engaged in it.

Scholars have devoted their attention to answering questions about cross-national differences from the economic viewpoint (Davidsson and Henrekson, 2002; Spencer, Murtha, and Lenway, 2005), the effects of national culture (see Hayton, George and Zahra, 2002 for a review), and a sociological viewpoint (Reynolds, 1991). However, these preliminary models linking entrepreneurial activities with culture and social institutions (Hayton et al., 2002; Lee and Peterson, 2000; Spencer and Gómez, 2004; Tan, 2002) generally lack an integrative theoretical framework. In contrast, Institutional Anomie Theory of Entrepreneurship /IATE (Johnson and Cullen, 2005), responds to calls (Early and Singh, 1995; George and Zahra, 2002; Schumpeter, 2005) for an *integrated sociological theory that combines culture and social institutions to explain at least in part, society level differences in entrepreneurial activities*

Specifically, IATE argues that Merton's original means/goals gap theory can be used to understand the positive deviant behavior such as entrepreneurship. The intent is to illuminate how positive forms of deviant behavior, especially entrepreneurship, may be viewed as adaptive responses to the structurally anomic conditions that have resulted from culture's incessant emphasis on the desirable goals, and the structurally limited means by which it can be legitimately achieved. As such it deals with only one of the

original four forms Mertonian adaptations, i. e., innovation. The other 3 forms of adaptation, retreatism, rebellion, and ritualism, are beyond the framework of IATE and the boundaries of the present study.

I provide in the following sections a brief historical review of the theoretical traditions and concepts that underpin IATE, going as far back as 1897 to the works of Durkheim, Merton, Messner and Rosenfeld, giving a summary of the major ideas and the logical threads that connect these scholarly contributions to the present day modern version, IATE. Also, the major tenets of IATE are summarized and presented to allow for a natural segue into the hypotheses and model testing section.

Durkheim's View of Anomie

Emile Durkheim, a French sociologist, introduced the concept of anomie in 1893 in his now famous book, *The Division of Labour in Society*. Anomie is a state of “normlessness” that occurs when norms (expectations on behaviors) are absent, unclear or confused. He used anomie to describe a condition of deregulation that was occurring in society. This meant that the rules governing interaction were breaking down and thus people did not know what the expectations were anymore. Durkheim argued that normlessness led to deviant behavior. In 1897, Durkheim used the term again in his classic work on suicide, referring to a morally deregulated condition. Durkheim illustrated the profound effects of social change, and used, perhaps for the first time, macro level (anomie) concepts to explain individual behavior (such as suicide).

Merton's Anomie: Robert K. Merton, an American sociologist, borrowed Durkheim's concept of anomie to provide an alternative version, that some refer to as strain theory, to

describe the breakdown of the normative system. Merton argued that the real problem is not created by a sudden social change, as Durkheim proposed, but rather by a social structure that advocates the same goals to all its members without giving them equal means to achieve them. Merton argued that this lack of integration between what the culture calls for and what the structure permits that is the cause for deviant behavior. Deviance, here, is a symptom of the social structure.

Thus, according to Merton, anomie is the form that societal incoherence takes when there is a significant detachment “between valued cultural ends and legitimate societal means to those ends” (Akers, 2000, p. 143, 161). Some (e.g., Calhoun, 2003) further divide anomie into two specific categories: the macro side (similar to normlessness) and micro side (similar to strain).

Deviance and Social Strain Unlike Freudian interpretation, Merton did not view aberrant behavior as a simple outward manifestation of repressed sexual desires held deep within the unconscious. Neither was it a utilitarian calculus on the part of the deviant or the stratification of pathological personalities (Merton, 1968). Rather, deviant behavior emerged when component elements of the social and cultural structures existed in contradiction, thereby exerting a definite pressure on the individual to engage in forms of illegitimate conduct (Merton, 1957; Sumner, 1994).

Thus, using Merton’s own words, *“Our primary aim is to discover how some social structures exert a definite pressure upon certain persons in the society to engage in nonconformist rather than conformist conduct . . . high rates of deviant behavior in these groups [occur] not because the human beings comprising them are compounded of*

distinctive biological tendencies but because they are responding normally to the social situation in which they find themselves." Merton, 1938

It is easy to forget that Merton's theoretical model was grounded in the principles of structural probability, and not outright determinism. Not every case of disjuncture would catapult individuals into some form of deviant activity, whether positive or negative. Rather, deviant behavior was, *more likely* to emerge in societies where the emphasis on cultural goals was disproportionate to the available means to achieve them (Merton, 1995).

The effects of contradictory structural forces were neither inevitable nor universal. Not everyone faced with this structural incongruity would deviate. Further developments by Cloward and Ohlin (1960) indicated that one's relative position in the opportunity structure was an important element ignored by Merton. This line of reasoning led to Merton's "American dream" thesis, an intriguing, cross level explanation of deviance in western society, a logic that can easily be applied to other societies as well. Though written well over half a century ago, Merton's depiction of the social structure remains relevant to the current conditions prevalent in a majority of nations in the world.

Merton, taking the American society as an example, argued that structurally, there was a discrepancy because the primacy of economic success within the cultural structure was disproportionate and out of sync with America's opportunity structure (Merton, 1968). He argued that it was this anomic disjuncture between the institutionally prescribed goals and the availability of legitimate means to achieve them that led to deviant behavior. Individuals sought to reconcile or adapt to these contradicting social

forces through one of the four following routes: innovation, ritualism, retreatism, or rebellion.

Strain thus pressures the disadvantaged to take advantage of any effective available means to income and success even if these means are illegal (Akers, 2000, p. 144). In his 1897, publication, *Suicide*, Durkheim classified strain into two basic categories: social processes and personal experiences. These in turn produced two general types of strain: structural and individual. Social processes create the environment necessary for the evolvment of structural strain and personal experiences cause individual strain. Structural strain applies to members of society who determine their needs based on the ideals of society and are in a constant struggle to meet those expectations. Individual strain is the personally created stress applied by the individual while searching for a means of meeting their needs that are defined by their personal expectations that they hold of themselves (O'Connor, 2003). According to General Strain Theory, as aspirations increase and expectations decline, delinquency and the amount of deviant acts that occur increases in effect to these changes. Merton recognized certain expectations created by the two general types of strain and identified five specific "modes of adaptation" to these strains (Akers, 2000, p. 144). Within the social psychology field, Robert Agnew identified three more major sources of strain in addition to those defined by Durkheim and Merton (Akers, 2000, p. 159).

In fact, what is often called "anomie strain theory" has progressed steadily in the field of criminology. Criminologists view many forms of deviance such as delinquency as a short-term, adaptive response to salient problems. This problem solving approach to

delinquency is popular among dominant socio-environmental theories of criminology (Brezina, 2000). Strain theory assumes, in contrast to pathological accounts, and similar to Merton, that delinquency represents “the normal reaction, of normal persons, to abnormal conditions” (Merton 1938: 672, note 2). Similarly, Agnew’s (1992) social psychological version of strain theory states that delinquent behavior is a form of *corrective action* in response to negative social relations and accompanying distress (see Cloward and Ohlin, 1960; Smith and Pollack, 1976). A number of perspectives such as social learning (Akers, 1985), social control (Hirschi, 1969), self control (Gottfredson and Hirschi, 1990) and rational choice (Cornish and Clark, 1986) theories either implicitly or explicitly acknowledge that delinquent involvement may follow from the problem solving considerations involved in reward attainment and choice-making (Brezina, 1996: 42, note 1).

It should be noted that the relevance of Merton’s ideas do not fade away if economic success ceases to be the definitive criteria for personal success and/or social worth. In fact Merton’s means/goals gap theory would still be pertinent because “*the sociological concepts of opportunity and opportunity structure are generic; they are not confined to economic opportunities or to opportunities for social mobility*” (Merton, 1995: 28). In fact, Merton’s generic model, gives it the flexibility to accommodate changes in both cultural values and changing patterns in structural relations across time and space (see Merton 1967; 1995). Thus, the theoretical flexibility of Merton’s ideas can be easily exploited so as to render new forms of deviant behavior understandable, as in the case of entrepreneurship.

Merton's theory does not focus upon crime per se, but rather upon various acts of deviance, which may be understood to lead to criminal behavior. Merton notes that there are certain goals that are strongly emphasized by society. Society emphasizes certain means to reach those goals (such as education, hard work, etc.). However, not everyone has the equal access to the legitimate means to attain those goals. The stage then is set for anomie. Regardless of the social, economic, or racial inequities that characterize the social structure, both the value and accessibility of economic success remain in the cultural foreground, continuously being re-enforced by the society's institutional complex (Merton, 1938[1957; 1968]). Economic success and perceptions of self-worth are subsequently joined together and held by the socializing effects of the cultural structure

The cornerstone of what is known as "the means-end theory of deviance" is that crime breeds in the gap, imbalance, or disjunction between culturally induced aspirations for economic success and structurally distributed possibilities of achievement. The theory assumes fairly uniform economic success aspirations across social class, and attempts to explain why crime is concentrated among the lower classes that have the least legitimate opportunities for achievement. "It is the combination of the cultural emphasis and the social structure which produces intense pressure for deviation" (Merton 1968). The system can be stabilized by providing rewards for non-economic pursuits, but the stress, or "strain toward anomie" (Merton 1968:211) is still operative in exclusive concern for outcome over intrinsic satisfaction of competition. Imperfect coordination of means and ends leads to limited effectiveness of social structure in providing regularity and predictability and a condition of "anomie or cultural chaos supervenes" (Merton 1968).

Merton presents five modes of adapting to strain caused by the restricted access to socially approved goals and means. He did not assume that everyone who was denied access to society's goals became deviant. Rather the response, or modes of adaptation, depends on the individual's attitudes toward cultural goals and the institutional means to attain them. Thus the Conformist accepts both the goals as well as the prescribed means for achieving them. Innovators accept societal goals but having few legitimate means to achieve those goals, innovate (design) their own means to get ahead. Ritualists play by the rules and have a daily, safe routine. Retreatists give up not only the goals but also the means. The Rebel, rejects the cultural goals and the legitimate means, and creates their own goals and their own means.

Messner and Rosenfeld's Strain Theory

Messner and Rosenfeld (1994) developed an institutional anomie theory (IAT) similar to Merton's, sometimes called "American Dream" theory. The American dream is a broad, cultural ethos that entails a commitment to the goal of material success, to be pursued by everyone, in a mass society dominated by huge multinational corporations. Their argument is not only that concern for economics has come to dominate our culture, but that the non-economic institutions in society have tended to become *subservient* to the economy. For example, the entire educational system seems to have become driven by the job market (nobody wants to go to college just for the sake of education anymore), politicians get elected on the strength of the economy, and despite lip service to family values, executives are expected to uproot their families in service to corporate life. Goals

other than material success (such as parenting, teaching, and serving the community) are just not important anymore.

They argue that the American Dream of economic success fosters anomie, instigates faster, efficient ways of attaining wealth, thus causing crime (Rosenfeld and Messner, 1995). Beliefs, values, and commitments being the causal variables, it is argued that the closer they are to the values of the marketplace, the more likely the logic of the economy (competitive, individualistic, and materialistic) will dictate a powerful social force that motivates the pursuit of money "by any means necessary."

Four distinct values make up the American dream. Achievement involves the use of material success to measure one's self-worth. Individualism refers to the notion of intense personal competition to achieve material success. Universalism refers to the idea that the chances for success are open to everyone, a belief that also creates an intense fear of failure. Another belief is the "fetishism" of money, which in this instance, refers to the idea that, with reference to money, there are no rules for when enough is enough, resulting in insatiability.

Merton's Strain Theory and IATE

IATE defers to the strain version of Mertonian theory and revisits Merton's (1938 [1957; 1968]) original work on the relationship between social structure, anomie, and deviant behavior. Thus, IATE argues that Merton's means/goals gap theory can be adapted to not only better reflect the contemporary normative character of post-industrial society, but also to illustrate how a specific form of positive deviant behavior,

entrepreneurship has become an adaptive response to structurally anomic condition that emerges out of an incessant emphasis on socially prescribed goals at the level of national culture and the structurally limited means by which it can be legitimately achieved.

A Mertonian analysis of positively deviant outcomes would seem to rest upon the necessity of three inter-related assumptions. First, the desirability of social goals is extremely widespread and thus approximates, in a Mertonian sense, a universal social goal. This is reflected in the predominance of certain values as manifested in national level culture. Secondly, the means to achieve these universal social goals are unequally distributed across the social structure. By implication, this disjuncture between, on the one hand, the pressure to achieve these goals and, on the other, the lack of structural opportunities to do so, creates strain for those seeking a resolution of this means/goals gap or structural anomic condition. Thirdly, a variety of seemingly unrelated forms of non-normative conduct exist that reflect attempts to resolve this kind of social strain. Following, an outline of Merton's original thesis, an illustrative model of the strain theory is presented.

INSERT FIGURE I ABOUT HERE

IATE considers two interrelated theoretical arguments. First, Merton's classic thesis on social structure and anomie must be understood in a generic sense. Specifically, the Merton's brilliant structural analysis emerges out of the integrated, yet quite generic nature of its theoretical model. The concepts of opportunity and cultural structure can be used to analyze social phenomena across both time and space precisely because they are

such well-developed abstractions. Indeed, it has been argued by many scholars that this theoretical flexibility allows Merton's work to be applied cross-culturally. A narrow interpretation of Merton's ideas is unfortunate as Merton's ideas are illuminative of so much more in the sociology of not only crime and negative deviance, but also positive deviant behavior.

Secondly, given the generic nature of Merton's original thesis, IATE argues that Merton's ideas can be effectively used to account for the ways in which forms of deviant behavior are linked to much broader cultural tenets that emphasize the desirability of societal goals. The innovator, the ritualist, the retreatist, and the rebel, all represent deviant adaptive forms that emerge as a result of a contradiction between a cultural structure that emphasizes wealth and status, and an opportunity structure that fails to provide the proportionate means by which it can be legitimately achieved.

It must be noted that there's not much agreement on the appropriate ways to measure strain in Merton's theory or whether anomie can be measured at all. I am not sure that Merton intended anomie to be a measurable construct, but rather a conceptual tool for theorizing. All that Merton said was that all persons have high economic aspirations, and that social class aspirations are linked independently to crime. The closest measure of strain that exists, to my knowledge, was Liska's (1971) suggestion that high aspirations (income, education, or occupational goals) combined with low expectations (perceived chances of achieving these goals) resulted in strain.

Consequently, I argue that anomie is best understood as an abstract construct that can be inferred when discontinuities exist between goals and ends. Or in Mertonian

language, a disjuncture within the cultural system between the goals (values) that define our lives and the culturally determined, institutionalized, legitimate means for achieving them results in strain (anomic conditions).

In this study in particular, and in the broader context of IATE, anomie is used as a facilitative theoretical concept, that is inferred from the disjuncture between elements of national culture that promote economic wellbeing and the social institutional structures that prevent or obstruct their value and attainment.

Johnson and Cullen's IATE

IATE (Johnson and Cullen, 2005) appeals to the classic sociological theory of anomie (Durkheim, 1897; Merton, 1938) and its more recent version, institutional anomie theory (Messner and Rosenfeld, 1997) to argue that national levels of entrepreneurial activities can be understood as positively deviant adaptations to anomic conditions or the incongruities that exist between valued goals and institutional paths for their attainment in a society. Paralleling Baumol's (1990) insights about productive, unproductive and destructive entrepreneurship, anomie theory suggests that both crime and entrepreneurship may have similar drivers. Similarly, Parnaby and Sassco (2004) explored IAT in the context of celebrity status and fame by using the strain version of Mertonian deviance theory to provide an understanding of the relationship between celebrity status and deviant behavior. Further, Shane and Kolvereid (1995) in a three country study of national environment, strategy and new venture performance showed that new venture performance was higher in *unfavorable* environments, providing some interesting support to the IAT conceptualization.

Though IATE does not explain all entrepreneurial activity, it is a plausible explanation of contextual inhibitors and incubators. I use IATE as an appropriate multilevel theoretical framework to ground my study of national contextual drivers of entrepreneurship. Propositions developed using this theoretical framework are empirically tested on a cross national sample and extensions to the theory are also proposed in the following sections to explain cross national variation in entrepreneurial activities. Extensions of IATE are also empirically tested.

Institutional Anomie Theory of Entrepreneurship In the following three parts, I summarize briefly the major tenets of IATE (Johnson and Cullen, 2005).

As noted earlier, Robert Merton's seminal explorations on the social-structure-and-anomie paradigm may be viewed as two, not always clearly differentiated theories: a strain theory and an anomie theory. Though structural strain is one way to explain why deviance occurs in the context of anomie, it is not the only way, and other explanations exist. Further the perspective of anomie is compatible with several other theories of crime and delinquency.

1. Anomie:

The conceptual and ideological roots of anomie theory lie in Durkheim's seminal work on suicide, Merton's deviance and strain theory (e.g., Merton, 1968), and recent considerations of underlying institutional factors (e.g., Messner and Rosenfeld, 1997). IATE's primary foundations rest mostly on the strain version of anomie theory.

Durkheim (1897) explained the most individualistic of all phenomena, suicide, by macro level societal explanations of anomie. Rapid modernization led to a prioritization of economic goals and challenged traditional controls based on family and social relationships. The resulting anomie led to an increase in undesirable activities such as crime and suicide. Anomie, in Durkeiminan logic therefore refers to a state of “normlessness” or a breakdown of the social order.

Merton (1938; 1964; 1968) provided further, and more specific process details, by theorizing that anomie, and the resultant deviance, occurs because of a gap between culturally prescribed goals and the avenues for accomplishing them. Societies who value the pursuit of social mobility and material possessions are not equally efficient in providing all members of society with the means to achieve these desired goals. Consequently, according to Merton, when culturally accepted goals cannot be attained by legitimate means, members tend to resort to deviant means to achieve the prescribed goals.

While Merton focused primarily on the social stratification system (e.g., poor education) as the major blocking mechanism in society, recent advancement in anomie theory, known as institutional anomie theory (IAT), provides a more explicit specification of the cultural values and institutional contexts that facilitate or block the achievement of the valued outcomes. Arguing that Merton’s focus on the stratification system failed to give sufficient attention to the institutional context of anomie, IAT specifies in addition to the cultural values, and the stratification system, a number of other social institutions that moderate this relationship (Messner and Rosenfeld, 1997; 2001; Rosenfeld and Messner, 1997)

Basically, IAT identifies cultural drivers and certain institutional contexts that propagate more egoistic reasoning in a society, resulting in the cognitive separation from traditional normative expectations. This decoupling increases the willingness of more people to “have no moral qualms” (Rosenfeld and Messner, 1997: 214) about the means to achieve their goals. Extant research supports the predictability of this theory to a wide and heterogeneous range of deviant outcomes such as homicide rates, property crimes, and the unethical reasoning of managers (Chamlin and Cochran, 1995; Cullen, Parboteeah, and Hoegl, 2004; Messner and Rosenfeld, 1997; Savolainen, 2000). Savolainen (2000) in one of the few previous tests of institutional anomie theory at the national level showed that when the economy dominates the institutional balance of power, the effect of economic inequality on violence becomes stronger among nations.

2. Anomie with positive and negative deviance:

Anomie theory focuses on patterns of adaptation and has typically focused on the negative side of deviance as an outcome. However the “labeling” of deviance, being socially derived, can give rise to a positive deviance interpretation as well (Ben-Yehuda, 1990; Goode, 1991), such as in the case of assisting a coworker (e.g., Sprietzer and Sonenshein, 2003), or entrepreneurship (Heckert, 1998; Heckert and Heckert, 2002; 2004). It has been argued that entrepreneurship involves, in addition to innovation, to some extent a drive for wealth creation that involves a new means-ends-framework to achieve wealth (Shane, 2003). Thus it is possible to explain entrepreneurship, a positively deviant yet socially valued adaptation (Durbin, 1959), activity, to some measure by the existence of anomic conditions in a society.

3. Anomie and entrepreneurship:

According to Merton, anomie results when the societal pressures for valued outcomes such as wealth, are coupled with an absence of means to accomplish those outcomes. Note that strain is the Mertonian version of anomie, which is subtly different from Durkheim's view of normlessness. However it should be pointed out that for both Durkheim and Merton, anomie is a *social* condition, not an individual condition. Hence societies that face anomic conditions will have more deviance than those without these conditions, as there is a blockage in the institutional paths to attain valued goals.

It follows that in this anomic social context, human agency surfaces to deal with the structural constraints in positively innovative ways such as entrepreneurship. Similar to other forms of deviance, it is possible that entrepreneurial behavior increases as a possible mode of adaptation to the anomic conditions in a society. Thus, entrepreneurship viewed in this sense is an innovative adaptation to anomie that involves choosing new means and ways to accomplish goals.

For example, Sine and David (2003) showed how environmental jolts mobilize actors to reformulate institutions, resulting in increased entrepreneurial opportunity over a forty-year period in the US electric power industry. Interestingly, they found that when the institutional environment was stable, the incumbent organizational forms and embedded logics present formidable obstacles to entrepreneurial activity. On the other hand, and close the anomie conceptualization, they found that environmental jolts catalyze search processes and motivate the evaluation of current institutional logics.

Specifically, in the case of the electric power industry, environments of abundance and regulation resulted in homogeneity of organizational structures and strategies, and few entrepreneurial opportunities. Environments marked by *scarcity and crisis*, however, (similar to anomic conditions) witnessed heavy scrutiny of existing institutional arrangements that eroded their taken- for-grantedness and symbolic value, resulting in opportunities for entrepreneurial action.

It is noted that entrepreneurship, as positive deviance in anomic conditions, accommodates both failure and success in entrepreneurial efforts and is applicable to different types of entrepreneurial activity such as startup, serial entrepreneurship, etc. Figure II depicts the empirical model that tests and extends IATE.

Insert Figure II about here

Major Propositions from IATE

It should be noted that past studies of the institutional drivers of entrepreneurship did not have an integrative framework and *at best* contained descriptions of types of institutions (e.g., country institutional profile, or the three “pillars” of Scott). To the best of my knowledge, no one has successfully combined national culture and social institutions in a theoretical framework. A recent pioneering theoretical contribution, IATE (Johnson and Cullen, 2005), is perhaps the only theory that is successful in this endeavor. Grounding my exploration of contextual drivers of entrepreneurial activity across nations in IATE (Johnson and Cullen, 2005) as a suitable integrative framework

for my cross level analysis, I use the major propositions that are derived from this novel theory providing a formal test, perhaps for the first time, of all predicted relationships. Further, additional propositions that extend IATE are also developed and tested. The theoretical framework is extended by a consideration of Turner's (1997) core institutional systems (economy, kinship, religion, polity, law and education).

IATE builds upon the classical anomie tradition, attributing high levels of positive deviance to interrelated cultural and structural dynamics (Messner and Rosenfeld, 2001; Rosenfeld and Messner, 1995; Chamlin and Cochran, 1995). In line with prior research on cultural influences, IATE proposes that four cultural values, namely, individualism, achievement, universalism, and monetary fetishism, support the "American Dream" like the goal of pursuing and achieving wealth and status (Messner and Rosenfeld, 2001: 61). IATE argues that due to cognitive decoupling from traditional controls, these cultural values create anomic conditions that encourage egoistic goal seeking at the cost of a concern for the type of means to achieve those goals. Yet due to societal evaluation, the choice of deviant means (e.g., entrepreneurial activities) may be positively viewed.

The influence of culture on entrepreneurship is not new, and has been the focus of scholarly interest over the past three decades (George and Zahra, 2002), and Hofstede's measures seemed to have served the field well, though recent calls for using alternative measures of national culture have been put forth. The linkages between culture and entrepreneurship are far from being straightforward, and much remains to be understood. Historically, the rise and fall of nations has shown that cultural vitality, thriving sciences and high tide in entrepreneurship all coincide (Wennekers and Thurik, 1999).

Individualism and Entrepreneurship

Typically definitions of individualism are contrasted with collectivism. Hofstede (2001: 225) defines individualism and collectivism as follows: “Individualism stands for a society in which the ties between individuals are loose: Everyone is expected to look after him or herself and her /his immediate family only. Collectivism stands for a society in which people from birth onwards are integrated into strong, cohesive in groups, which throughout people’s lifetime continue to protect them in exchange for unquestioning loyalty”.

Over the past several decades, thousands of articles have been written on individualism. In reference to entrepreneurship, there has been a predominance of the micro focus as seen in psychology-based research. Despite some contradictory evidence (Morris, Avila and Allen, 1993; Bhawuk and Udas, 1996), generally, research indicates that entrepreneurs tend to be highly individualistic in comparison to the larger population as they are driven by the goal to succeed as an individual.

Shane and Venkatraman (1996) in their study of innovation championing behavior in 28 countries found that a preference for innovating outside existing organizational rules, norms and procedures was positively related to individualism. Additionally, Shane (1992) found that individualism was positively related to inventiveness in 33 countries in 1967, 1971, 1976, and 1980. In a nine-country survey of entrepreneurs, Pompe, Bruyn and Koek (1986), reported that the country scores for individualism correlated highly ($\rho = 0.70$) with innovation.

IATE posits that the cultural value of individualism (which encourages autonomy, self-sufficiency, and competitiveness, Hofstede, 2001) results in a greater concern with individual rather than with common goal attainment (Trompenaars and Hampden-Turner, 1998). By its very nature, individualism creates anomie since it discourages a person's engagement and identification in the collective society. Consequently, the bonds of social control based on group membership are reduced. Since individualism supports the priority of personal goals and the subordination of relationships, it leads to more egoistic behaviors. According to IATE, individualistic cultures are more competitive because members ignore traditional normative restrictions in the interest of personal success (Messner and Rosenfeld, 2001).

Achievement and Entrepreneurship

In achievement-oriented societies personal worth rests on the outcome of one's efforts, and not the ascription of status or position (Trompenaars and Hampden-Turner, 1998). Consequently relationships become more instrumental, and are focused more on task completion versus social integration (Trompenaars and Hampden-Turner, 1998).

Perhaps the most well known study that links achievement motivation to entrepreneurship is McClelland's work on the achieving potential of western societies. Management scholars have analyzed similar issues using surveys. Using Swedish data, Davidsson (1995) and Davidsson and Wiklund (1997) indicate that achievement motivation was correlated to the growth of new enterprises. Similarly, Uhlaner, Thurik and Hutges (2002) study the effect of cultural variables on entrepreneurial activity in 14 OECD countries and show that greater life *dissatisfaction* were correlated with higher

levels of self employment, providing support for the strain version of Merton's anomie. Similar to the strain theory, research suggests that people are more likely to start their own businesses when unemployment is high (Martinez-Granado, 2002). In the same vein, Storey (1991) and Lindh and Olsen (1996) indicate that unemployment is positively associated with the creation of new businesses.

From the perspective of IATE, achievement values promote a greater concern for outcomes and less concern with the means to achieve them. Thus, it encourages an obsession with the pursuit of material and other competitive goals (Passas, 2000) implying that the outcomes are paramount, and not the rules (Messner and Rosenfeld, 2001).

Universalism and Entrepreneurship

Universalism is based on the expectation that people are judged similarly and that the same rules apply equally to all. Hence standards take precedence over all other personal considerations (Trompenaars and Hampden-Turner, 1998). Universalism supports equal opportunity as it allows individuals to strive toward their goals (Blau and Duncan, 1967). In contrast, in a particularistic culture, opportunity is determined by other factors such as relationships, etc, and thus ambition is discouraged. According to IAT (Messner and Rosenfeld, 2001), universalism sets the stage for anomie because equal opportunity implies equal chances for both achievement and failure. Very similar to individualism and achievement orientation, this situation of opportunity for achievement or failure, leads to the egoistic concern for outcomes and an increased pressure to use deviant means for achieving those ends.

Monetary Fetishism and Entrepreneurship

One of the notable contributions of IATE is in its prompting the use of the relatively less studied cultural dimensions of universalism especially in entrepreneurship, as McClelland did draw attention to the dimension of achievement orientation. Further, IATE offers another cultural dimension, monetary fetishism, which is unique. Monetary fetishism is a cultural value that considers the acquisition of wealth as a measure for achievement. Again, by the same logic, monetary fetishism drives anomie because it encourages assessment of self worth based on an egoistic metric that has little concern for group welfare or the means of acquiring the money (Messner, 2003).

Since IATE proposes that these cultural variables increase the drive for wealth and status under conditions of anomie, it is plausible to find generally higher rates of both negative and positive deviance such as entrepreneurship in such societies. Thus, I test the following main effect hypotheses:

H1: *The stronger the individualism cultural values in a nation, the greater the extent of entrepreneurial activity.*

H2: *The stronger the achievement-oriented cultural values in a nation, the greater the extent of entrepreneurial activity.*

H3: *The stronger the universalism cultural values in a nation, the greater the extent of entrepreneurial activity.*

H4: *The stronger the monetary fetishism cultural values in a nation, the greater the extent of entrepreneurial activity.*

Next, specific social institutions that are central to IATE are considered. It should be noted that institutional anomie theory assigns a critical role to structural dynamics, and

more specifically to the institutional balance among major social institutions such as the family, the economy and the polity. The problem arises because the social roles and values of the respective institutions are often contradictory, yielding a distinctive pattern of social relationships or “institutional balance of power” (Messner and Rosenfeld, 2001). Deviance thus occurs when the economy dominates this institutional balance of power. Following the same logical stream of consciousness, IATE argues that the anomic pressures and positively deviant adaptations, specifically in the form of entrepreneurship, that result from the cultural values noted above are either enhanced or muted by the institutional context of a society. Note that when institutional constraints block the achievement of culturally induced goals, anomie based on strain leads more to deviant and adaptive behaviors in a given society.

According to Turner (1997: 6), social institutions are defined as “ a complex of positions, roles, norms, and values lodged in particular types of social structures and organizing relatively stable patterns of human behavior with respect to fundamental problems in producing life-sustaining resources, in reproducing individuals, and in sustaining viable societal structures within a given environment”. Social institutions work by structuring appropriate courses of actions through opportunities and sanctions (Barley and Tolbert, 1997). Through regulative and incentive mechanisms, social institutions provide a framework that both facilitates and constrains the range of individuals’ activities and behaviors in a society or country (Aldrich and Wiedenmayer, 1993; Ingram and Clay, 2000; Kohn, Slomczynski, Janicka, and Khmelko, 1997).

Acknowledging the potential effects of other social institutions on deviance, IAT specifies the four social institutions of the (1) economy, (2) polity, (3) the family, and (4)

education as core to institutional perspectives on criminal behavior (Messner and Rosenfeld 2001) as they promote conditions that can break down or strengthen normative controls (Lilly, Cullen, and Ball, 2002), a situation that is also relevant to entrepreneurship.

Given the cultural drivers of anomie and the resulting likelihood of deviance, IAT looks at these four social institutions as context for an institutional “balance of power” (Messner and Rosenfeld, 2001). Thus, the institutional balance of power sets the stage for how potential deviance-driving cultural values affect rates of deviance, specifically, positive forms of deviance such as entrepreneurship.

The economy and polity. The economic institution organizes the production and distribution of goods and services in order to satisfy member’s basic material needs for survival (Messner and Rosenfeld, 2001; Turner, 1997).

Traditional social controls are undermined when economic roles dominate other roles such as family membership, giving rise to anomie. This in turn increases the likelihood that the cultural drivers of negative and positive deviance will prevail. In short, economic domination weakens traditional social ties found in more mechanistic societies (Durkheim, 1893) leaving societies’ members faced with situations that encourage pursuit of egoistic goals.

In contrast to the anomie driving conditions of the dominant economy, the polity or political institution may serve to mobilize and distribute power such that collective goals can be accomplished (Messner and Rosenfeld, 2001: 65). The polity can redistribute the economic gains such that there is more equitable distribution of wealth in

a society. According to IAT, wealth redistribution acts to countervail deviance-enhancing environments of economic dominance. When the state provides people with expansive redistributive benefits such as health care, welfare programs, housing, etc. (Rossides, 1990), expectations of work and industriousness are reduced (Walder, 1992), likely diminishing individual efforts such as entrepreneurship. Further, government directives dictate earnings distribution or redistribution after taxation for equitable sharing of rewards (Brus and Laski, 1989; Davidsson and Henrekson, 2002; Nove 1994). Though economists argue that redistributive efforts by higher tax rates encourage the self-employed to underreport income (Aronson, 1991), Shane's study (1996) found no such relationship and cross-national findings showed a negative relationship between taxation and self employment levels (Fölster, 2002), consistent with IATE predictions that such leveling of rewards may discourage individual initiative related entrepreneurial activities.

Studies in criminology provide evidence that measures of economic welfare are inversely related to cross national variation in homicide rates (Fiala and LaFree, 1988; Gartner, 1990a; Pampel and Gartner, 1995), similar to the dominant reasoning in IATE. Similarly, Messner and Rosenfeld (1997) report that the degree of decommodification (a measure of welfare that emancipates citizens from the dominance of the market) is negatively related to homicide rates, after net controls for other characteristics of nations.

Empirical studies in the US show that taxes affect the decision to pursue self-employment. Cullen and Gordon (2002) and Schuetze and Bruce (2004) show that more individuals prefer self employment and entrepreneurial companies grow faster when

personal income is taxed more heavily than corporate income, proving that institutional tax structures often times promote positive and negative deviance.

In contrast to a welfare state, under less redistributive political systems, more typical of a capitalist polity, control over economic resources resides, in varying degrees, with private owners and/or their agents (Whitley, 1994: 154) and the market provides the necessary rewards to stimulate individual efforts. This situation results in a self-serving economic system where the priority is looking out for self-interest (Ralston, Holt, Terpstra, and Kai-Cheng, 1997: 180). According to IATE, such self-interest reduces social control and enhances the effects of the cultural drivers of anomie and deviant behaviors. In contrast, providing services and resources to society's members as entitlements rather than as an outcome of competitive market forces mitigates the effects of the cultural drivers of anomie and deviant behaviors. Savolainen (2000) suggests that social welfare policies have contingent relationships with other drivers of anomie in predicting deviant behaviors, indicating the possibility that redistributive economic policies can mitigate the effect of anomie driving values. Savolainen's (2000) study showed that social welfare policies had a greater effect on reducing negative deviance such as homicide in more stratified societies. Thus:

H5: *Greater levels of economic redistribution in a society reduce the effects from the cultural values of individualism, achievement orientation, universalism, and monetary fetishism on the extent of entrepreneurial activity in nations.*

Viewed from the opposite spectrum, the above logic implicitly assumes that the absence of a redistributive economy implies that there is minimal governmental

intervention. The most commonly understood and known reflection of the lack of governmental intervention and the “free operation of market forces” is seen in capitalistic type economies where the forces of the market are the major equilibrating factors in the distribution of wealth. The dominance of economic systems as seen in capitalistic economies is one of the key factors in the understanding of anomie and the valued goals in society. Thus, I tap at both ends of fundamentally critical economic forces that are likely to impact entrepreneurial activity at the societal level. In the context of anomie, a dominance of economic institutions will serve to enhance the cultural drivers of positive deviance and entrepreneurship, as there is an absence of safety nets prevalent in a more welfare and redistributive society. Hence members are faced with increasing pressures to achieve economic goals such as entrepreneurship. Given these arguments and logic, the following hypothesis is proposed:

H6: Greater levels of economic dominance in a society increase the effects from the cultural values of individualism, achievement orientation, universalism, and monetary fetishism on the extent of entrepreneurial activity in nations.

Family The family’s greatest responsibility is to preserve social cohesion in the face of constant changes (Carnoy, 1999). There is indirect empirical evidence that social norms that are provided by families may matter. Giannetti and Simonov (2004) suggest that social norms play an important role in the decision to become an entrepreneur, and that some of the observed differences in entrepreneurial activity may be explained by social norms (Giannetti and Simonov, 2004) For example, some studies (Lentz and Laband,

1990) have analyzed the effect of family background on the decision to become self-employed.

Marital and family disruption is a form of social disorganization that reduces informal social controls that are typically exercised by cohesive family units. Family disruptions such as divorce interfere with the social integration and control roles of the family (Carnoy, 1999). Consequently this absence of controls increases criminal and other forms of deviance (Barnett and Menckan, 2002; Osgood and Chambers, 2000; Stack and Eshleman, 1998).

From an IAT perspective, the family provides a non-economic basis of self worth, and stronger family units balance the context of economic dominance. Also, concern for family and a reluctance to expose family to uncertainty may deter highly risky endeavors such as entrepreneurship. When the institution of the family is weak, findings suggest that marital and family disruption reduces informal social controls and increases criminal activity and other forms of deviance (Barnett and Menckan, 2002; Osgood and Chambers, 2000; Stack and Eshleman, 1998). Thus:

H7: Greater levels of family stability in a society reduce the effects from the cultural values of individualism, achievement orientation, universalism, and monetary fetishism on the extent of entrepreneurial activity in nations.

Education Educational institutions provide important socialization functions (Messner and Rosenfeld, 2001; Turner, 1997). IAT suggests that educational systems transmit values that increase concerns for others and thus should decrease the willingness to seek deviant means to achieve valued ends (Chamlin and Cochran, 1995; Messner and

Rosenfeld, 2001; Van Deth, 1995). IAT predicts that better-developed and accessible educational institutions reduce the domination of the economy and the achievement of goals by any means. Structurally, accessible educational systems also provide more people access to better paying and more intrinsically satisfying jobs (Blau and Duncan, 1967). Nations with accessible and well-developed educational systems thus have more readily available legitimate means to achieve material success and hence foster conformity rather than deviance.

Well-developed, accessible educational systems serve to discourage entrepreneurial activity, as education provides alternative and safer routes to highly valued materialistic goals. Status and wealth accumulation can be achieved through conformity rather than deviant adaptations, making entrepreneurship a less compelling and desirable means for goal accomplishment.

In general, previous research evidence seems to suggest that easier paths of wealth creation reduced entrepreneurial activity. For example, Spencer and Gomez (2004) found that GDP per capita negatively predicted self-employment among nations. Hurst and Lusardi (2004) find that the relation between wealth and the probability of becoming an entrepreneur is very weak, and only holds for households in the top ten percent of wealth distribution. The diversity of empirical evidence on wealth and the decision to become an entrepreneur may, as some argue be in part due to the nature of the institutional environment, especially related as to start up capital access (Giannetti and Simonov, 2004).

In the context of IATE, the presence of wealth and educational opportunities indicates a lack of strain or an absence of anomic conditions, as there are sufficient avenues to attain economic goals in society. Thus:

H8: *Greater educational opportunities in a society decrease the effects from the cultural values of individualism, achievement orientation, universalism, and monetary fetishism on the extent of entrepreneurial activity.*

Extensions of Institutional Anomie Theory of Entrepreneurship

Besides the 8 hypotheses that serve to test the predictions of IATE, I propose and test extensions of the theoretical framework in additional hypotheses that follow in the next section. The previous hypotheses were devoted to primarily capturing primarily social, cultural, and economic considerations. However these are by no means an exhaustive or complete list of the predominant social institutions that would have an effect on entrepreneurial activity. Standing on the shoulders of Turner (1997), and his identification of the major social institutions, I add the other important institutions that have been identified by extant literature as being important factors in entrepreneurial activity such as religion (religiosity), politics (political constraints), and law (union activity) that are part of the institutional complex as identified by Turner (1997).

Further, I add yet another institution, the stratification of the society, relying on the original conceptual foundations of IATE that were derived from Mertonian logic. If one follows the development and history of IATE, interesting facts appear. Messner and Rosenfeld, in complaining about Merton's undue focus on the social stratification system to the neglect of other social institutions, provided interesting additive social institutions

that are an integral part of IATE and are being tested. However, Messner and Rosenfeld may be subject to the same criticism that they leveled against Merton, as they ignored stratification in the process of formulating IAT. Hence, in order to bridge this conceptual gap, I reinstate Mertonian focus on the social stratification system as one of the major blocking mechanism in society, and thus add to the deficit in IAT and IATE conceptualizations of the institutional context of anomie. Arguing that Merton's focus on the stratification system failed to give sufficient attention to the institutional context of anomie, IAT specifies in addition to the cultural values, and the stratification system, a number of other social institutions that moderate this relationship (Messner and Rosenfeld, 1997; 2001; Rosenfeld and Messner, 1997)

The economy is one of the major institutions within all industrial societies (Turner, 1997). It is an “interrelated network or system of beliefs (concerning work, property, constructs, and wealth), activities (extraction, production, and distribution), organizations (business firms, labor unions, consumer associations, regulatory agencies), and relationships (ownership, management, employment, sales) that provide the goods and services consumed by the members of a society” (Olsen, 1991). Thus, economic systems provide formal and taken-for-granted rules and regulations that act as incentives and constraints on the actions of individuals (Scott, 1995; Streeck and Schmitter, 1985).

1. Religiosity Yet another important social institution that may be considered in the context of entrepreneurship and IATE is religiosity. Weber was perhaps the first to point out the effect of ascetic Protestantism on the entrepreneurial spirit in the west. In the context of IATE, religiosity acts to provide alternative means of self worth and value that is not dependent upon materialistic goals and wealth. Hence societies where religiosity or

the impact of religious values is higher will tend to mitigate the effect of anomic conditions on entrepreneurship.

For over 100 years, psychologists have wrestled with the task of adequately defining religion (Allport, 1950; Batson, Schoenrade, and Ventis, 1993; Erikson, 1966; Freud, 1927 [1961]; James, 1902 [1961]; Leuba, 1950; Skinner, 1953; Wulff, 1991). As far back as 1902, James identified different manifestations of religion and also assessed the impact of religion on human action. Later Allport (1950) argued that a unidimensional view of religion was inadequate, and specified two different forms of religiosity: intrinsic and extrinsic.

Intrinsic religiosity was defined as mature religious sentiment, and included six traits: differentiation, religion as an autonomous force, religion as a directive system of high ethical standards, a unified framework for understanding existence, a striving for a harmonious whole, and an energy-giving force that preserves fundamental values (Wulff, 1996). Intrinsic religiosity is expressed by those who "regard faith as a supreme value in its own right, religious sentiment [that] floods the whole life with motivation and meaning" (Allport, 1966: 454). In contrast, extrinsic religiosity provides "safety, social standing, solace and endorsement for one's chosen way of life" (Allport, 1966: 454). The extrinsically religious person does not find inherent value "believing" and following religious traditions, rather she or he practices religion to accomplish other personal gains. Hunt and King (1971) argued that both intrinsic and extrinsic religiosity covered a wide range of cognitive, motivational, and social behavior patterns. The psychological approach is more amenable to the examination of religiosity at the individual level, and *within* societies.

On the other hand, studying religions *across* societies or nations presents a different challenge, and one that sociologists are more adept at handling. Since Fichter (1954), social scientists generally agree that religious involvement and/or commitment varies among people who may nevertheless denominate themselves identically. Consequently, a simple denominational measure is an extremely weak indicator of religious involvement/commitment. Rather, a denominational measure may actually obfuscate the effect of religious involvement/commitment upon other aspects of a person's life-world. Further, religious commitment varies across all religions, and may manifest itself in different ways within the same religious tradition.

Sociologists caution that since the impact and combination of religious denominations vary so widely across societies, it becomes difficult to make comparative assessments. Hence, they suggest that an alternate and more powerful lens to examine the influence of religion *cross-nationally* would be to examine religious salience (e.g., Barrow and McCleary, 2003). This approach of examining the salience of religion in a society is commonly referred to as religiosity by sociologists. In this perspective, religious salience focuses on the quality and importance of religious role performance rather than just membership. For example, Wimberly (1976) used factor and cluster analysis to demonstrate the existence of a "civil religion" variable separate from both denominational religious belief as well as political commitment.

One way that social scientists measure *religiosity* (or degree of religious commitment) is by salience. Salience is a subjective indicator of importance of religion to a person. The measurement of salience typically involves asking a survey respondent a question, for example, "How important would you say that religion is to you? Extremely

important, quite important, fairly important, not too important, or not important at all." It is rather highly correlated to several other measures of religiosity, such as frequency of prayer and regularity of attendance at worship services (Swatos, 1998).

Religion is an important element of the socialization process. The effect of religiosity can be seen on a wide spectrum of human behavior such as crime, deviance, etc. Cross-national research has investigated the effect of religiosity on various outcomes such as consumer behavior (Sood and Nasu, 1995). Some researchers have shown that cultural values indeed affect the individual decision to become an entrepreneur. Guiso, Sapienza and Zingales (2003) show that in countries where the population is more religious, there is a greater acceptance of capitalism and, as a consequence, a more favorable environment for entrepreneurial activity. Researchers have also explored the effect of religiosity on entrepreneurship using logic that is very similar to IATE. For example, Bellu and Fiume, 2004 explored the role of religiosity in neutralizing the deleterious effects of materialism that may accompany the financial rewards of entrepreneurial success.

Thus, I consider religiosity not religious affiliation as a logical extension of the institutional complex considered by IATE. Following the reasoning presented in IATE, religion serves to lessen the dominance of the economy by providing alternative means of self worth and valuation that is counter to the pursuit of materialistic goals. Thus,

H9. Greater religiosity in a society decreases the effects from the cultural values of individualism, achievement orientation, universalism, and monetary fetishism on the extent of entrepreneurial activity.

2. Political Constraints Political institutions contribute to an environment that can either encourage or discourage entrepreneurial activity and firm growth. Krueger and Brazeal (1994) noted that support from political, social, and business leaders is critical to the encouragement of entrepreneurial activity. For example, research in Sweden indicated that taxation of entrepreneurial income, incentives for wealth accumulation, wage-setting institutions and labor market regulations, all had an impact on entrepreneurial activity (Davidsson and Henrekson, 2002). Lee and Peterson, (2000) found that when economic, political/legal, and social factors were favorable, a strong entrepreneurial orientation developed within entrepreneurs and their firms.

Transitional economies have seen a resurgence of private entrepreneurship due to the important structural role played by the economic, political, legal, and cultural environment (Luthans, Stajkovic, and Ibrayeva, 2000). Social institutions can have regulatory, normative or cognitive influence on individuals (Scott, 1995). For instance, Busenitz, Gomez and Spencer (2000) in a study that explaining the social institutions that encourage entrepreneurship, found that government policies had a regulatory effect on the development of entrepreneurship. In particular, Aldrich and Wiedenmayer (1993) suggest that the sociopolitical environment may be so powerful that it may create or destroy entrepreneurship in a country.

There is a distinct stream of research that argues for and presents a link between the credible structure of a nation's political institutions and the preferences of the actors that inhabit them and economic outcomes at the country, industry and firm levels (Delios and Hennisz, 2000; Hennisz and Delios, 2001). Nations that have a credible institutional

environment tend to encourage development of entrepreneurs, while those that have high political hazards, or few restraints on executive discretion tend to create an atmosphere that discourages entrepreneurial activity (Henisz, 2000).

The credibility of the institutional environment is heavily influenced by the amount of discretion ("rule by man" rather than "rule by law") that is still available to political leaders and bureaucratic administrators (Olson, 1992). In nations where political leaders have more discretion, it is more likely that the arbitrary enforcement and erratic administration of laws inherited from the past result in anomic conditions that encourage deviance and entrepreneurial activity. Often, bureaucrats at every level use unclear legal statements to extort a payment by a potential entrepreneur. The political and administrative discretion thus not only invites corruption, but also generates needless uncertainty, making individual planning by potential entrepreneurs more difficult, and leaving individual and property rights less secure and creating conditions that are anomic.

In contrast, the existence of political constraints (which limit discretion) that prevent such arbitrariness and resulting anomie would provide legitimate means of attaining ends and hence would discourage deviant behavior such as entrepreneurship. Countries with higher levels of political constraint (e.g., Political index score for USA = 0.85), would therefore be less conducive for the development of entrepreneurship than those countries with lesser political constraints (e.g., Political index score for Zaire = 0.00) as there would exist a system of checks and balances that ensure the credibility of the institutional environment and prevent anomie. This supports previous findings from the pretests that indicated negative relationships between political constraints and

entrepreneurial activity (Salimath et al 2005b, [2005c]). Hence the following hypothesis is proposed:

H10: Greater levels of political constraint in a society decrease the effects from the cultural values of individualism, achievement orientation, universalism, and monetary fetishism on the extent of entrepreneurial activity in nations.

3. Union Activity Two aspects of the economic system are likely to affect entrepreneurial activity. The first reflects the redistributive nature of the government and this has already generated one of the testable hypotheses from IATE. However, a second aspect of the economic system that can be considered is the pattern of labor relations between management and employees. This relationship is primarily reflected in labor unions and their corresponding activity. Berg (1979) in his classic discussion of the "web of rules" notes the pervasive effects of labor unions in shaping work and the meaning of employment.

Besides the indirect effects of union presence in a country as the reduction of power and increased benefits to workers, there is the more obvious and less intuitive component of union activity such as strikes, lockouts, and workdays lost. In countries with strong union activity such as the occurrence of strikes and lockouts that lead to work stoppages or days lost in regard to production, interest in entrepreneurial activity will be lower due to the corresponding increase in perceived future liability of starting and running a new venture in such a disruptive environment or national context. Further, the incidence of strikes and lockouts could be an indicator of a strong and active union and

hence this could also imply enhanced security and protection afforded to employees and the corresponding increase in regulations and rules that are counter to the interest of the self-employed job-creating entrepreneur. In contrast, countries that have weaker labor movements encourage self-employment as a means of obtaining additional source of security and promote the interests of the job-creating entrepreneur by having lesser demands and rules from the labor unions.

In the context of IATE, increasing union activity is reflective of unrest and a challenge of existing norms and laws that govern the relations between labor and management. Union activity indicates that legitimate avenues exist for expressing the strain between existing labor institutions and the demands of workers in the form of protests, strikes and lockouts. As such it becomes a case for classic nonanomic conditions, in the Mertonian sense. Hence, based on the above arguments, I offer the following hypothesis:

H11: Greater levels of union activity in a society decrease the effects from the cultural values of individualism, achievement orientation, universalism, and monetary fetishism on the extent of entrepreneurial activity.

4. Social Stratification

Finally, I add the stratification of society as an important extension that needs to be considered in order to be faithful to the original Mertonian logic. As mentioned briefly before, Merton focused primarily on the social stratification system (e.g., poor education) as the major blocking mechanism in society. Messner and Rosenfeld (Messner

and Rosenfeld, 1997; 2001; Rosenfeld and Messner, 1997) criticized this and argued for a more explicit specification of the cultural values and institutional contexts that facilitate or block the achievement of the valued outcomes, besides stratification. However, they ignored stratification in their formulation of IAT, a fact that was not picked up in IATE either.

Societies that are more stratified or divided in the distribution of resources across the population, in which the gap between the upper and lower quartiles of society are vast, reflect gross inequalities in access to valued resources such as income and pay. Economists have had a long tradition of measuring the inequality of any society by a well-known stratification measure, the GINI index (details in the variables section). In the context of anomie, stratification suggests that not all segments of society have clear and easy access to goods and services. Hence paths to valued societal outcomes are blocked or constrained for a majority of the population, resulting in classic strain or anomie. As such, it is logical to suppose that societies with greater stratification will experience greater anomic conditions (due to the blockage of goals) and hence there will be greater occurrence of positively deviant activities such as entrepreneurship. Hence, based on the above arguments, I offer the following hypothesis:

H12: Greater levels of stratification in a society increase the effects from the cultural values of individualism, achievement orientation, universalism, and monetary fetishism on the extent of entrepreneurial activity.

As scholars have indicated, despite a dramatic increase in our knowledge of entrepreneurial activities over the past decade, much is still to be learnt about how process and context interact to shape the outcome of entrepreneurial efforts (Aldrich and Martinez, 2001). Hayton, George and Zahra (2002) in their review of 21 empirical studies examining the association between national cultural characteristics and aggregate measures of entrepreneurship, individual characteristics of entrepreneurs and aspects of entrepreneurship, suggest that future research should examine the simultaneous influence of cultural, regulatory and industry characteristics on aggregate entrepreneurship as well as the joint effect of national and organizational cultures on corporate entrepreneurship. The present study therefore focuses on both national culture and social institutions to understand cross-national variation in entrepreneurial activity in the context of IATE. It must be emphasized that though prior studies of entrepreneurship have identified many individual predictors of entrepreneurial activity, my approach is to adjust for these factors in order to isolate nation level effects.

Davidsson and Henrekson (2002), while admitting that indisputable evidence for the effects of institutional arrangements is difficult yet not impossible to establish, concede that it is a not an easy task to construct convincing tests of the hypotheses that the institutional set up is an important determinant of firm growth and entrepreneurial activity, and they outline the steps necessary for this task.

First, they suggest that identifying relevant institutions and their likely effects on behavior. The cross-national institutional arrangements I analyze include all social institutions specified by Turner (1997). Thus, I consider the effects on entrepreneurial activity of the economic system (industrialization, extent of redistributive economy), law

(union activity, rule of law), polity (political constraints) religion (religiosity), kinship (family stability), education (educational opportunity) and national culture (individualism, achievement motivation, universalism and monetary fetishism). My basic hypothesis is that social institutions in conjunction with national culture create a context that legitimizes and favors the development of preferences regarding self-employment and the role of work in one's life. This is tested using IATE as a reasonable integrative theoretical framework to test the cross level hypotheses regarding the effects on entrepreneurial activity by a) specific social institutions and b) national culture. Second, I would need high quality data. The GEM study is perhaps the most well known and methodologically sound data since it provides harmonized data that is comparable across nations on my major variables. Further, World Bank and UN data also follow the standard metrics for data collection in cross-national samples.

Finally, a yardstick for comparison and a means to rule out competing explanations is necessary. According to Davidsson and Henrekson, since the institutional arrangements are by definition restricted to situations with few observations and many possible influences, the validity of the conclusions will have to be judged by the strength of theoretical arguments in combination with the correspondence between theoretical predictions and empirical results. In order to test the hypotheses institutional variation is necessary. This is possible if a) one can study a country over time during periods of institutional change (e.g., Davidsson and Henrekson, 2002) or b) by studying differences in behavior across countries with different institutions (e.g., Davis and Henrekson, 1999). I use the latter approach in this study. For comparisons I have comparable (common methodology) international data for start up activity, culture and institutions.

As stated earlier, one overarching practical reason for the proposed study is the assumption that entrepreneurial activity affects national economic growth and performance as argued by Schoonhoven and Romanelli (2001).

I use the institutional anomie theory of entrepreneurship (IATE) as proposed by Johnson and Cullen (2005) as an integrative theoretical framework for understanding the combinative effects of cultural values and institutions on societal levels of entrepreneurial activity. IATE theorizes entrepreneurship as a positively deviant response to anomic conditions in societies. i.e., when traditional means of achieving valued objectives of wealth accumulation are blocked or facilitated by institutions.

Assumptions and Boundary Conditions

A brief overview of the main assumptions and boundaries for the present study are presented. Given the unique features of the present work, including its multiple level of analyses, considerations of cross national factors, and theoretical framework, it is essential to define the bounds of the study and frame it appropriately for the reader.

Firstly, it must be stated that the focus of this study is on nascent entrepreneurship, not all types or forms of entrepreneurship. It is concerned with the initial stage of starting or owning or managing a new business and does not apply to the more sophisticated forms such as when the firm goes public, etc. This is in line with earlier findings that the effects of institutions will vary based on different natures of entrepreneurial activity studied (Spencer and Gomez, 2004)

Secondly, I use the theoretical framework of IATE (Johnson and Cullen, 2005) as a plausible explanation, (albeit an interesting and logically sound explanation, and one

that has been successfully applied to a variety of outcomes) for cross-national entrepreneurial activity. To the best of my knowledge, this is the *only* existing theoretical framework that provides process explanations that link both national culture and social institutions to explain entrepreneurial phenomena at the societal level.

Thirdly, national culture and social institutions do not completely determine entrepreneurship; it is a partial explanation, albeit an important one, as examination of context and process in entrepreneurship deserves systematic study and analysis (Hayton, George and Zahra, 2002; Aldrich and Martinez, 2001).

Fourthly, the model provides one possible explanation among many and hence cannot completely rule out all competing explanations: other explanations are possible. This is in keeping with the complex nature of non-experimental social science research where the existence of “fully” specified models is rare, if not non-existent. Adequate controls have nonetheless been applied, given availability of cross-national data, to address major confounds such as age and gender at the individual level.

Fifthly, the results from the GEM research over the past seven years (1998-2004) provide compelling evidence that the levels of entrepreneurship seem to be *relatively constant by country* suggesting that national differences are important. Thus the purpose of studying entrepreneurship across countries using macro indicators is a justified and valid one.

Sixthly, there are limited efforts that consider multiple levels of analysis. Recently, calls have been made to encourage cross disciplinary and multi level methodologies to investigate managerial (and entrepreneurial) phenomena in a manner that allows for generalizability beyond the North American region to other countries in

the world. The test of IATE across 29 countries speaks to this important gap in the knowledge and encourages the use of the scientific paradigm of rigorously testing and validating the applicability of theories in management research.

Finally, many other predictors of entrepreneurship are within nations (e.g., entrepreneurial regions) and are causally downstream from the national context of culture and social institutions. Thus it is unlikely that, for instance, a relationship of entrepreneurial activity with national culture is spurious due to the existence of entrepreneurial zones, or that such zones might be influenced by national culture and social institutions.

Given these boundary conditions, the present study is a small, but impressive and carefully thought out effort at addressing macro level effects on individual entrepreneurial activity. In addition, more than one pre test has been conducted over the past two years in order to solidify arguments and methodology for the present study. To the extent feasible, the present work draws upon existing insights in both theory and methodology across a wide range of disciplines (including management, sociology, entrepreneurship, economics, criminology, political science, and psychology) to assess the impact of macro level predictors on individual entrepreneurial phenomena.

Chapter 4: Research Design and Methodology

a. Sample and sources of data

As the purpose of the present work was to assess the effects of national culture and social institutions on individual entrepreneurial activity, my predictors are at the macro or national level while my dependent variable is at the individual level. To test my hypotheses regarding entrepreneurial activity, I assembled secondary data at both the individual level as well as the country level. Data from 71,694 individuals in 29 countries comprised the data sample. The respondents consisted of adults between the ages of 18-64 years of age and data were collected based on national probability sampling. The countries included in the analysis were Argentina, Australia, Belgium, Brazil, Canada, Denmark, England, Finland, France, Germany, Hungary, India, Ireland, Israel, Italy, Japan, Korea, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Russia, Singapore, South Africa, Spain, Sweden, and USA.

This chapter is organized as follows. First, a brief explanation of the sources for the two levels of data collection (individual and nation level) is provided i.e., GEM and WVS. This is followed by a detailed section on each specific variable, with details on its assessment. Next, all procedures for the appropriate analysis of the data are presented. In the last part, results of two pre tests of the study are discussed briefly and the chapter ends with the significance of the present study.

Source for Individual-Level Data.

All individual-level data for the present study were from the Global Entrepreneurship Monitor (GEM) 2001 study (Reynolds et al., 2001). The GEM is an ongoing collaboration between national teams in Europe, Asia and North America, which employs a multi level method approach that has the potential of increasing our understanding of the influence of institutional, demographic and cultural factors on entrepreneurial activity. The GEM study allows for reliable international comparisons, and has over 6 years of robust data collection efforts on entrepreneurial activity. Given that cross national comparisons are required in order to test for the effects of national culture and social institutions on entrepreneurial activity, comparable cross national data are an essential requirement. Fortunately, reliable secondary data as provided by GEM is available for this purpose, and it saves considerable resources, expertise, and time that would otherwise be necessary to collect data for several countries.

The GEM was set up in 1997 as a joint initiative of Babson College and the London Business School. A pilot data collection study on 6 countries took place in 1998. Since 1999, a global GEM report is published each year. The number of participating countries has risen from 10 in 1999 to 44 in 2004. The participating countries cover all continents and included developing nations, highly developed countries and transition economies (see Reynolds, Bosma, Autio, Hunt, De Bono, Servais, Lopez-Garcia and Chin, 2005). Data were weighted for age, gender and/or geographic distribution, ethnic background, educational achievement, household income, etc. To increase confidence in the extent to which the weighted samples would represent the national populations, the GEM Coordination team adjusted all case weights for all countries using a standardized

estimate of the age and gender structure of each country provided by the US Census International Population Data Base (US Census, 1999). These estimates are provided on an annual basis and updated each year. The final weights are adjusted to ensure that the average value of the case weights for each country is exactly one.

GEM 2001 contains survey data from 29 countries collected in 2001 (Reynolds et al, 2005). Data were collected in accordance to current technical standards in social science research to allow for harmonized counts and prevalence rates across all countries. Details about the data collection process are available at <http://www.gemconsortium.org>. Participating countries included Argentina, Australia, Belgium, Brazil, Canada, Denmark, England, Finland, France, Germany, Hungary, India, Ireland, Israel, Italy, Japan, Korea, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Russia, Singapore, South Africa, Spain, Sweden, and USA.

The universe consisted of persons who were actively engaged in a startup or were owners and managers of a new venture as identified in the GEM 2001 data. The sample had an average age of 43.04 years (std. dev. = 16.81) with 47.9% males and 52.1% females. Note that no countries were lost due to missing nation level data, and consequently my sample demographics reflect all 29 countries included in the GEM 2001 study. (Descriptives are provided in the appendix for all variables).

Sources for National –Level Data

National level data contained multiple predictors that were obtained from sources such as World Bank, United Nations, and World Values Survey (described below) available in the public domain, and greater details are provided under the variables and

measures section that follows below. All measures of social institutions were from 2000-2001, the years immediately preceding and during the collection of the GEM data. It is important to note that these measures are widely used and well accepted in the sociology, economics, and political science literatures. Such proxies for country measures have gained acceptance in the management field (Cullen et al., 2004; Parboteeah and Cullen, 2003).

The World Values Survey (WVS) is a worldwide investigation of socio-cultural and political change. It conducts representative national surveys of basic values and beliefs in over 65 countries in all 6 inhabited continents, containing 80% of world population. Four waves of the Values Surveys have been conducted, in 1981, 1990, 1995, and 1999-2001 respectively. The World Values surveys provide a broader range of variation than has ever before been available for analyzing the impact of the values and beliefs of mass publics on political and social life. This unique database makes it possible to examine cross-level linkages, such as that between public values and economic growth, entrepreneurship and democratic institutions. This study has given rise to more than 300 publications, in 16 languages. An international network of social scientists with local funding gathered data, and members have access to the collected information. A 4-digit weight variable was used to correct each country's sample so as to reflect the national distributions of key variables such as education. If no weighting was necessary, each case was coded as "1" for the weighting variable.

b. Variables and Measures

All measures came from multiple sources of data (Campbell and Fiske, 1959), gathered with the methodology and intent to allow for cross national comparisons, thus ruling out common method bias effects. Hence results from the analysis give confidence that any empirical relationships between the variables are not an artifact of common source bias.

It must be noted that the measures used in this study are a combination of both formative and reflective measures. For example, measures of entrepreneurial activity, religiosity, education, family, and union activity are formative in nature as I consider an aggregate index that represents the underlying pattern of activities that form the construct (Bollen and Lennox, 1991; MacCallum and Browne 1993; Bollen and Ting 2000; Edwards and Bagozzi 2000; Diamantopoulos and Winklhofer, 2001). Formative indicators, first introduced by Blalock (1964), refer to those set of measures that form or cause the creation or change in a latent variable. Formative measures are commonly used for constructs conceived as composites of specific component variables as when for example; socio-economic status is defined in terms of education, income, and occupational prestige (Hauser and Goldberg, 1971; Marsden, 1982). These items cause or form the latent variable socio economic status, and not the other way around. Hence, if a person lost their job, the socio economic status would no doubt be negatively affected. But a negative change in an individual's socio economic status does not imply that there was a job loss. Furthermore, a change in one indicator (e.g., income) does not necessarily imply a similar directional change for the other indicators (e. g. education or occupational prestige). Standard statistical tests such as factor analysis and internal consistency

assessment are based on the assumption of a reflective scale, but do not make sense for a formative scale (Blalock, 1964; Cohen et al., 1990). Since I used a formative specification for my measures, following Bollen and Lennox (1991), which are based on multidimensional independent predictors, these standard tests are not appropriate in this study. For my reflective measures (measures of national culture and other social institutions) reliability data in the form of internal consistency estimates are reported. Lastly, it must be noted that all measures in the study have been previously used in prior research across a wide spectrum of disciplines such as sociology, economics, political science, international business, entrepreneurship and management, and as such they have a long tradition of acceptance and usage.

Dependent Variable

Entrepreneurial activity

The GEM 2001 study actually consisted of four different types of data: representative population surveys of adults in each GEM 2001 country; detailed personal interviews with national experts on entrepreneurship; standardized questionnaire completed by each expert; and assembly of standardized data on each country. My measure of entrepreneurial activity was from the adult population surveys. While specific details on the entire procedure and analysis are provided in the GEM 2001 Operations Manual (Reynolds et al, 2001), a brief description of the data collection procedure (relevant to my study) as provided in the operations manual is summarized below.

Established survey research firms in each country completed the adult population surveys. In each country, standardized surveys were administered to a representative sample of adults (age 18-64 years) yielding a cross total of 72,087 responses. The research firms that collected the data and the size of each sample are presented in Table A (Appendix). Four international survey research firms supervised a number of countries, about half involved direct supervision by the GEM coordination team. Sampling procedures varied slightly, but all firms were able to provide samples that, when adjusted with proper weights, were representative of the adult population in each country, urban and rural. Telephone interviews were utilized in most developed countries, where most households have a telephone, and face-to-face interviews were used in most developing countries, to minimize bias by omitting lower income households. The actual GEM interview takes an average of less than two minutes, with a range of 60 seconds to 15 minutes, depending on how much the respondent is involved in entrepreneurial behavior.

All national teams participated in an open discussion of the schedule; each national team approved the translation into the national languages prior to survey administration. All survey vendors provided data on respondent age and gender; the additional socio-demographic items varied considerably among survey firms. The actual processing of the data files and application of criteria to determine which respondents qualified as actively involved in the start-up process for a venture they may own, or actively manage a new firm in which they have some ownership, is relatively complicated, reflecting a wide range of practices among the survey research firms, diversity of languages used in the actual interviews, and some necessary country variation on what constitutes a “start-up” versus a “new business.”

The GEM coordination team completed data set consolidation of both the adult population survey data and all data sets. In all cases data were consolidated such that a single indicator represented each item for each of the 29 countries, and approximately 800 such items were developed for GEM 2001. This material was then distributed to the national teams for their use in preparing the individual national reports.

Entrepreneurial activity was thus measured by behavioral indices that measure actual incidence of entrepreneurial activity and is obtained from the GEM 2001 data. The GEM data came from a national probability sample. Note that this is individual level data, not rates of entrepreneurship. My assessment of entrepreneurial activity includes whether individual are starting a new business, and/or whether they are currently owning or managing a new business. As such, it recognizes entrepreneurial opportunities that may be pursued outside organizations, since this conceptualization is more in tune with the anomie induced entrepreneurship arguments of IATE.

Entrepreneurial activity was therefore assessed by individual responses to the following two items:

Respondents were asked: “Which of the following would apply to you?”

- a) “You are, alone or with others, currently trying to start a new business, including any type of self-employment?” [Yes, No, Don’t Know, Refused]
- b) “You are, alone or with others, the owner of a company you help to manage?” [Yes, No, Don’t Know, Refused]

These responses were coded as Yes = 1, No = 0, Don’t Know, Refused = missing. Scores were aggregated to indicate a range between 0 and 2, such that a higher score indicated greater involvement in entrepreneurial activity. The different combinations

possible were: neither, or starting new business, or owning/managing a business, or both starting new business as well as owning/managing a business. Entrepreneurial activity, therefore, was a continuous score on a non-interval scale. Though this is not a classically continuous variable, at the individual level, once it is aggregated at the societal level, it is in essence a more continuous measure across the 29 countries. HLM, like most other statistical techniques is neither perfect nor flawless, and does have some limitations that one must be aware of such as limitations with file input and missing data. It assumes complete data and can tolerate missing data only on level one, and has no provision for replacing missing data. Although HLM provides for either listwise or pairwise deletion of cases in computations, pairwise deletion of data can lead to insurmountable statistical problems. Consequently, as per the manual suggestion, I used listwise deletion for level one. I also had to ensure prior to entering the data, that the level two file contained no missing data.

National Culture Variables

It has been noted by scholars such as Hofstede (2001) and Leung and Bond (1989) that since culture is a phenomenon that is best measured at the level of the group (e.g., an organization or a nation), in order to measure the effect of national culture on individual behavior, researchers need to compare measures of the national culture to the individual behaviors. These authors caution that a comparison of individual values with individual behaviors will only measure the effect of individual values on individual behavior and will not measure the effect of national culture (Hofstede, 2001). In addition,

Hofstede (2001) showed that the use of cultural values measures at the individual level was an example of the ecological fallacy (confusion between within-system and between-system (ecological) correlations). Furthermore, Hofstede (2001:17) cites Meltzer (1963) to show that the use of group-level measures to predict individual-level preferences would yield better results than would the use of individual level measures, especially in the case of culture. Following these prescriptions, I compare measures of national culture to individual behavioral indicators as my analysis is intended to detect macro level influences on individual entrepreneurial activity

As part of his Ph.D. research, Trompenaars had composed a 79-item questionnaire, from items addressing seven hypothesized dimensions of cultural valuing. The first five were derived directly from Parsons and Shils (1951) “general theory of action. Trompenaars labeled them universalism-particularism, individualism-collectivism (corresponding to Parson’s self orientation versus collectivity orientation) affectivity-neutrality, specificity-diffuseness, and achievement-ascription). The remaining two dimensions, time orientation and relation to nature, were inspired by Kluckhohn and Strodtbeck (1961). Along with Hampden Turner, who contributed his expertise in scenario construction, Trompenaars developed cross-national measures of these cultural dimensions. The items intended to measure a variety of sources in the US social science literature of the 1950’s and 1960’s. Cullen et al (2004) used multi item indicators that were derived from the Trompenaars and Hampden Turner measures as well as other items from the World Values Survey to develop measures to assess three of the four dimensions of national culture (i.e., individualism, universalism, achievement) and also developed a measure for monetary fetishism with adequate reliability. As these scales

have been used in prior research and as they corresponded with the national culture variables of IATE, these measures were the most appropriate, and were therefore used in my study. A description of the Cullen et al (2004) measures that were used follows.

1. Individualism Individualism was assessed by using the Trompenaars and Hampden-Turner (1998) measures. The Individualism scale consisted of three items: the percentage of people who agreed to the individualism choice on the following three statements “it is obvious that if individuals have as much freedom as possible and the maximum opportunity to develop themselves, the quality of their work life will improve as a result”, “everyone is allowed to work individually and individual credit can be received”, and “the person causing the defect by negligence is the one responsible”. These three items are related to the choice of individualism for three issues that reflect quality of life, typical job and negligence of team member. These three items of Trompenaars and Hampden-Turner (1998) were combined together to form a multiple indicator of individualism by Cullen et al (2004). The correlation of this multiple measure with Hofstede’s individualism measure was 0.70. Alpha for this measure (present study) was 0.842.

2. Achievement Achievement versus ascription orientation of a nation was assessed by items originally developed by Trompenaars and Hampden-Turner (1998) and the World Values Study Group (2000). The Achievement scale consisted of three items: the percentage of people who disagreed with the following statements “the respect a person gets is highly dependent on their family background” and “the most important thing in life is to think and act in ways that best suit the way you really are, even if you don’t get

things done”. Both these were derived from the Trompenaars and Hampden-Turner (1998: 107-109). The third item represented the percentage of people surveyed by World Values Survey that agreed with the statement: “One does not have the duty to respect and love parents who have not earned it by their behavior and attitudes”. This item was derived from the World Values Survey (2000). These questions were originally adapted from Kahl (1965) and Kluckhohn and Strodtbeck (1961). For more information, see Smith, Dugan and Trompenaars (1996). Cullen et al (2004) combined all three items to form a multiple item measure to assess achievement versus ascription orientation of nations. Alpha for this measure (present study) was 0.778.

3. Universalism. Universalism was assessed by the measure developed by Trompenaars and Hampden-Turner (1998: 35-37). The Universalism scale consisted of two items that required respondents to react to two dilemmas, each of which had a universalistic or particularistic option to choose from. The first dilemma involves truthfully testifying about the driving speed of a friend involved in an accident (universalistic choice). The second deals with whether a journalist should write a positive review for a friend’s restaurant, even though he/she may think that it is no good (particularistic choice). Items were the percentages of respondents from each nation responding in the universalistic direction. Cullen et al (2004) combined both items to form a multiple item measure of universalism. Alpha (present study) was 0.842 for this measure.

4. Monetary Fetishism. There is a paucity of measurement models for monetary fetishism especially in management research. Thus far, the Cullen et al (2005) measure is

perhaps the only existing measure of monetary fetishism that has been developed and used to predict cross-national differences. The Monetary Fetishism scale consisted of three items. This measure used data from the World Values Survey as well as the Inglehart (1997) measure for materialist items. Inglehart's (1997) materialist items asked respondents to prioritize the following goals for their nation: stable economy and progress toward a society where ideas count for more than money (reversed). The third item, from the World Values survey, was measured by the proportion of people in a nation choosing "good pay" as important in a job". The alpha for this measure (present study) was 0.786.

Social Institution Variables

1. Extent of a Redistributive Economy

I used a measure of welfare socialism to assess redistributive economies that is grounded in the theoretical arguments of Turner (1997) and Esping-Anderson (1990). Turner (1997) argues that countries whose political systems are more redistributive have more governmental intervention, which will be reflected in government expenditures and revenues. This is supported by Esping-Anderson's (1990) original work on labor commodification, welfare regimes and the impact on social policy in advanced capitalist nations. The measure of welfare socialism is actually is an inverse of the dominance of the economy as posited in IATE. In a dominant economy, the operation of market forces is left unchecked and there is minimal governmental interference or control. In other words, the economy is allowed to operate relatively unchecked compared to the

restrictions that more socialist, welfare or redistributive economies tend to impose on the economy. Hence, this was reverse scored to reflect the dominance of the economy.

The measure for welfare socialism, as developed by Cullen, Parboteeah and Hoegl (2004) includes three items: tax collected as a percentage of gross domestic product, government expenditure on health and education as a percentage of gross domestic product, and government revenues as a percentage of gross domestic product. The United *Nations Statistical Yearbook* and the World Bank's annual world development indicators (<http://publications.worldbank.org/ecommerce/products>) provided the data for this measure. Earlier measures of welfare and redistribution include a decommodification index (Messner and Rosenfeld, 1997) that is similar to this measure. Alpha for this measure (present study) was 0.899.

2. Dominance of Economy

Industrialization is undoubtedly one of the most momentous developments that changed the very basis of existence. In the international arena, the basis for cross national comparisons and groupings reflects the extent to which specific countries are economically dominant. For instance, structural measures of economic dominance rely on the extent to which a nation is industrialized e.g., the G-7 countries of the world.

In keeping with this logic, cross-national researchers view industrialization as an adequate indicator of economic dominance, and generally measure industrialization with a single indicator, most often a nation's total energy use (e.g., Smits, Ultee and Lammers, 1997). However, considering the value of a multi item indicator as well as the theoretical arguments of Turner (1997), it may be better reflected by the physical and human

resource inputs and outputs that characterize an industrial economy (Parboteeah and Cullen, 2003). Consequently, I used a multi item measure of industrialization to reflect dominance of the economy. Increasing industrialization is associated and highly correlated with an increase in urban population and a greater concentration of the work force in non-agricultural sectors of the economy. Traditional agriculture based occupation ceases to be a source of major employment in comparison to the factory based industrial system which tends to be located in urban areas in order to maximize efficiencies and access to transportation and other infrastructure. Further, industrialization is associated with an increased use of power and energy sources necessary to maintain and run various capital-intensive machines that are the basis of the mass production capabilities of industrialized production. I used a measure of industrialization previously developed by Cullen et al (2004), who crafted a multiple item measure of industrialization that included the degree of urbanization (measured by percent urban population, [Duch and Taylor, 1993]), energy use (apparent consumption kg oil equivalent per 1000 (PPP) GDP, [Smits et al., 1997]) and demographic distribution of the work force away from agriculture (measured as percentage of workers involved in the non-agricultural sector [Temple and Voth, 1998]). The alpha for this measure was 0.91. Data were obtained from the *World Bank World Development Indicators* online subscription to the World Bank (<http://publications.worldbank.org/ecommerce/products>).

3. Family Stability

There is a long standing tradition that has its origins in Durkheim's (1987) work that considers marriage and divorce rate as indicators of social integration to predict a

broad spectrum of societal level outcomes such as general life well being and suicide (Ryan, Hughes, and Hawdon, 1998).

In keeping with past national level comparative research (e. g., Stack and Eshleman, 1998), I used the ratio of marriages to divorce to assess institutionalized family strength to reflect family stability. Marriage and divorce rates have a long history of usage in comparative sociological research as macro-level indicators of social integration. Prior comparative research at the national level has used the marriage to divorce rate to assess institutionalized family strength in the field of management as well (Cullen et al 2004). This ratio provides a divorce to marriage rate for a nation, which was computed by the number of marriages per 1000 population divided by the number of divorces per 1000 population. This data were obtained from the Euromonitor, a private and independent organization that provides various global intelligence data ([http:// www. Euromonitor. com](http://www.Euromonitor.com)) for a subscription.

4. Education

I used the United Nations Human Development Program (2002) data to measure assess access to education, an interpretation that has been used in prior research at the national level (Parboteeah and Cullen, 2003). The source of this data was the United Nations Human Development Program. The educational attainment score reflects the educational opportunities available in an economy, and this index is computed as two thirds of the adult literacy rate plus one third of the mean years of schooling.

Education Index = $\frac{2}{3}$ *Adult Literacy Index + $\frac{1}{3}$ *Gross Enrollment Index, where Adult Literacy Index and Gross Enrollment Index are percentages.

No reliability statistics were available from the United Nations for this index. However this United Nations composite index of educational attainment is a well-accepted indicator of national-level emphasis on education in past research (e.g., Parboteeah and Cullen, 2003). To adjust for differences in the metrics of component indicators, all composite measures were standardized. Since it is intriguing to analyze the different effect of education at the individual and institutional levels on entrepreneurial activity, this is a future research question that is worth considering. Within the bounds of the present investigation, the effect of individual education is controlled to assess the pure effect of accessibility of educational institutions on entrepreneurship.

Extensions of IATE

1. Religiosity

There are a number of measures of religion used in psychology research such as the religious orientation scale (Allport, 1950a); religious values scale (Sandage, 1999); and intrinsic religious motivation scale (Hoge, 1972), among others. Interest in religiosity is now slowly gaining interest from management scholars as well. Early research measured national religiosity with the percentage of people attending religious services weekly (Parboteeah et al., 2004), but extant research suggests additional dimensions for the concept of religiosity (Wilkes, Burnett and Howell, 1986 for example, measured religiosity by four items: church attendance, importance of religious values, confidence of religious values, and self perceived religiousness).

In keeping with the IATE conceptualization, rather than using denominational mixtures and memberships to assess religiosity across nations, I used the societal-level religiosity measure developed by Parboteeah, Hoegl, and Cullen, 2005. The Parboteeah et al (2005) scale consists of three items to tap a nation's religiosity. I added a fourth item to this scale. The first item used the percentage of people in each country reporting attending religious services, a comprehensive and objective measure (Smith, Fabricatore and Peyrot, 1999) of attendance of religious services around the world. The second item used the national average score on the World Values Survey question regarding the degree to which people reported believing in God. The third item used the national average on the WVS question regarding the degree to which people believed that God was important in their lives. The additional item reported the degree to which people reported that religion was important in their lives. These four items were standardized and averaged to form a nation-level religiosity measure. Past research (Parboteeah, Cullen and Lim, 2004) suggests the validity of this measure as an accurate indicator of the importance of religion in peoples' lives (Smith, Fabricatore and Peyrot, 1999). Reliability for this measure was 0.976.

2. Political Constraint Index

I used the Political constraint Index developed by Henisz (2000; 2002). This measure for political constraints (adapted from Henisz, 2002) is a structurally derived and internationally comparable measure of the degree of constraints on policy change for over 234 nations of the world, and provides data for the 2001 year. The question that remains at the heart of this project is: "When should private investors believe in a policy

innovation or institutional change implemented by political actors?” Henisz focused on one dimension of the political environment (i.e., checks and balances in national political institutions). He developed a quantitative index to measure that construct and demonstrated its importance in predicting country- and firm-level economic outcomes. Basically it used data on the number of veto points in the political system (executive, legislature, judiciary, and sub federal branches of government) and distribution of political preferences both among and within these branches. It depicts the extent to which a given political actor is constrained in his/her choice of future policies and provides a quantitative measure of institutional hazards. The measure correlates with the International Country Risk Guide (0.78) and the Executive Constraint Index (0.71) and has been used extensively in international research (Delios and Henisz, 2000; Henisz and Delios, 2001).

3. Union Activity

The measure of union activity was assessed by the number of days lost due to strikes and lockouts and the number of workers involved in the strikes and lockouts, and is thus a severity measure. The severity rates of strikes and lockouts are generally calculated in terms of the number of days not worked per 1,000 workers. Data on union activity were obtained from United Nations International Labor Organization (<http://laborsta.ilo.org/>). Comparable union measures have been used earlier in cross-national (e.g., Parboteeah and Cullen, 2003; Wallerstein, Golden, and Lange, 1997) and domestic labor relation studies (e.g., Vedder and Gallaway, 2002), and is therefore well established in extant literature. A brief description, of the measure is provided below.

Data on strikes and lockouts were obtained from the ILO's statistical database, LABORSTA. These data represent the official statistics provided by the relevant national agencies to the ILO Bureau of Statistics, for publication in the *ILO Yearbook of Labor Statistics*. The definitions used are as follows: A *strike* is a temporary work stoppage effected by one or more groups of workers with a view to enforcing or resisting demands or expressing grievances, or supporting other workers in their demands or grievances; A *lockout* is a total or partial temporary closure of one or more places of employment, or the hindering of the normal work activities of employees, by one or more employers with a view to enforcing or resisting demands or expressing grievances, or supporting other employers in their demands or grievances; Workers *directly involved* in a strike are those who participated directly by stopping work; Workers *indirectly involved* in a strike are those employees of the establishments involved, or self-employed workers in the group involved, who did not participate directly by stopping work but who were prevented from working because of the strike.

Additional details can be accessed from the International Labor Organization. (www.laborsta.ilo.org). When using the data to make cross-national comparisons, it is recommended that researchers should calculate relative measures, such as frequency or severity rates. The most useful of these relates the amount of time not worked because of strikes and lockouts. Hence, in keeping with this prescription, the present study used the severity rates of strikes and lockouts, which was calculated in terms of the number of days not worked per 1,000 workers.

4. Social Stratification

Social stratification is often measured by the gap between the rich and the poor or the uppermost and lowermost quartiles of the population, in fields such as economics and political science. The most well known of these measures, the Gini coefficient, refers to a measure of inequality over the entire distribution of income or consumption that was developed by the Italian statistician Corrado Gini and published in his 1912 paper "Variabilità e mutabilità". It is usually used to measure income inequality, but can be used to measure any form of uneven distribution. The Gini coefficient is a number between 0 and 1, where 0 corresponds with perfect equality (where everyone has the same income) and 1 corresponds with perfect inequality (where one person has all the income, and everyone else has zero income). The Gini index is the Gini coefficient expressed in percentage form, and is equal to the Gini coefficient multiplied by 100.

While the Gini coefficient is mostly used to measure income inequality, it can also be used to measure wealth inequality. The advantages of the Gini coefficient is that it is a measure of inequality, not a measure of average income or some other variable which is unrepresentative of most of the population, such as gross domestic product. It is a long-standing tradition in economics to use Gini coefficients to compare income distributions across different population sectors as well as countries. Further, the Gini coefficient is sufficiently simple that it can be compared across countries and be easily interpreted. The Gini coefficient satisfies four important principles of anonymity (it doesn't matter who the high and low earners are), scale independence (the Gini coefficient does not consider the size of the economy, the way it is measured, or whether it is a rich or poor

country on average), population independence (it does not matter how large the population of the country is) and the transfer principle if income [less than the difference] is transferred from a rich person to a poor person the resulting distribution is more equal. Among the disadvantages is the fact that the Gini coefficient is more sensitive to the income of the middle classes than to that of the extremes. Despite this, the Gini is a well – recognized measure for cross-national comparisons. The source for Gini index was the human development report, (http://hdr.undp.org/reports/global/2004/pdf/hdr04_HDI.pdf), as provided by the World Bank.

Individual-Level Control Variables

Though my cross level study mainly focuses on macro level predictors of individual entrepreneurial activity, to adequately assess and isolate the macro level effects of national culture and social institutions, individual level variables that may impact the dependent variable are controlled. All controls, being individual in nature were derived from the GEM 2001 data. It must be noted that IATE does not specifically consider individual level controls. However, extant literature in entrepreneurship suggests several relevant controls such as age and education that I controlled in the present study. While an extended discussion of individual factors in a macro study is unnecessary, I provide below a brief summary of some of the research that brings to light pertinent individual factors that may affect entrepreneurial activity and the controls that I used in the analysis.

1. Age: Cressy (1996), for example, suggests a model that assumes the probability of a new firm's survival is an increasing function of an entrepreneur's age. GEM researchers

(Reynolds, et al 2001) indicate that entrepreneurship is highest among the 25-45 year age group, declining sharply after and before this period. Age was assessed by the chronological age as reported by the respondents.

2. Gender: Prior research indicates the presence of systematic gender differences in motives leading to new venture initiation (Birley, 1986; Bowen and Hisrich, 1986; and Fischer, Rueber and Dyke, 1993) as well as the differences in women owned businesses (Coleman, 2002; Hisrich and Brush, 1984, 1986). For example, Cowling and Taylor (2001) found distinct gender differences in self employment and in educational level of women entrepreneurs, with men being three times more likely to become job creating self employed in four years. Gender was assessed by whether male or female as reported.

Previous research has shown that among the several individual-level variables, age and gender, in particular, are significantly related to entrepreneurial activity. While age affects the movement to and from self-employment (Rees and Shah, 1986), risk aversion, an important component of entrepreneurial activity, was found to be positively associated with age (Palsson, 1996; Rees and Shah, 1986). Summarizing the major findings related to gender and entrepreneurship, Hisrich, Peters and Shepherd (2005) report that significant gender differences exist across a wide range of characteristics such as motivation, departure points, and source of funds, occupational background, personality characteristics, age, support groups and type of business started.

Cowlings (2000) cross national study conducted in the European Union showed that there were significant differences across countries in terms of who became and entrepreneur. In particular, age, gender and education were found to be key variables.

Further, other recent cross-national findings such as the GEM 2001 study, suggest that age and gender are the most salient individual factors that impact entrepreneurial activity (Reynolds et al 2001). Most research seems to argue that by far, when investigating cross-national differences in entrepreneurship, age and gender seem to be the most relevant factors.

Consequently, taking cues from such literature, and based on prior significant research findings, I controlled for these individual-level effects: age (measured in years), and gender (0 = “male,” 1 = “female”).

I originally intended to control for all available and relevant aspects of the individual entrepreneur such as age, education, individual educational attainment, prior work experience and background, and the motivations to establish venture firms (discussed in the section that follows). However, due to missing data on all these variables for my country samples, and in order to maintain the stability of the model, I controlled for age and gender, the most relevant factors identified in prior research, for the full model. Due to the constraints of a reduced country sample for multilevel modeling, I provide the results with each of these other remaining individual variables controlled, albeit with a reduced sample, in the appendix. A brief description of these other individual variables is provided below.

1. Contact with Entrepreneur

Personally knowing or being in close contact with an entrepreneur is yet another individual factor that is pertinent. Social network analysts have indicated that social capital of the entrepreneur has significant impact on the success of new venture creation

(Aldrich and Zimmer, 1986; Baron and Markman, 2000) and success since the entrepreneur is embedded in a social context where often the availability of knowledge may be a key aspect, especially for tacit knowledge and the skills acquired from experience and practice that if shared, can significantly reduce the uncertainty that can overwhelm with the intended entrepreneur. Prior research therefore indicates that having access to an entrepreneur or a role model does influence the career paths towards starting a new venture in a favorable manner (Carsrud, Gaglio and Ohm, 1986; Aldrich, Rosen and Woodward, 1987).

Contact with Entrepreneur was assessed by the following item: “You know someone personally who started a business in the past two years” [Yes, No, Don’t Know, Refused]

2. Perception of Business Opportunities

Perception of business opportunity is yet another motivational factor that has spawned a lot of attention, especially in the entrepreneurship literature (e.g., Shane and Venkatraman, 2000; Shane, 2000). Individuals who perceive business opportunities are more likely to pursue them than those who do not (Arenius and Minniti, 2005).

Opportunity discovery is in part a function of the distribution of information in society, and entrepreneurs tend to discover opportunities related to the information that they already possess (Shane, 2000).

The following item assessed the perception of business opportunity: “In the next six months there will be good opportunities for starting a business in the area where you live”. [Yes, No, Don’t Know, Refused]

3. Business Skills

The prevalence of skills in the individual is also an essential causal factor that may impact the occurrence of entrepreneurial activity (Arenius and Minniti, 2005). Lazear (2002) showed that a diversity of skills positively impacted the decision to undertake entrepreneurial activity. Creating a new venture or managing one requires many significant skills that are not commonly distributed in an equitable manner across all individuals. Specific skill attributes of successful and failed entrepreneurs indicate that most entrepreneurs report a need for skills in the area of finance, strategic planning, marketing (particularly distribution) and management (Hisrich, Peters and Shepherd, 2005).

The following item assessed the prevalence of skills: “You have the knowledge, skill, and experience required to start a new business”. [Yes, No, Don’t Know, Refused]

4. Fear of Failure

Absence of fear of failure is also associated to be prevalent in entrepreneurs when compared to the non entrepreneurial population (Arenius and Minniti, 2005; Brereton, 1974), since a fear of failure and the ensuing loss of financial well-being and social prestige often prevents the majority of individuals from pursuing an activity that has a success rate of 10-20% or an 80-90% chance of failure. Research in Singapore points to the fact that fear of failure motivates entrepreneurs to succeed (Ray, 1994), and fear of failure was negatively connected to the likelihood of nascent entrepreneurs (Weber and Milliman, 1997).

The following item assessed fear of Failure: “Fear of failure would prevent you from starting a business” [Yes, No, Don’t Know, Refused]

5. Expectations of Economic Future

Finally expectations of future well being, such as the expectation that the future will tend to be better or worse can impact the decision of individuals to pursue entrepreneurial activity. Expectations of the family and country’s economic future were assessed by the following two items: 1. “Looking ahead, do you think that a year from now you and your family with you will be better off, or worse off, or about the same as now?” [Better, Same, Worse, Don’t Know, Refused]

2. “In a year from now, do you expect that in a country as a whole business conditions will be better, or worse than they are at the present, or just about the same?” [Better, Same, Worse, Don’t Know, Refused]

6. Labor Force Status

Also, the employment status of entrepreneur to be may be a relevant factor. Those with secure and full time jobs are less likely to pursue a relatively risky and time-consuming endeavor such as creating a new business. The well-known negative dislocation hypothesis argues that factors that disrupt employment status and job security tend to catapult individuals to starting their own businesses (Hisrich et al 2005).

As a result, labor force status was categorized into the following: [Working full or part time; Not working: Homecare, Unemployed; Not in labor force: Retired, Student]

7. Relative Household Income

Research indicates that individual household income or wealth may be linked positively to entrepreneurial activity since it allows for the availability of greater resources for the new venture in the form of seed money or capital to start the new business. For example, economists have shown that entrepreneurial decisions are positively linked to household incomes (Kihlstrom and Laffont, 1979; Evans and Javonic, 1989).

Overall, evidence suggests that entrepreneurs tend to face liquidity constraints and individuals with greater family wealth are more likely to switch to entrepreneurship. Typically, statistics reveal that since entrepreneurs generally lack the legitimacy that is needed to obtain funds from formal banking and venture capitalists, most new ventures, especially at the start up stage, were funded by family and relatives (Hisrich and Brush, 1986). Again there are gender differences, with women more likely to derive funds from personal assets, savings, and personal loans, while men seek bank and investor financing and loans from friends and family in addition to using personal assets and savings (Hisrich et al 2005; Hisrich and Brush, 1986).

Consequently, relative household income was categorized into the following: [Household Income in upper third for country; Household Income in middle third for country; Household Income in lower third for country] and controlled for in the analysis.

8. Educational Attainment

Interesting links between individual educational achievement and entrepreneurial activity has been shown by previous research (Aronson, 1991; Reynolds, 1991; Van de

Ven, Hudson and Schroeder, 1984; Reynolds et al, 2001). In this study, for purposes of analysis, individual educational attainment was categorized into the following: [Graduate program experience; Beyond secondary school degree; Not completed secondary school]

c. Analysis

The present study assumed that the national context affects the entrepreneurial activity of individuals within that country, i.e., the effect of national cultural and social institutional characteristics on individual entrepreneurial activity. This research question necessitates a multilevel modeling technique as well as ensuring that country effects should be shown to exist beyond individual factors (e.g., individual controls). I used Hierarchical Linear Modeling with maximum likelihood (HLM) (Bryk and Raudenbush, 1992), a recommended technique to appropriately assess cross-level relationships.

HLM affords a methodological framework conducive to formulating and testing hypotheses about how organizational features at some macro level influence processes occurring at some lower (or micro) level within the organization and have been used in areas as diverse as studies of growth (Bryk and Raudenbush, 1987), cross national demographic research (Wong and Mason, 1985), school effects (Aitkin and Longford, 1986), as well as cross level management research (Cullen et al, 2004).

HLM is one of a class of several multi level random coefficient techniques that is used for analyzing data in a clustered or nested structure, and is also known as multilevel models, random coefficient models, or random effects models (Klein and Kozlowski, 2000). It can be used to analyze a variety of questions with either categorical or continuous dependent variables. In a simple sense, it can be conceptualized as a linear

regression model for data with multi-levels, or as a hierarchical system of regression equations. As HLM is designed to test cross level direct effect and moderating effect models, it can answer two important questions: What is the effect of a higher level unit characteristic on a lower level outcome? And/ or, what is the influence of a higher-level characteristic on the relationship between lower level variables?

HLM is conducted as a simultaneous, two stage process (Hoffman et al., 2000). In the Level 1 or first stage, HLM analyzes the relationship among lower level (e.g., individual level) variables within each higher unit (e.g., team), calculating the intercept and the slope(s) for the lower level model within each unit. In the second step, HLM analyzes the relationship between higher level (e.g., team level) variables and the intercepts and slopes for each team. In other words, level 2 analyses treat variance in within-team slopes as indicative of moderation and variance in within-team intercepts as indicative of direct effects.

HLM simultaneously estimates my country and individual-level parameters and without distortion of the results by sample size, as would be the case with ordinary least squares (OLS). In HLM parameter estimates as well as standard errors are computed by weighting group-level sample size by reliabilities of the individual-level dependent variables within each group. The estimates generally correspond closely to OLS, except the level 2 standard errors avoid the deflation inherent in OLS approaches. To assess the effects of social institutions on entrepreneurial activity, my HLM model consists of two levels. The level-1 model estimates the relationships between the dependent variable (entrepreneurial activity) and individual-level variables, while the level-2 model estimates the national-level variables. All level 2 variables were standardized following

normal practice, and individual factors are controlled. The estimators are MLE, and an iterative procedure was used. Assumptions include a) residual errors at the lowest level have a normal distribution with a mean of zero and a common variance in all groups, b) second level residual errors and are assumed to be independent from the lowest level errors and have a multivariate normal distribution with means of zero. Other multiple regression assumptions, such as fixed predictors, and linear relationships hold, and SE generated are considered to be asymptotic (large n at all levels). HLM also has options for controlling multi collinearity such as mean centering. Results were stable with mean centering for the models tested in this study. It must be noted that despite several advantages, HLM is not without limitations.

d. Pre Tests

Two preliminary studies examined nation level cultural and social institutional effects on entrepreneurial activities and allowed for a pre test of the major hypotheses. A brief review of their findings is presented here as encouraging evidence for the important role played by contextual factors. These studies differ from the present work in theoretical rationale and in the selection of data sources (for one study). They also used similar variables to the present study and hence were instrumental in helping with improving measures for the present work. Further, as both these studies (Salimath et al, 2005a; Salimath et al, 2005b, 2005c) were presented at peer-reviewed conferences, relevant feedback and suggestions from the external review process were incorporated in

the present study. The preliminary studies helped show the strength of using a combined culture and social institutional approach to predicting entrepreneurship.

1) Preference for self-employment/ entrepreneurial predisposition

Salimath, Cullen, and Parboteeah, (2005a) used preference for self-employment as a proxy for entrepreneurial predisposition, and analyzed individual responses from 30,833 individuals in 22 nations as well as national level data on multiple indicators using a country institutional profile reflecting regulatory and cognitive dimensions. Results support the proposition that entrepreneurial predisposition among nations can be explained by differences in both the institutional context (extent of a redistributive economy, unionization, post industrialization) as well as national culture (individualism).

b) Effect of Culture and Social Institutions on Entrepreneurial Behavior

Salimath, Cullen, and Parboteeah, (2005b, 2005c) considered four key social institutions (extent of redistributive economy, post industrialization, political constraints, and union activity) and two key national culture variables (individualism and uncertainty avoidance) that are most likely to influence entrepreneurial activity among people. Cross level hypotheses were tested using hierarchical linear modeling to analyze individual responses from 49,332 individuals in 22 nations as well as national level data on multiple indicators. Results are discussed with emphasis on using a national context perspective to explain entrepreneurial activity. Results support the proposition that entrepreneurial activity was affected by national context.

These results show that both institutional and national cultural variables predicted individual-level entrepreneurial activity. Hypotheses proposing negative relationships between entrepreneurial activity and the institutional variables of redistributive economy, union activity, and post industrialization, were supported ($p < .001$) indicating the validity of our theoretical model and arguments on entrepreneurial predispositions.

The proposed a positive relationship between entrepreneurial activity and the national culture variable of individualism and this was supported ($p < =0.001$). Further, the proposed a negative relationship between entrepreneurial activity and the national culture variable of uncertainty avoidance was also supported.

However, the proposed positive relationship between entrepreneurial activity and the political constraint index was not supported. Interestingly, the relationship between these two variables was significant but in the opposite direction of our rationale. In the context of anomie, based on pre test findings, especially in the case of political constraints, a negative relationship as more likely to exist, and this is incorporated and tested in the present study.

E. Significance of the Study

Results have practical and significant implications for nations, organizations, and multinationals wishing to encourage the entrepreneurial activity of its citizens and workers. Often multinational companies rely on local entrepreneurial capabilities and talent to supply necessary inputs (such as small components, parts, etc) and supporting infrastructure (e.g., distribution, delivery, catering, child care, printing, other contract

providers), which is directly and indirectly related to the success of the multinational enterprise. In many countries small businesses and local entrepreneurs generally provide such services. While domestic companies rely on these services as well, its salience makes it an important factor for international market entry. Given the importance of certain aspects of infrastructure that rely on entrepreneurial ventures, recognition and development of entrepreneurial activity becomes a value creating strategy that may be explored by organizations, multinationals and governments.

Preliminary studies provided some support for the case of national context in predicting entrepreneurial activity among nations. Though a wide range of variables could possibly be related to entrepreneurial activity, the macro institutional and cultural environment offers a good starting point for exploration. Our study is also limited in other ways such as the reliance on secondary data. However, despite these shortcomings, our study explores a relatively unexplored area i.e., the impact of national context on entrepreneurial activity, and as such, it is plausible that this stream of research would provide findings that are of salience to policy makers and governments that wish to develop entrepreneurship activity in their countries, as well as researchers interested in investigating the impact of macro level variables on individual entrepreneurial activity. More importantly, it provides an empirical test of IATE and its extensions and enhances our understanding of some of the contextual factors that drive entrepreneurial activity and the validity of the theoretical framework. Research questions for future studies provide interesting avenues to explore the efficacy of the model.

Chapter 5: Results

This chapter is organized as follows: First, the major descriptive statistics for each variable in the study are presented. The appendix contains tables 1-2, which show the correlation matrix for country level and individual variables in the study. Tables 3-16 show the detailed descriptives (mean and standard deviation for continuous variables, frequencies and percentages for categorical variables). List wise deletion was used for all missing cases at the individual level. No missing cases occurred for the country level variables, and hence the sample consisted of all 29 countries included in the GEM 2001 study. Second, I present the major findings under three sub headings: National culture, social institutions and extensions of IATE. Under each of these sections, relevant hypotheses and the supporting evidence are presented. Tables 17 and 18 provide the summary results of hierarchical linear modeling and include standardized coefficients by country and individual level variables predicting entrepreneurial activity across nations. HLM results that tested the IATE hypotheses are presented in Table 17. Next the extensions of IATE are tested and the results of the 42 runs of the hierarchical linear model are reported in Table 18 in the appendix. In order to ensure the stability and power of the model due to the large number of predictors tested, I ran each model independently, and in an iterative fashion with the interaction terms, one at a time. Hence model one was run for the main effects of all variables with controls for age and gender, while models 2 to model 42 included interactions and other individual controls in addition to age and gender. It must be noted that due to loss of potential countries, I controlled for age and gender for all models, though the other individual level controls

were controlled separately (except for household income, which could not be computed due to the singular nature of the predictor) and are reported in the appendix. Lastly, an examination of the correlation matrices (Tables 1 and 2) indicates that there is no cause for concern regarding multi-collinearity, except perhaps in the case of universalism and achievement ($r = 0.729^{**}$). Consequently it was necessary to remove one of these highly correlated variables in the model so as to get meaningful results. Given the vast body of existing literature that links achievement motivation to entrepreneurship, this variable was retained in the Tables 17 and 18, and universalism was dropped.

A. Test of IATE (Table 17 – contains summary results of models testing IATE)

National Culture and Entrepreneurial Activity

Hypothesis 1

The first hypothesis stated that stronger the individualism cultural values in a nation, the greater the extent of entrepreneurial activity. Table 17 in the appendix shows that this hypothesis was not supported by the results. Though the signs of the coefficients were in the right direction, the results were not statistically different to allow for any conclusions about supporting the hypothesis.

Hypothesis 2

The second hypothesis stated that the stronger the achievement-oriented cultural values in a nation, the greater the extent of entrepreneurial activity. This was not supported by the results and in fact the sign was in the opposite direction to that expected in IATE.

Hypothesis 3

The third hypothesis stated that the stronger the universalism cultural values in a nation, the greater the extent of entrepreneurial activity. Due to high correlation of this variable with achievement motivation (see Table 1), this could not be tested, as including both variables in the same model would lead to a distortion of results.

Hypothesis 4

The fourth hypothesis stated that the stronger the monetary fetishism cultural values in a nation, the greater the extent of entrepreneurial activity. This was well supported by the results in Table 17 ($p \leq 0.01$).

Social Institutions and Entrepreneurial Activity

Hypothesis 5

The fifth hypothesis stated that greater levels of economic redistribution in a society reduce the effects from the cultural values of individualism, achievement orientation, universalism, and monetary fetishism on the extent of entrepreneurial activity in nations. This hypothesis has many sub-components; hence each will be addressed in a stepwise fashion. First, though an examination of the main effects for redistributive economy shows that this does have a negative impact ($p \leq 0.001$) on entrepreneurial activity, as expected in IATE, however, the interaction effect of redistributive economy on culture has to be considered to see if it does have a mitigating effect on entrepreneurship. This was not supported and in fact the opposite effect was seen in the case of achievement motivation, such that it led to an increase in entrepreneurial activity.

The expected effect was not significant in the case of individualism and could not be tested for universalism, as this variable was not included in the model.

Hypothesis 6

The sixth hypothesis stated that greater levels of economic dominance in a society increase the effects from the cultural values of individualism, achievement orientation, universalism, and monetary fetishism on the extent of entrepreneurial activity in nations. This was strongly supported by the findings. It is evident from the results in Table 17 that higher levels of economic dominance did in fact increase the effects of individualism ($p \leq 0.001$) as well as monetary fetishism ($p \leq 0.001$). Again, the effect on universalism could not be tested as it was not included in the model and no significant effect was observed in the case of achievement.

Hypothesis 7

The seventh hypothesis stated that greater levels of family stability in a society reduce the effects from the cultural values of individualism, achievement orientation, universalism, and monetary fetishism on the extent of entrepreneurial activity in nations. The hypothesis is supported in the case of individualism ($p \leq 0.01$) as predicted in IATE, but opposite effects existed in the case of achievement and monetary fetishism.

Hypothesis 8

The eighth hypothesis stated that greater educational opportunities in a society decrease the effects from the cultural values of individualism, achievement orientation, universalism, and monetary fetishism on the extent of entrepreneurial activity. Again it is

seen that it is supported in the case of achievement ($p \leq 0.001$), reducing the effect on entrepreneurial activity, but the opposite occurs in the case of individualism and monetary fetishism. In these latter cases, the family serves to strengthen the effect of these values rather than mitigate them.

In summary, the test of the predictors of IATE reveal that there is partial support for the model as four hypotheses were partially supported by the results, one could not be tested and three others did not receive any significant support from the results.

B. Test of Extensions of IATE (Table 18 – contains summary results of models testing the IATE extensions)

Hypothesis 9

The ninth hypothesis stated that greater religiosity in a society decreases the effects from the cultural values of individualism, achievement orientation, universalism, and monetary fetishism on the extent of entrepreneurial activity. This hypothesis received partial support in the case of individualism ($p \leq 0.001$) and monetary fetishism ($p \leq 0.001$). However opposite effects were found in the case of achievement. As mentioned earlier, universalism could not be tested, as it was not part of the model.

Hypothesis 10

The tenth hypothesis stated that greater levels of political constraint in a society decrease the effects from the cultural values of individualism, achievement orientation, universalism, and monetary fetishism on the extent of entrepreneurial activity in nations. These was well supported in the case of monetary fetishism ($p \leq 0.001$), but opposite effects were observed for individualism, achievement and universalism wherein political

constraints acted as enhancers rather mitigators of the effects of these values on entrepreneurial activity.

Hypothesis 11

The eleventh hypothesis stated that greater levels of union activity in a society decrease the effects from the cultural values of individualism, achievement orientation, universalism, and monetary fetishism on the extent of entrepreneurial activity. These were supported partially, in the case of monetary fetishism ($p \leq 0.001$), but opposite effects were observed, such that the effects of individualism, and achievement on entrepreneurial activity were enhanced by union activity in countries.

Hypothesis 12

The twelfth hypothesis stated that greater levels of stratification in a society increase the effects from the cultural values of individualism, achievement orientation, universalism, and monetary fetishism on the extent of entrepreneurial activity. This was partially supported by the findings for achievement ($p \leq 0.001$), but the opposite was true in the case of individualism and monetary fetishism.

In short, the test of the extensions of IATE received partial support for all four hypotheses, though some sub-components indicated an opposite effect than what was expected in IATE.

Table 19 (appendix) provides a conceptual summary of the results showing hypotheses, predicted relationship to dependent variable, and results of the study.

INSERT TABLE 19 ABOUT HERE

Chapter 6: Discussion

Summary and Key Findings

Baumol (1990) argued that while the supply of entrepreneurship is fairly constant, its distribution between productive and unproductive forms is affected by the social payoff structure. His broad historical analysis shows that the factors that “forge the structure of payoffs” for entrepreneurship are multifaceted. I take this quote to illustrate the theme that has become apparent in my results, i. e., the so called payoff, incentives or “push or pull” factors that increase the likelihood of starting a new business are by no means simple. Further, the many interactions among the prevalent factors can and often times have opposite effects such that it becomes extremely challenging for any one conceptual scheme to address in a wholesome fashion.

The present study investigated the effect of social institutional and national cultural drivers of entrepreneurship across 29 nations in the world. Taking a macro perspective that is informed by recent developments in the many social sciences, I grounded my exploration of cross-national drivers of entrepreneurship in IATE, a recent theoretical development as being the most appropriate for the variables that were a part of my study. Further, I also explored and tested several extensions of the theoretical bounds of IATE by relying on Turner’s conceptualization of the institutional complex and also going back to the origins of anomie and Mertonian logic to develop possible areas of extending the framework of IATE. As such the present study is an attempt to respond to

the calls of scholars such as Spreitzer and Sonenshein (2004), for future work to flesh out organizational and contextual enablers of positive deviance, such as entrepreneurship.

Despite these efforts, support for some, but not all of the hypotheses were found, (see Table 19 in appendix) and some of these findings beg further discussion.

Specifically, for the national culture variables, results were significant for monetary fetishism, individualism and achievement for some of the hypotheses tested in the study; and for the social institutional variables, results were significant for all except for redistributive economy; for some of the hypotheses tested in the study, indicating the validity of using IATE for these variables. The results indicate that 7.5% of the variance is between country. The proportion of variance between country that are explained by the models range from 23% to 61%. In general, however, the results indicate that both social institutions and national culture interact to affect the level of entrepreneurial activity in a nation, and is in keeping with current research (Katila and Shane, 2005) which suggests that the environment which face new firms need to be fully incorporated in theories and studies of entrepreneurship.

One reason for some of the conflicting findings could be that I considered all entrepreneurial activity and did not make distinctions between necessity based and opportunity based entrepreneurship in the GEM data. It is likely that the antecedents of these two kinds of entrepreneurial activity may have opposite and contradictory effects, thus suppressing possible variance in the results.

A second reason could be that the empirical model used to test IATE may be one among different alternatives of interpretation. For example, the present empirical model

used both direct effects as well as interactions and it is likely that an alternative empirical model that would look at direct effects alone may be more successful in providing all results in accordance to theoretical expectations. Further alternative operationalizations of anomie may yield different results and perhaps results that are more in accordance to IATE predictions.

Thirdly, sample size prevented testing the entire model in a single iteration, and several separate runs with the variables and controls had to be made to allow for adequate power. Hence the test for extensions is largely exploratory, and introducing more variables in the extensions changes some of the results for the original IATE variables. Future tests of IATE with a larger sample size would provide a better indication of the relevance and significance of testing IATE across nations. This limitation will be mitigated in future research when GEM releases recent data with more countries.

Contributions and Implications

This research has important contributions of wide ranging interest. Unraveling the mystery of new venture creation vis a vis national culture and social institutions is of considerable practical as well as theoretical interest.

On a practical side, for instance, this knowledge can be used to effectively design a range of regulatory techniques that can be effective in promoting entrepreneurship in nations as well as shape business behavior. As such this knowledge becomes instrumental for countries seeking the path of growth and development through entrepreneurship.

Of considerable theoretical interest is viewing entrepreneurship as an example of positive deviance, as proposed by IATE. This notion has validity, as entrepreneurs are a statistical minority in the larger population. Further, as Schumpeter notes, the attributes that are required by entrepreneurs “...are present in only a small fraction of the population...” (Schumpeter, 1934: 132).

Past research has shown that new venture creation often occurs as a result of situational pushes or pulls that may be caused by a wide range of factors. Some individuals are pushed into entrepreneurship by negative factors such as dissatisfaction with existing employment, loss of employment, and career setbacks. A number of empirical studies characterize entrepreneurs as misfits, rejects from society, or displaced individuals (Brockhaus, 1980; Shapero, 1975; Kets de Vries, 1977; Gilad and Levine, 1986). Alternatively individuals may be pulled into entrepreneurship by positive factors such as early training and exposure to business that encourages the search for business opportunity (Krueger, 1993; Gilad and Levine, 1986; Scheinberg and MacMillan, 1988). IATE is a valuable framework because it elegantly incorporates both the push and pull factors that may exist at the societal level.

It must be pointed out that several models were run to test the hypotheses: Table 17 includes summarized results of the “pure test” of IATE; Table 18 includes summarized results of the extensions of IATE; Table 19 summarizes the salient results in conceptual form. There is one caveat- the extended version of IATE is more exploratory as the country level variables vis a vis number of countries is quite large, and interactions were run one by one to allow for adequate power and stability. The main effects for these

several iterations are not reported in the summary tables for presentation simplicity and in order to avoid multiple columns with largely similar main effects. Furthermore, the hypotheses (especially for extensions) mainly concern interaction effects hence the results are present in summarized form and should not be read as missing main effects.

Coming to the implications of the present study and the specific findings, it is important to note that both IATE as well as the proposed extensions received moderate support from the results. By and large, individualism, monetary fetishism and achievement motivation received strong support from the findings and thus these culture dimensions should continue to be investigated in future explorations. Further, significant interactions among all the social institutions indicate that these are indeed important predictors of entrepreneurial activity. Given these findings, the importance of research exploring social institutions and national culture are validated in the context of entrepreneurship.

Limitations

The inherent nature of this study, being focused as it is on the macro predictors, made it impossible to address finer grained details such as differences between industries, as it explored all entrepreneurial activity. For example, the level of education required for start-ups vary based on the technological expertise necessary for producing the product or service. Hence a consideration of industry may be relevant for some of the variables such as education. Further the questions that that may be asked are constrained due to the nature of secondary data, and this is a well-recognized limiting factor. While available secondary data are rarely perfect, previous traditions especially in strategy have

continued to advance the field by using less than adequate databases such as PIMS. This is perhaps even more relevant given the challenges of a cross-national enquiry and multi level modeling where missing data significantly reduces the sample of countries analyzed.

The multilevel modeling technique that is used to test the hypotheses, in addition to having many advantages mentioned earlier also have a few limitations that may be a cause for concern such as HLM's reliance on regression based methodology. Further, since level two (country) variables cannot be missing, this did not allow for testing the full model with all the individual controls, as many countries were lost due to missing data.

Due to high inter-correlations between achievement and universalism, the latter was not included in the model; hence our understanding of this variable remains limited. Consequently, the full IATE model could not be tested due to this missing factor.

It is also plausible to assume that certain relationships among the variables may not be strictly linear and could be non linear. This would explain why some of the signs were in the opposite direction than the theoretical prediction.

This is by no means an exhaustive or complete study of the drivers of cross-national entrepreneurial activity. The study is constrained by the consideration of those factors that are pertinent to the IATE framework though a few logical extensions are also proposed and tested. Further, given the nature of social science research and the "stickiness" of many of the constructs, no claim can be made about ruling out all other competing explanations for variation in cross national entrepreneurial behavior, especially at the macro level. A complete model would theoretically consider all possible

macro indicators, and would thus be fully specified. This study, like most others in the field, is a partial explanation albeit a powerful and intriguing one as it provokes a sociological inquiry into the antecedent factors that cause variation in entrepreneurial activity across nations.

Suggestions for Future Research

Future research could investigate the empirical validity of a revised IATE model, given the major and salient findings of the present study. Additionally, other social institutional variables may be explored as well as additional dimensions of national culture. Longitudinal studies that would assess the differing impact of the cultural and social institutions as drivers of anomie and entrepreneurship over time would be relevant to a dynamic understanding of the interplay between these variables. It is likely that as societies change, it may be accompanied by associated changes in the predominant cultural values as well. The study of anomie however still remains relevant, as mentioned before, due to its generalizability across all value dimensions. Further, an interesting aspect for the micro and macro researchers in entrepreneurship is the investigation of the choice of the decision, or the causal factors that would determine whether positive or negative deviance would result under anomic conditions.

Other research questions that are proposed for future study include the different impacts on two kinds of entrepreneurial activity: opportunity and necessity based entrepreneurship, as well as an exploration of the direct effects of social institutions on entrepreneurial activity.

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APPENDIX

TABLE A showing GEM 2001 data coordination and sample size by country

Country	Data Collection	Coordinated by	Sample Size
Argentina	MORI Argentina	GEM Coordination	2,000
Australia	AC Nielsen	AC Nielsen, International	2,072
Belgium	Taylor Nelson Sofres	Taylor Nelson Sofres	2,038
Brazil	Instituto Bohilha	GEM Coordination	2,000
Canada	Market Facts, Canada	TeleNations Global	2,016
Denmark	GfK Danmark A/S	TeleNations Global	2,022
Finland	Taylor Nelson Sofres-MDC	Taylor Nelson Sofres	2,001
France	AC Nielsen	AC Nielsen, International	1,992
Germany	Taylor Nelson Sofres EMNID	Taylor Nelson Sofres	7,058
Hungary	MEMRB, Hungary	MEMRB Worldwide	2,000
India	AC Nielsen	AC Nielsen, International	2,011
Ireland	[1/2] Taylor NelsonSofres	GEM Coordination	1,000
Ireland	[2/2] Irish Marketing Surveys	GEM Coordination	1,000
Israel	Bandman	GEM Coordination	2,055
Italy	Nomesis	GEM Coordination	2,002
Japan	Nippon Research Ctre	GEM Coordination	2,000
Korea	Hankook Research	GEM Coordination	2,008
Mexico	ORC International	GEM Coordination	2,014
Netherlands	Survey@	GEM Coordination	2,013
New Zealand	DigiPoll	GEM Coordination	2,000
Norway	TeleNations Global	TeleNations Global	2,874
Poland	MEMRB, Poland	MEMRB Worldwide	2,000
Portugal	Metris	GEM Coordination	2,000
Russia	MEMRB, Russia	MEMRB Worldwide	2,012
Singapore	Joshua Research Consultants	GEM Coordination	2,004
S. Africa	[1/2] Markinor	GEM Coordination	1,999
S. Africa	[2/2] A.C. Nielson, SA	AC Nielsen, International	3,284
Spain	Dympanel	Taylor Nelson Sofres	2,016
Sweden	SKOP	GEM Coordination	2,056
UK:	All Taylor Nelson Sofres	Taylor Nelson Sofres	5,528
US	Market Facts	TeleNations Global	3,012
Total interviews			72,087

Source: GEM 2001 Report.

Note: The sample size for present study is 71,694 due to incomplete or missing data in the original GEM data set.

Figure I Strain version of Merton's Theory

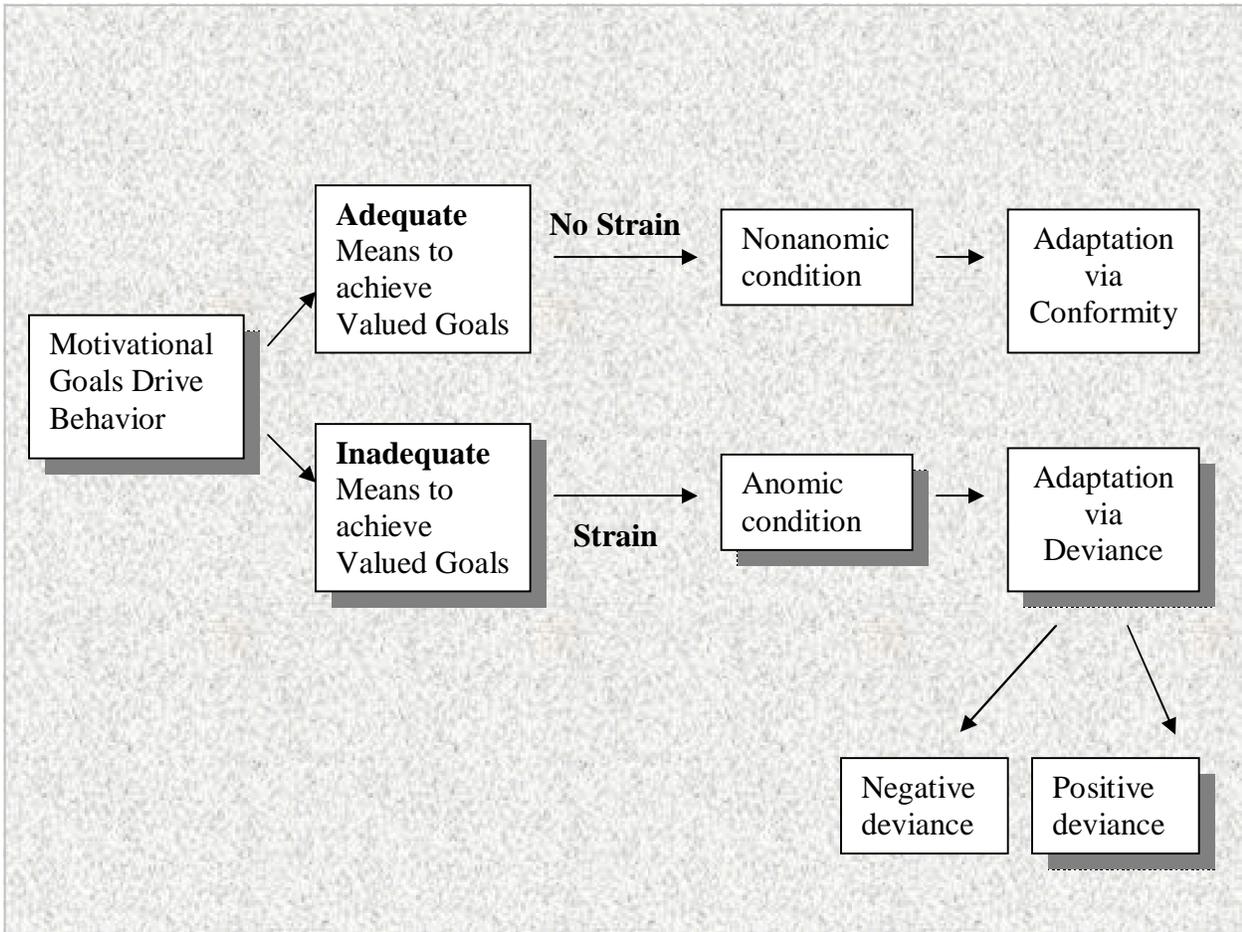


Figure II: Empirical Model of Social Institutional and National Culture as Drivers of Cross National Entrepreneurial Activity: Test and Extensions of Institutional Anomie Theory of Entrepreneurship

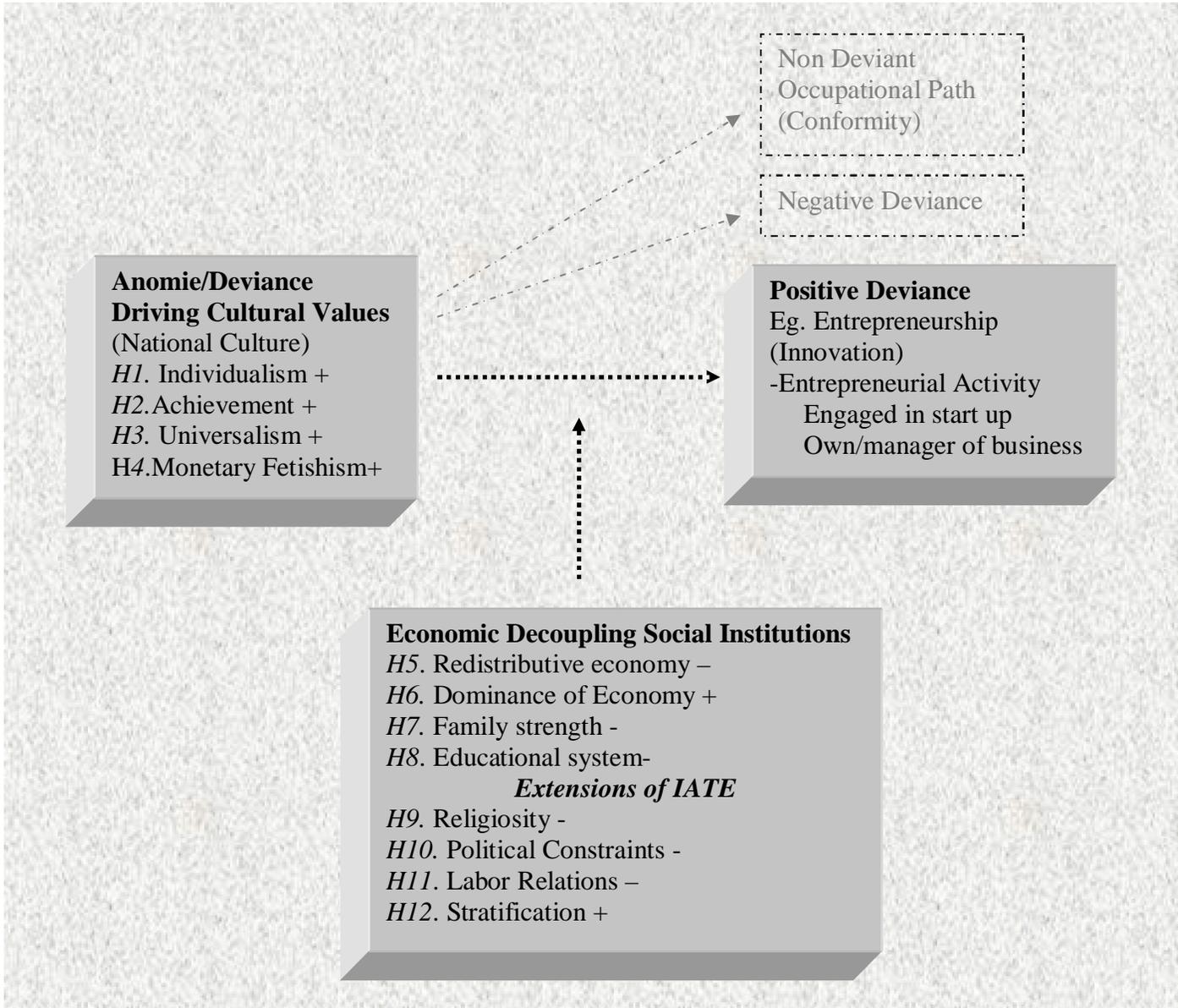


Figure adapted from Johnson & Cullen, 2005.

Legend:➤ Relationships tested in study
 - - - - -➤ Relationships not tested in study

Descriptives for Variables in the Study

Table 1: Correlation Matrix for Country Level Variables

Country level variables	Education	Political Constraints	Stratification	Redistributive Economy	Dominance of economy	Family Stability	Achievement	Universalism	Individualism	Monetary Fetishism	Religiosity	Union Activity
Education	1											
Political Constraints	.183	1										
Stratification	-.362	-.406*	1									
Redistributive Economy	.550**	.387*	.483**	1								
Dominance of economy	.482**	.008	.058	.300	1							
Family Stability	.249	.211	.024	.348	.600**	1						
Achievement	.448*	.259	-.306	.357	.387*	.503**	1					
Universalism	.425*	.515**	-.259	.434*	.340	.430*	.729**	1				
Individualism	.548**	.160	-.247	.476**	.231	.436*	.336	.240	1			
Monetary Fetishism	-.220	-.314	.294	-.007	-.213	.210	-.289	-.297	.368*	1		
Religiosity	.527**	-.135	.682**	-.393*	-.218	-.057	-.392*	-.244	-.330	.337	1	
Union Activity	.160	-.038	.104	-.208	-.185	-.276	-.309	-.116	-.096	.061	.114	1

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Table 2: Correlations among Individual Level Variables

Individual level variables	Gender	Age	Contact with Entrepreneur	Perception of Business Opportunity	Business Skills	Fear of Failure	Expectations of Family financial future	Expectations of country financial future	Labor force status	Household income	Educational attainment	Entrepreneurial activity
Gender	1											
Age	.034**	1										
Contact with Entrepreneur	-.119**	.134**	1									
Perception of Business Opportunity	-.082**	.031**	.226**	1								
Business Skills	-.187**	.039**	.286**	.214**	1							
Fear of Failure	.055**	-.023**	-.003	-.023**	.109**	1						
Expectations of Family financial future	.058**	.218**	.141**	-.182**	.159**	.077**	1					
Expectations of country financial future	.031**	.058**	.030**	-.149**	.028**	.040**	.341**	1				
Labor force status	.135**	.204**	.167**	-.067**	.187**	.039**	.116**	-.001	1			
Household income	-.072**	.076**	.146**	.068**	.130**	.044**	.110**	-.017**	.194**	1		
Educational attainment	-.018**	.150**	.125**	.044**	.094**	.044**	.115**	-.046**	.126**	.214**	1	
Entrepreneurial activity	-.122**	.045**	.219**	.171**	.330**	.082**	.128**	-.029**	.199**	.101**	.047**	1

** Correlation is significant at the 0.01 level (2-tailed).

Table 3: Descriptives for Country of Origin

Countries Included	Frequency	Percent	Valid Percent	Cumulative Percent
US	2954	4.1	4.1	4.1
RUSSIA	2012	2.8	2.8	6.9
SOUTH AFRICA	5274	7.4	7.4	14.3
NETHERLANDS	2013	2.8	2.8	17.1
BELGIUM	2038	2.8	2.8	19.9
FRANCE	1991	2.8	2.8	22.7
SPAIN	2016	2.8	2.8	25.5
HUNGARY	2000	2.8	2.8	28.3
ITALY	1973	2.8	2.8	31.1
UK: ALL REGIONS	5398	7.5	7.5	38.6
DENMARK	2022	2.8	2.8	41.4
SWEDEN	2056	2.9	2.9	44.3
NORWAY	2874	4.0	4.0	48.3
POLAND	2000	2.8	2.8	51.1
GERMANY	7058	9.8	9.8	60.9
MEXICO	2014	2.8	2.8	63.7
ARGENTINA	1992	2.8	2.8	66.5
BRAZIL	2000	2.8	2.8	69.3
AUSTRALIA	2072	2.9	2.9	72.2
NEW ZEALAND	1948	2.7	2.7	74.9
SINGAPORE	2004	2.8	2.8	77.7
JAPAN	2000	2.8	2.8	80.5
KOREA	2008	2.8	2.8	83.3
INDIA	2011	2.8	2.8	86.1
CANADA	1939	2.7	2.7	88.8
PORTUGAL	2000	2.8	2.8	91.6
IRELAND	1971	2.7	2.7	94.3
FINLAND	2001	2.8	2.8	97.1
ISRAEL	2055	2.9	2.9	100.0
Total	71694	100.0	100.0	

Table 4: Descriptives for Gender

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid MALE	34309	47.9	47.9	47.9
FEMALE	37385	52.1	52.1	100.0
Total	71694	100.0	100.0	

Table 5: Descriptives for Individual Educational Attainment

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	SOME SECONDARY	17247	24.1	28.4	28.4
	SECONDARY DEGREE	23459	32.7	38.6	67.0
	POST SECONDARY	18839	26.3	31.0	98.1
	GRAD EXP	1170	1.6	1.9	100.0
	Total	60715	84.7	100.0	
Missing	CAN NOT CODE	10979	15.3		
Total		71694	100.0		

Table 6: Descriptives for House Hold Income: Recoded into thirds

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	LOWEST 33%TILE	14232	19.9	33.1	33.1
	MIDDLE 33%TILE	17088	23.8	39.7	72.8
	UPPER 33%TILE	11673	16.3	27.2	100.0
	Total	42993	60.0	100.0	
Missing	MISS/CANNOT CODE	28701	40.0		
Total		71694	100.0		

Table 7: Descriptives for Work status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	WORK: Full Time, Part time	34637	48.3	56.6	56.6
	NOT WORKING	16347	22.8	26.7	83.3
	RETIRED, STUDENTS	10213	14.2	16.7	100.0
	Total	61197	85.4	100.0	
Missing	MISS/CANNOT CLASSIFY	10497	14.6		
Total		71694	100.0		

Table 8: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
AGE: EXACT AGE AT TIME OF INTERVIEW	67614	18	64	43.04	16.891
Valid N (listwise)	67614				

Table 9: Descriptives for Independent Start Up

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	NO	65967	92.0	92.6	92.6
	YES	5299	7.4	7.4	100.0
	Total	71266	99.4	100.0	
Missing	DON'T KNOW	419	.6		
	System	9	.0		
	Total	428	.6		
Total		71694	100.0		

Table 10: Descriptives for Current Owner/Manager of Business

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	NO	64346	89.8	90.3	90.3
	YES	6923	9.7	9.7	100.0
	Total	71269	99.4	100.0	
Missing	DON'T KNOW	419	.6		
	System	6	.0		
	Total	425	.6		
Total		71694	100.0		

Table 11: Descriptives for Entrepreneur Contact

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	NO	47099	65.7	65.7	65.7
	YES	23401	32.6	32.6	98.3
	DON'T KNOW	1185	1.7	1.7	100.0
	Total	71685	100.0	100.0	
Missing	System	9	.0		
Total		71694	100.0		

Table 12: Descriptives for Perception of Opportunity

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	NO	43111	60.1	60.3	60.3
	YES	17227	24.0	24.1	84.4
	DON'T KNOW	11123	15.5	15.6	100.0
	Total	71461	99.7	100.0	
Missing	System	233	.3		
Total		71694	100.0		

Table 13: Descriptives for Business skills

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	NO	42028	58.6	58.7	58.7
	YES	26302	36.7	36.7	95.4
	DON'T KNOW	3318	4.6	4.6	100.0
	Total	71648	99.9	100.0	
Missing	System	46	.1		
Total		71694	100.0		

Table 14: Descriptives for Fear of Failure

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	NO	44718	62.4	62.4	62.4
	YES	22623	31.6	31.6	94.0
	DON'T KNOW	4312	6.0	6.0	100.0
	Total	71653	99.9	100.0	
Missing	System	41	.1		
Total		71694	100.0		

Table 15: Descriptives for Expectations of Family Financial Future

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	BETTER	22380	31.2	31.4	31.4
	SAME	35839	50.0	50.2	81.6
	WORSE	8760	12.2	12.3	93.9
	DON'T KNOW	4388	6.1	6.1	100.0
	Total	71367	99.5	100.0	
Missing	System	327	.5		
Total		71694	100.0		

Table 16: Descriptives for Expectations of Country Financial Future

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	BETTER	16551	23.1	23.3	23.3
	SAME	29468	41.1	41.5	64.8
	WORSE	17940	25.0	25.3	90.0
	DON'T KNOW	7068	9.9	10.0	100.0
	Total	71027	99.1	100.0	
Missing	System	667	.9		
Total		71694	100.0		

Table 17: Results of Hierarchical Linear Modeling for IATE (summarized)

	Model 1		Model 2 to Model 4	
	Coefficient	Std.Dev	Coefficient	Std.Dev
Controls				
Age	-0.003**	0.001		
Gender (Female)	-0.404***	0.04		
National Culture Main Effects				
Individualism	0.006	0.010		
Achievement	-0.005	0.009		
Monetary Fetishism	0.027**	0.010		
Social Institutions Main Effects				
Educational System	-0.002	0.009		
Redistributive Economy	-0.019***	0.002		
Economic Dominance	-0.044***	0.005		
Family Strength	0.092***	0.011		
Interactions of Culture*Social Institutions				
Redistributive Economy				
IndividualismXRedistributive Economy			0.002	0.003
AchievementXRedistributive Economy			0.017***	0.003
Monetary FetishismXRedistributive Economy			-0.002	0.003
Family Strength				
IndividualismXFamily			-0.040**	0.01
AchievementXFamily			0.158***	0.011
Monetary FetishismXFamily			0.084***	0.010
Educational System				
IndividualismXEdn			0.360***	0.020
AchievementXEdn			-0.315***	0.020
Monetary FetishismXEdn			0.040*	0.017
Dominance of the Economy				
IndividualismXDominance			0.031***	0.005
AchievementXDominance			0.006	0.006
Monetary FetishismXDominance			0.045***	0.006

(*** $p \leq 0.001$; ** $p \leq 0.01$; * $p \leq 0.05$) Note: main effects not reported for simplicity (Results stable with mean centering)

Table 18: Results of Hierarchical Linear Modeling for Extensions of IATE (summary)

	Model 1		Model 2 to Model 42	
	Coefficient	Std.Dev	Coefficient	Std.Dev
Controls				
Age	-0.003**	0.001		
Gender (Female)	-0.405***	0.040		
Contact with entrepreneur			0.282***	0.078
Perception of business opportunity			0.056	0.039
Business skills			0.154**	0.051
Fear of failure			-0.044***	0.010
Expectations of economic future: Family			-0.048	0.035
Expectations of economic future: Country			-0.012	0.021
Labor force status			-0.023***	0.004
Educational attainment			0.000*	0.000
National Culture Main Effects				
Individualism	0.034**	0.012		
Achievement	0.008	0.010		
Monetary Fetishism	-0.032**	0.013		
Social Institutions Main Effects				
Educational System	0.013	0.013		
Political Constraints	-0.023	0.013		
Stratification	0.045***	0.012		
Redistributive Economy	-0.006	0.003		
Economic Dominance	-0.059***	0.007		
Family Strength	0.089***	0.013		
Religiosity	0.068***	0.012		
Union Activity	0.005	0.008		
Interactions of Culture*Social Institutions				
Redistributive Economy				
IndividualismXRedistributive Economy			0.019***	0.004
AchievementXRedistributive Economy			0.038***	0.03
Monetary FetishismXRedistributive Economy			-0.018***	0.004

Dominance of the Economy				
IndividualismXDominance			0.056	0.043
AchievementXDominance			0.079***	0.023
Monetary FetishismXDominance			-0.035***	0.008
Family Strength				
IndividualismXFamily			0.050***	0.010
AchievementXFamily			0.100***	0.010
Monetary FetishismXFamily			0.002	0.03
Educational System				
IndividualismXEdn			0.172*	0.086
AchievementXEdn			0.064***	0.018
Monetary FetishismXEdn			0.361***	0.044
EXTENSIONS OF IATE				
Religiosity				
IndividualismXRelig			-0.143***	0.010
AchievementXRelig			0.035**	0.012
Monetary FetishismXRelig			-0.157***	0.011
Political Constraints				
IndividualismXPolit			0.291***	0.020
AchievementXPolit			0.567***	0.037
Monetary FetishismXPolit			-0.0148***	0.027
Union Activity				
IndividualismXUnion			0.222***	0.030
AchievementXUnion			0.220***	0.014
Monetary FetishismXUnion			-0.207***	0.024
Stratification				
IndividualismXStratification			-0.089***	0.009
AchievementXStratification			0.053***	0.011
Monetary FetishismXStratification			-0.190***	0.020

(*** $p \leq 0.001$; ** $p \leq 0.01$; * $p \leq 0.05$) Note: main effects not reported for simplicity (Results stable with mean centering)

Note: Results of hierarchical linear modeling reported in the tables are summarized in the tables, and main effects are not reported to allow for presentation simplicity.

Table 19: Summary of Results showing hypotheses, predicted relationship to dependent variable, and results of the study

Hypotheses	Predicted Relationship	Results
IATE		
H1. Individualism	+	Not Supported
H2. Achievement	+	Not Supported
H3. Universalism	+	Not Testable
H4. Monetary Fetishism	+	Supported
H5. Redistributive Economy X Culture	-	Not Supported
H6. Dominance of Economy X Culture	+	Partially Supported (Individualism, Mon. Fetishism)
H7. Family Strength X Culture	-	Partially Supported (Individualism)
H8. Educational System X Culture	-	Partially Supported (Achievement)
EXTENSIONS OF IATE		
H9. Religiosity X Culture	-	Partially Supported (Individualism, Monetary Fetishism)
H10. Political Constraints X Culture	-	Partially Supported (Monetary Fetishism)
H11. Labor Relations X Culture	-	Partially Supported (Monetary Fetishism)
H12. Stratification X Culture	+	Partially Supported (Achievement)