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**INSTITUTIONAL CHANGE AND ENTREPRENEURSHIP:
THE IMPACT OF INCREMENTAL CHANGE, CHANGE DUE TO CONFLICT, AND
SOCIAL CHANGE CAPTURED BY MIGRATION**

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Doctor of Philosophy in Management

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March, 2019

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ASTON UNIVERSITY

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THESIS SUMMARY

This thesis aims to contribute to the understanding of the relationship between institutional change and entrepreneurship development while maintaining across countries perspective. The focus of each chapter is to examine institutional change from a distinct perspective across the following three dimensions: (1) change that occurs incrementally over time, (2) discontinuous change that occurs due to conflict (revolutions, wars etc.), and finally, (3) social change as captured by migration.

Following the introductory chapter, in the second one, an institutional perspective is used to investigate the ways in which change in formal political institutions influences change in Total Early-Stage Entrepreneurial Activity (TEA) rates, utilising a large panel of 77 countries. This chapter stresses that changes in political institutions play an essential role as factors in the development of entrepreneurship (TEA). Additionally, this chapter also extends research in comparative entrepreneurship that hitherto has largely overlooked the issue of stability of political institutions even though this can be a key source of (or a constraint on) entrepreneurial behaviour.

Chapter 3 examines how host country institutional environments influence intentions and motivations of immigrants about self-employment and their growth intentions with respect to their new ventures. Consistent with this, in this chapter, the focus is on macro level institutional factors that influence immigrant entrepreneurship activity compared to nonimmigrants in recipient countries. In its policy conclusions, the chapter also contributes to the economic growth debate through recommending targeted policies that aim to attract immigrant entrepreneurial efforts and enhance the economic dynamism.

Finally, in chapter 4, seeks to understand how radical institutional change affects entrepreneurship. The empirical counterpart is related to the Arab Spring revolutions, and how those influenced decisions to start a business in three distinct Middle East and North Africa (MENA) region countries. This chapter contributes to the existing literature by exploring how radical institutional change after conflict (revolutions, war, and uprisings) both directly and in conjunction with the personal characteristics of individuals influence entrepreneurial activity.

Keywords: Institutional Theory, Global Entrepreneurship Monitor, Institutional Change, Immigration, Entrepreneurship

DEDICATION

I dedicate this thesis to my family and friends. I also dedicate this to all the revolutionaries in my home and their struggles against an oppressive regime.

March 2019

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CHAPTER 1: INTRODUCTION, RATIONALE, AND CONTRIBUTION OF RESEARCH

1.1 Introduction

In this thesis, I set out to examine how (1) formal institutions influence decisions made by potential native and immigrant entrepreneurs to start businesses, and (2) how changes in these formal institutions, including political, economic and social change, impact changes in entrepreneurial activity. Despite the fact that a considerable amount of research has been conducted on the types of institutions supporting entrepreneurship in both developed and emerging countries, some questions remain unanswered, particularly with regards to the understanding of institutional change. My contribution to the research is therefore in its examination of institutional change across three dimensions: (1) change that occurs incrementally over time, (2) change that occurs due to conflict (revolutions, wars etc.) and (3) finally, social change as captured by migration. For example, past examinations of entrepreneurship activity and institutional change were challenging because the types of institutions which were meant to support entrepreneurship were known to be characterized by weak and fragile structures. This, in turn, warrants special attention as such fragilities in structures can have negative effects on entrepreneurship and the economic development of the countries in question (Collier and Hoeffler, 2004). Table 33 in the final appendix of this thesis illustrates all variables used in the thesis, how they are measured and their sources.

This chapter introduces the conceptual framework for the thesis and discusses the role of institutional change. Additionally, I review the concept of institutions in general and formal institutions in detail. Within institutions, the influence of change in these formal political and economic institutions is discussed in depth as they are the concepts pertinent to the empirical chapters. More so, the contributions of this thesis are highlighted in this chapter. Lastly, I provide a summary of the empirical chapters and how they relate to the main framework of the thesis.

1.2 Defining entrepreneurship

The thesis considers entrepreneurship to be an economic behaviour influenced by both the macro level (e.g. institutional, country level environment) (Bygrave, 1989, Bygrave and Hofer, 1991, Santarelli and Vivarelli, 2007) and the micro level (e.g. personal characteristics of entrepreneurs and non-entrepreneurs). The role of entrepreneurship in economic development is a subject of significant importance to global economic development strategies both at policy and academic levels (Desai, 2009, Wennekers and Thurik, 1999, Wennekers et al., 1997).

Entrepreneurship has been shown to have a positive effect on developing, emerging and developed economies as it provides a source of income for an individual, creates job opportunities and provides a catalyst for innovation (Parker, 2009, Van Praag and Versloot, 2007, Venkataraman, 1997). In addition, Small and Medium Sized enterprises (SMEs) and entrepreneurial activity play a key role in fostering overall economic performance in developing and emerging countries (Loveman and Sengenberger, 1991, Birch, 1987); thus, a strong entrepreneurship sector is linked to a strong economy. However, this positive link between entrepreneurship and growth is achieved with the existence of a robust institutional environment that supports productive entrepreneurial activity (Schumpeter, 1951).

Later in the thesis, I will define entrepreneurial activity in two ways and then examine change in these two measures when interacted with institutional variables. First, I use the total early stage entrepreneurial activity (TEA) rate which illustrates the prevalence rate of individuals in the working age population who are actively involved in business start-ups, either in the phase of starting a new business as a nascent entrepreneur or in the phase of owning or managing a firm which spans 42 months after the start of the venture. Second, I use nascent entrepreneurial rate which describes the percentage of the 18-64 population who are currently actively involved in setting up a business they will own or co-own; this business has not paid salaries, wages, or any other payments to the owners for more than three months (Bosma et al., 2012). These two constructs measure entrepreneurial activity in two different ways. I will also sub-categorize these

measures to test the quality of the entrepreneurial activity and the motivation behind this activity (i.e. high aspirations vs. low aspirations; opportunity vs. necessity).

1.3 Defining institutions

Only recently have researchers started to examine how entrepreneurship behaviour is dependent on formal national institutions (Stephan and Uhlaner, 2010, Estrin et al., 2012, Efendic et al., 2011, Scott, 2008, Van Stel et al., 2005). Furthermore, recent research has highlighted the importance of institutional change for entrepreneurship, particularly in emerging countries, see for example (Aidis et al., 2008, Mickiewicz, 2005, Mickiewicz and Aidis, 2006, Mickiewicz et al., 2014, Estrin and Mickiewicz, 2011a, Johnson et al., 1997).

Drawing on institutional theory (North, 1990, North, 1997, Baumol, 1996) I define institutions as the structures which provide rules, constraints, and incentives that act as tools of governance for exchanges (North, 1990, North, 1997, Baumol, 1996, Baumol, 1993). These institutions can be subdivided into formal and informal institutions. Formally written rules and regulations such as property rights, rule of law and the legal and organizational framework (Smallbone and Welter, 2012, North, 1990, North, 1997) are formal institutions that play an important role in supporting entrepreneurship. A plethora of entrepreneurship scholars advanced the understanding of the impact of formal institutions on entrepreneurship (Estrin et al., 2012, Bowen and De Clercq, 2008, Djankov et al., 2002, Hessels et al., 2008).

Development and growth literature has stressed that the importance of political institutional stability as a key barrier to economic growth and development of a nation (Dutta et al., 2013, Aisen and Veiga, 2006). Several streams of literature found that more socio-political instability can lead to lower investments, higher inflation and lack of appropriate financial development in financial institutions which in hand are negatively associated with economic growth (Dutta et al., 2013, Aisen and Veiga, 2006, Alesina and Perotti, 1996). Moreover, unstable, underdeveloped and weak political institutions can lead to greater risk and uncertainty, enforcement of rule of law and protection property rights (Dutta et al., 2013). On the contrary, stable political institutions reduce

uncertainty and decrease transaction costs allowing individuals to capture gains from exchanges in market transactions (Boettke and Coyne, 2003). Baumol (1990) emphasizes that the productivity of a country's entrepreneurial activity and processes depends highly on the quality of its institutions, of which political ones present an important type.

What we already know about political institutions and entrepreneurship is related to the effect of these institutions on different types of entrepreneurial actions such as strategic vs. non-strategic (e.g., Levie & Autio, 2011), high-aspiration vs. low-aspiration (e.g., Stenholm et al., 2013), and opportunity vs. necessity (e.g., Djankov, Qian, Roland, & Zhuravskaya, 2006); however, there is limited research on the influence of change in political institutions on entrepreneurship (Autio and Fu 2015).

The concepts of political institutions and regimes are relatively challenging in their conceptualization as the intuitions associated with the concepts of democracy and autocracy are not always all-inclusive in determining whether a particular country operates according to one or the other at a given time (Przeworski 2000). Therefore, the concepts of democracy and autocracy need to be validated in terms of rules and constructs that can be identified as either complementing and/or unique distinctions between the constructs. According to (Przeworski 2000), this process requires going back and forth between historical observations of nations and conceptual analysis.

An important distinction to consider in my discussion of political institutions is one between political freedom as captured by political rights/civil liberties and democracy as captured by the democracy/autocracy dynamic. Both constructs have important similarities but also some observable differences (Przeworski 2000). The concept of political freedom is identified by a combination of factors that represent political rights and civil liberties as crucial pieces of this construct. Political rights enable people to participate freely in the political process: the right to vote freely for distinct alternatives in legitimate elections, compete for public office, join political parties and organizations, and elect representatives who have a decisive impact on public policies and are accountable to the electorate. Whilst civil liberties represent freedom of expression and

belief, associational and organizational rights, rule of law, and personal autonomy without interference from the state. The amalgamation of political rights and civil liberties defines political freedom. However, the construct of democracy requires further conceptualization. Three major particularities direct modern political thought vis-à-vis forms of government. These are: Montesquies 1748 distinction between limited regimes and autocratic; Rousseau and Kant's differences between "autonomy (systems in which norms are determined by those whom they apply) and heteronomy (systems in which the legislators are distinct from those are subject to the laws)" (Przeworski 2000); and Schumpeter's destructive innovation (Schumpeter 1951) which emphasized conestation (competition) as a critical element of democracy. The main focus is on contestation.

A democratic regime, for example, can be defined by the interactions and allocation of decision-making rights between a presidential system that strictly separates the powers between the executive and the legislature, or a parliamentary system, where a legislative majority elects the executive and there is less power separation (Przeworski 2000). This therefore demonstrates an important relationship between the democracy construct and its elements in political system construct.

As Weingast (1995: 1) pointed out: "A government strong enough to protect property rights and enforce contracts is also strong enough to confiscate the wealth of its citizens." Mechanisms that impose credible restraints on government behaviours while incentivizing government officials to comply with rules and regulations need to be in place. A well-designed political system protects property rights and political freedoms, thereby encouraging citizens' participation in the economic life. Attention to these relations is therefore important to understand the effect of political institutions on different forms of entrepreneurship.

In addition, the institutional qualities of a society and its economy—such as economic freedom (Hasan, Quibria, & Kim, 2003), the presence of policies that condition the operation of private sector, and institutions regulating the balance of political power and the structure of the

bureaucratic system—play an important role in either facilitating or inhibiting economic growth and alleviating poverty (Lakshman, 2003). Non-inclusive political and economic institutions can engender and perpetuate inequality and aggravate poverty (Acemoglu & Robinson, 2012). By inhibiting economic dynamism, poorly functioning institutions can decrease the productivity and innovativeness of an economy, confine the benefits of growth to a narrow elite, and impede the alleviation of poverty (Ahlstrom & Ding, 2014; Bruton et al., 2013; Holt, 1991).

As defined earlier, political institutions are those institutional structures that establish and standardize access to economic opportunities, entrepreneurial rents and strong rule of law (Autio and Fu, 2015). Stability and the high quality of the political institutional environment offers a positive and conducive environment for entrepreneurs to thrive. High quality political institutions are characterized by comprehensive political representation without meddling by governments, military, economic and or other self-interest and powerful groups, ensuring individuals are not inhibited by monopolized control from powerful interest groups and granting inclusive access to economic opportunities (Puddington, 2013). However, research has found that insecurity coupled with lower economic growth rates arising from instability of institutions leads to weak formal enforcement of political rights and freedoms and can, therefore, deter potential entrepreneurs from actively pursuing entrepreneurial activity in a host country (Aidis et al., 2008).

Democracy and autocracy are also facets of political freedom. Democracy is operationalised as a three interdependent elements concept. The first element is the presence of strong institutions and procedures whereby citizens are able to express their preferences about alternative policies and leaders. Secondly, the presence of institutionalized constraints on the exercise of power by the executive branch of a government, or in other words, the limitations imposed by law to provide checks and balances between decision makers in a government. Finally, the guarantee of civil liberties to all citizens in their daily lives and in political participation (Marshall et al., 2010, Marshall and Jagers, 2002). Having a democratic system also ensures a political system composed of a parliamentary system where executives (president, prime minister,

etc.) are elected directly or by an electoral college. Autocracy on the other hand is operationalised in terms of the presence of distinct political characteristics. The first characteristic of an autocracy is where competitive political participation is suppressed or restricted. Secondly, chief executives are chosen in a standardised process of selection within a political elite and once in office they exercise power with few institutional constraints. And finally, autocracies are characterized by a high degree of control over social and economic activity (Marshall et al., 2010, Marshall and Jagers, 2002).

The concept of political freedom is identified by a combination of factors that represent political rights and civil liberties as crucial pieces of this construct. Political rights and civil liberties operationalised by Freedom House (House, 2014b), are measured by political rights and civil liberties indices. Political rights and civil liberties enable people to participate freely in political process, ensuring the right to vote freely for alternatives in legitimate elections as well as the freedom of expression without the interference from the state (House, 2014b). Therefore, increased political rights and civil liberties are typically synonymous with democracy rather than an autocracy. More so, democratic institutions in contrast to autocratic ones allow for a representative political agenda where property rights are universally protected and abuse of power is repressed, creating a better environment for entrepreneurship (Autio and Fu, 2015). In line with the above, political stability is maintained under democracies more so than under an autocracy. Likewise, a democratic system may help to reduce the likelihood of a “long-term radical political change” and induce political stability, which positively impacts economic activity by reducing uncertainty and increasing incentives to invest (Feng, 2001).

Political legitimacy is defined as the people’s recognition and acceptance of the validity of the rules, laws, and regulations of their political system (Lipset, 1959). It is likely that in democratic and politically free institutional environments, political legitimacy increases as people’s trust in their political system/regime increases. Consequently, these political systems are more efficient and incur fewer transaction costs, thereby encouraging citizens’ participation in

economic activity. Additionally, effective constraints on arbitrary action by the executive branch of the government, decreases the risk of expropriation without due compensation, thus securing the property rights of economic agents (Acemoglu et al., 2005, Acemoglu and Johnson, 2003). Strong property rights ensures appropriate access to finance through encouragement of the development of strong financial institutions (De Soto, 2000, Estrin and Mickiewicz, 2011b), which decreases expropriation of liquid assets by the government. For strong property rights protection to take place, institutions need to be democratic and politically free to allow for a representative political agenda as well as appropriate checks and balances on executives. This is especially important if the inherited political institutional framework isolates the government from democratic and politically free processes, so that government misuse of power is inhibited. In essence, a well-designed political system that integrates the elements discussed is more likely to protect property and political freedoms, and in doing so encouraging participation of individuals in economic and political life (Autio and Fu, 2015).

Strong political institutions also encourage less economic and political corruption. Corruption is usually defined as the abuse of public power and authority for the private benefit of government agents (Anokhin and Schulze, 2009). It has the ability to be present in many layers of institutional arrangements from the legal and judicial down to the lower layers of administration, in any one country (McMullen et al., 2008). Freedom from corruption measures the level of corruption in different countries and is also correlated with levels of economic freedom, i.e. higher levels of freedom from corruption correlate to higher economic freedom and vis versa (Charron et al., 2010). This relationship implies that the higher the freedom from corruption in a country, the better the control of corruption score. Control of corruption looks at perceptions of corruption conventionally defined as the exercise of public power for private gain but can have different aspects of corruption incorporated in the measure ranging from additional payments/bribery which affects the economic environment directly to also measuring “grand corruption” or political corruption (Charron et al., 2010).

Similar aspects are captured by political corruption. However, political corruption includes distinct types of corruption that cover both areas and levels of the polity realm, distinguishing between executive, legislative and judicial corruption. The measure also differentiates between corruption at the highest levels of the executive branch of the government (rules, cabinet, ministers etc.) and in the public sector at large (Charron et al., 2010). What makes this measure unique is that it captures different types of corruption: ‘petty’ and ‘grand’; bribery and theft; both corruption aimed at influencing law making but also corruption that affects implementation. Therefore, political corruption includes elements from control of corruption, freedom from corruption and the corruptions perceptions index and can thus identify the level of government effectiveness in terms of quality of the public service provision and the quality of the bureaucracy.

A well-developed market environment corresponds to strong institutions which are likely to provide the appropriate incentives for potential entrepreneurs to start profitable business ventures (Djankov et al., 2002, Djankov et al., 2006a, North, 1990, North, 1994, Bowen and De Clercq, 2008). Many developing countries and transition economies are characterized by weak formal institutions that create institutional gaps or voids where firms operating in these markets are faced with a number of unpredictable shocks (political instability, economic fluctuations, conflict etc.) and lack the appropriate intermediaries that can analyse market information, facilitate transactions as well as deter the support of a modern market economy (Puffer et al., 2010, Khanna and Palepu, 2010). Drawing from the above literature, this thesis firstly aims to provide an understanding of the mechanisms through which formal institutions impact entrepreneurial start-ups (Hopp and Stephan, 2012, Zafirovski, 1999, Bowen and De Clercq, 2008).

In this research, I also investigate more carefully the impact of three types of institutional changes: rapid conflictual change that occurs due to conflict, in this research being the Arab Spring that took place in 2010 where a wave of demonstrations led to the toppling of several regimes in the Middle East and North Africa (MENA) region, and more gradual institutional change (e.g.

through political and economic reforms) including economic and political instability that is associated with change in entrepreneurial activity and finally social change through immigration. I explore the influence of these institutional changes taking into consideration political, economic and social change. An economy which facilitates entrepreneurial development by removing and/or lowering barriers to entry and exit will generate more opportunities for potential entrepreneurs (Smallbone and Welter, 2012). Consequently, reforms of institutional environments implemented by nations are increasing in importance. However, at the same time change comes with instability and therefore its overall impact may or may not be positive.

Instability is not always symbolic of a weak economy (Olson, 2008). Institutional change may be different in magnitude and relates to the episodes of political, economic and social change (institutional change) that a country passes through because of wars, revolutions, conflict, and transition (Collier and Hoeffler, 2004). Fukuyama discusses the concept of instability (Fukuyama, 2011). He argues that some societies go down the democratic path to stability while others remain trapped in an autocracy because a society needs three main pillars to reach democracy; centralized political power, rule of law and an accountable government. These pillars are coined into the term political order. The three factors are accountable for retaining a strong state where citizens are permitted to change their rulers when these rulers engage in activities detrimental to the well-being of the nation (Fukuyama, 2011).

However, the three pillars of political order need to be equally strong to achieve maximum stability. Often, states champion one of the pillars over the other giving rise to instability and a weak political order. For example, ancient China experienced an early advantage compared to the western world on the path to strong political order by introducing a strong centralized state to alleviate the detrimental effects of constant civil war. This also resulted in arguably strong economic growth over the long term as the Chinese state implemented economic and political policies that advocated this growth. Nevertheless, this advantage has also led to the ‘autocraziation’

of China in the long term as the strong centralized state was too strong, trumping warlords but also devastating any emergent civil society or forms of government accountability (Fukuyama, 2011).

Another recent argument by Acemoglu and Robinson suggests that for any economic success, institutions must be sufficiently centralized to provide basic public services including justice, property rights enforcement and education (Acemoglu et al., 2012). They theorize that institutions are divided into extractive and inclusive, and argue that rich countries are rich due to inclusive economic and political institutions, while poor countries are poor due to extractive institutions. Inclusive institutions enable productive innovation leading to sustained economic growth and extractive institutions are these where a “small” group of individuals exploit the rest of the population to extract resources (Acemoglu et al., 2012). Historically, institutional change often takes place through conflict (revolutions, uprisings, and wars etc.). In some cases, extractive institutions are replaced by inclusive institutions in these affected countries. This process may lead to differential institutional drift, which is defined as the small institutional differences that occur over time producing significant changes in institutions in the long run (Acemoglu et al., 2012). These small institutional differences (institutional drifts) taking place over time can interact with “critical junctures” and historical contingency to produce a change in the path of the institutional framework in a state. By analysing this institutional evolution in its historical setting, Acemoglu et al. (2012) argue that we can better understand why some countries are rich and others poor and how this pattern may have changed over time from extractive and unproductive institutions to inclusive creative destruction institutions or vis versa.

The incidents of discontinuity and rapid institutional change are called critical junctures or a crucial turning points in a country’s history; an example is the Glorious Revolution in England in 1688, which brought along much more inclusive institutions, creating the conditions that led to the industrial revolution (Acemoglu et al., 2012). This may suggest that revolutions may be endogenous in the long term but are not the only fashion in which institutional change occurs. Not all change requires a revolution to take place; the discontinuity coming from gradual change may

result from a specific set of political and social conditions that make reform based on collective action difficult (Fukuyama, 2011).

Social change captured by immigration and entrepreneurship are also related. They are regarded as drivers of economic growth but have so far mainly been researched independently. Empirical evidence on the relationship between immigration and entrepreneurship is limited, mainly due to difficulties in observing immigrants' contribution to entrepreneurial activities and how these contributions are impacted by the institutional environment of host nations. However, anecdotal evidence suggests that there is a strong contribution of immigrants to entrepreneurship (Wadhwa et al., 2011). Therefore, it has become important in light of the current global socio-political-economic environment and the surges of immigrants and refugees to developed countries to analyse in depth the influence of host country institutional environments on immigrant entrepreneurial activity for both policy makers and researchers.

1.4 Ameliorating factors

Empirical studies in entrepreneurship have highlighted the importance of entrepreneurship as an employment alternative to other forms of work (Arenius and Minniti, 2005). Accordingly, studies have recognized socio-economic and demographic factors such as education, age and work status as important drivers of entrepreneurship (Arenius and Minniti, 2005). A second important set of factors that drive entrepreneurship is personal characteristics of individuals emphasized in the psychology and sociology literature (Kirzner, 1978, Baron, 2000, Gartner, 1985, Kihlstrom and Laffont, 1979, Weber and Milliman, 1997, Minniti, 2004, Aldrich, 1999). Personal characteristics and their impact on entrepreneurship development have received less attention than socioeconomic and demographic factors; this is mostly attributed to the challenges in obtaining appropriate data as well as methodological difficulties (Arenius and Minniti, 2005). Nevertheless, the importance of these characteristics has not been entirely neglected and several contributions have emphasized their significance. Some of these characteristics include, self-efficacy (Baron, 2000), fear of failure (Kihlstrom and Laffont, 1979) social connections (i.e. knowing other entrepreneurs) (Baron, 2000,

Minniti, 2004, Aldrich, 1999), and a proxy for financial resources, business angels (Arenius and Minniti, 2005)¹. These personal characteristics will be explored in more details further in the thesis as they interact with the institutional factors to influence entrepreneurial activity. In the next section, I present the aims of the research accounting for the above definitions of entrepreneurship, institutional change, and ameliorating factors.

1.5 Aims of research and empirical chapter summaries

As stated in the section above, within this thesis I focus on how institutional change impacts on entrepreneurial activity. Despite the general assumption that national institutional frameworks can help explain cross country differences in new business creation, the role of macro level institutional change as combined with micro level personal characteristics has only received scant research attention (Autio and Acs, 2010). My contribution in this thesis thus focuses on three facets of institutional change; an overarching scheme of institutional change that occurs incrementally over time, change that occurs due to conflict (revolutions, wars etc.) and finally social change as captured by migration. Some key concepts introduced are now discussed.

Short-term institutional change, (year on year) variations, are more frequent and gradual changes in institutional frameworks which can accumulate to significant increases. These changes can help in understanding how some nations (but not others) build entrepreneurship over time and thereby providing for insightful policy outputs in support of entrepreneurship activity. Constitutional level institutions are higher order formal institutions that deal with aspects such as political freedom, political stability, freedom from corruption, democracy and autocracy. Personal characteristics of individuals related to potential entrepreneurship capabilities, motivations and intentions are also a key concept assessed, including self-efficacy, fear of failure, social connections and being a business angel. These key concepts are discussed in further details in the

¹ I consider these as personal characteristics and not “informal institutions” because they pertain to the individual rather than society in general and they are relatively easier to change over time. Informal institutions by definition are the informal rules which emanate from culture and tradition and are usually unwritten and developed outside of “officially-sanctioned channels” (North, 1990, North, 1997, Scott, 2008, Helmke and Levitsky, 2004). These informal institutions are mostly self-enforced through mechanisms such as social networks and relationships. They are difficult to change because they are embedded in the environment.

relevant empirical chapters 2, 3 and 4. Consequently, this thesis aims to answer the following questions.

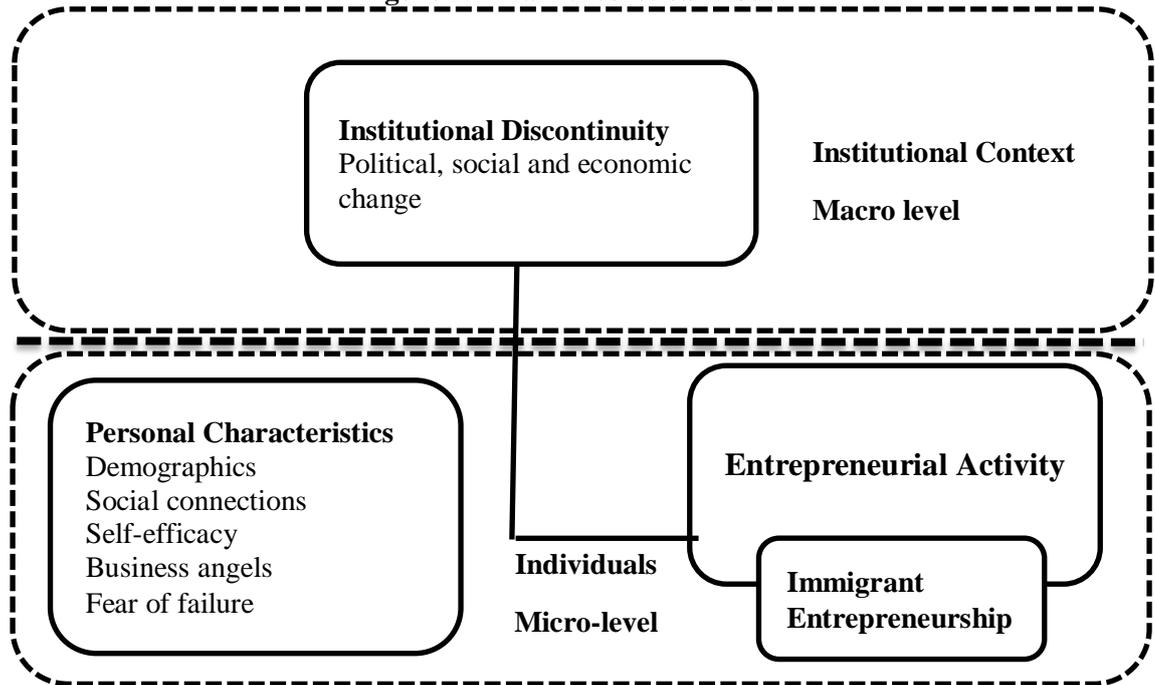
1. First, what is the relationship between gradual short-term change (year on year variations) over time at the high order institutional/constitutional levels and entrepreneurship between different countries? In what ways, does this short-term institutional change at the constitutional, political and regulatory levels influence entrepreneurial activity? Additionally, what is the role of social capital such as social connections, past business experience and related financial sources (e.g. business angels) in short-term institutional change processes?
2. Second, how do changes in macro level political freedom, freedom from corruption and economic freedom combine and or relate to influence change in entrepreneurship behaviour between immigrants relative to natives in immigrant hosting countries?
3. Third, what is the relationship between personal characteristics relevant to entrepreneurship: self-efficacy, lack of fear of failure, or social connections and being a business angel and entrepreneurial start-up decisions during periods of radical institutional change (eg. conflict, war, revolutions etc.)? Do some of these factors exert greater influence on entrepreneurial start-up decisions than others amidst different incidents of radical institutional change/discontinuity post the Arab Spring revolutions in Egypt and Tunisia (regimes were ousted) as compared to Algeria (regime remains in power)?

1.5.1 Theoretical Model

Figure 1.1 below illustrates my theoretical model. The model illustrates the levels of analysis in this thesis as well as consider the factors and institutions associated for each of the three empirical chapters. This model is not meant to be a conclusive framework that identifies all relevant factors of entrepreneurial development; however, it aims to illustrate the influences pertinent to this thesis, showing how they affect each other and how they are placed in the broader scope of the research. The model is a lens through which I can examine these institutions, the collective

decision-making process amidst changes in these institutions, how authority is revoked in times of radical change (revolutions, conflicts etc.), and finally how immigrants differ to natives in entrepreneurial development in response to change institutions. To explain entrepreneurial activity and the behaviours of individuals in the process of starting a business, the focus of the analysis requires that I investigate the behaviours of the individual parts of the process akin to behaviours of individuals in the organization and institutions structures. This investigation process is called *internal analysis of system behaviour* (Coleman and Coleman, 1994). This research explores the lower micro level of analysis, which is the behaviours of individuals attempting to start a business. While on the macro level, I study the impact of institutional change on the individuals and their entrepreneurial business start-up decisions. Individual actions are embedded in the macro-context, which may influence behaviours directly and shape the strength with which personal factors influence behaviours. Information is transmitted from the macro level institutional context down to the micro level personal characteristics. At the entrepreneurial activity level, I also aim to investigate how immigrants are affected differently than natives by institutional change. Three types of influence mechanisms can then explain this social behaviour: macro-to-micro analysis, individual actions, and micro-to-macro analysis. Figure 1.1 below illustrates these interconnected mechanisms in action for entrepreneurial business start-ups.

Figure 1.1 Main theoretical model



Adapted based on (Coleman and Coleman, 1994)

Chapter Summaries

1.5.2 Empirical chapter 2 summary

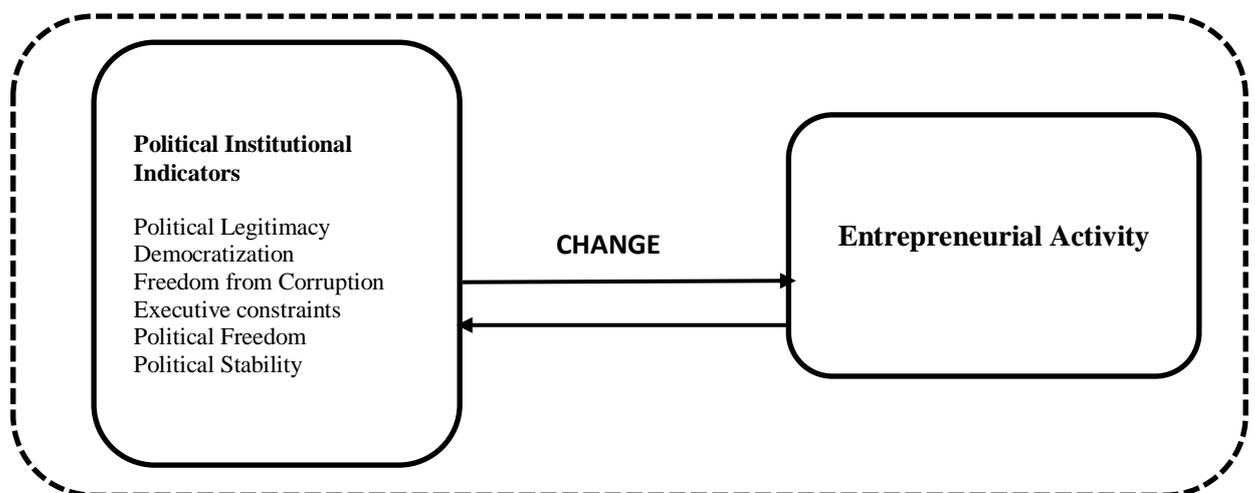
Chapter two of this thesis will aim to answer research question one above. Institutions are seen as being slow to change and hence help explain stable differences in entrepreneurship rates across countries. This chapter aims to develop a new perspective, clarifying the influence of short-term institutional change on entrepreneurial activity. I develop hypotheses about the consequences of change in different types of institutions, utilising a panel data set derived from Global Entrepreneurship Monitor and other sources. The chapter distinguishes between measures of high-order political institutional change, political stability, economic regulation, practices of corruption, and relate them to annual changes in Total Early-Stage Entrepreneurial Activity. I find that changes in fundamental political institutions and in political stability explain changes in entrepreneurial activity.

Accordingly, this study will strive to contribute to comparative international entrepreneurship literature e.g. (Aidis et al., 2008, Bruton et al., 2010, Bruton et al., 2009, Lim et al., 2010) by investigating the relationship between a country's macro level institutional changes

over time on entrepreneurial activity. At the same time, as I consider how short term institutional change affects entrepreneurs, I enhance institutional theory, stressing the critical role of forward-looking expectations.

My contribution in this chapter is, therefore, the following. I argue that while entrepreneurship activity is influenced by more than one dimension of institutions, it is a change at a higher level of political institutions that matter most for entrepreneurship (Estrin et al., 2012, Williamson, 2000). I also argue that more democratic political environments which bring about better protection of property rights, and a fair legal framework generate stable political environments. Stable environments bring in more trust and less corruption. All these interrelated changes result in enhanced entrepreneurship. Effectively the chapter will investigate change at the macro level of institutions. Figure 1.2 below illustrates the theoretical model for this chapter.

Figure 1.2 Theoretical model of Chapter 2



Note. Political Institutional Indicators and direction of their impact on entrepreneurial activity.

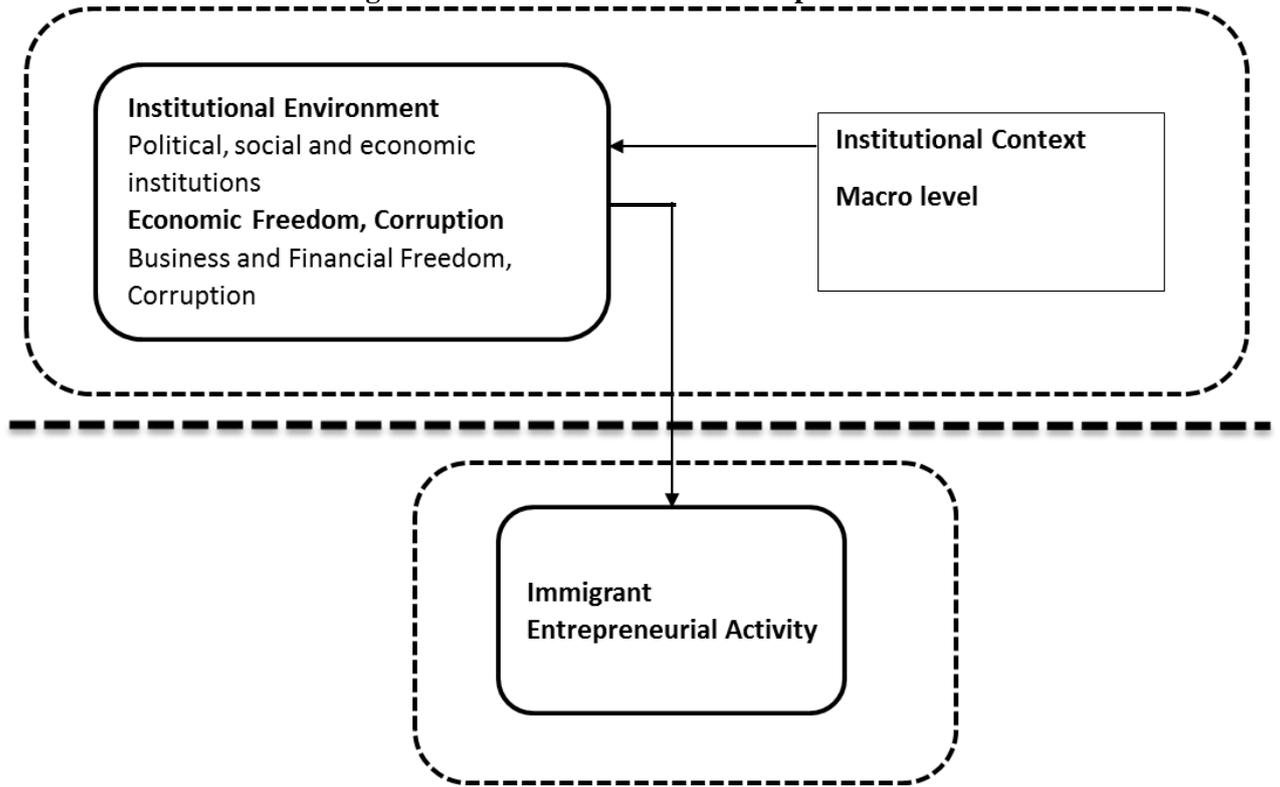
1.5.3 Empirical chapter 3 summary

Immigration is considered to be advantageous to recipient countries as it helps in closing the gap in the shortage of skilled- and entrepreneurial labor (Xavier et al., 2012). Research evidence from many economies suggests that immigrants differ from the home country nationals in their entrepreneurial intentions and motivations. Some studies investigated the positive externalities that immigrants create for economies, including effects on innovation and economic growth (e.g. Peroni,

C., Riillo, C.A. and Sarracino, F., 2016, Constant and Zimmermann 2008). This leads to the question of how do the host country institutional environments influence intentions and motivations of immigrants about self-employment and subsequent growth of their ventures.

In this chapter, I utilize macro level institutional indicators of countries to investigate how immigrant entrepreneurial activity in hosting countries is influenced by these institutional environments. Conclusions are drawn using binary response logit models with random effects (Cox, 1958) that estimate the impact of immigrant status on entrepreneurship activity accounting for the host macro (country) level political freedom, corruption, and economic freedom and controlling for the immigrant's individual characteristics. The data for this chapter is obtained from a combination of several datasets: Global Entrepreneurship Monitor (GEM), Quality of Government (QoG), Polity IV, World Bank and Freedom House. Several models are developed that estimate the interaction between macro level political institutions (i.e., political freedom), economic freedom (i.e., business and financial freedom), and corruption with immigrant status to test changes in Total Early-Stage Entrepreneurial Activity (TEA) rates. Figure 1.3 below summarizes the theoretical model for chapter 3.

Figure 1.3 Theoretical model of Chapter 3



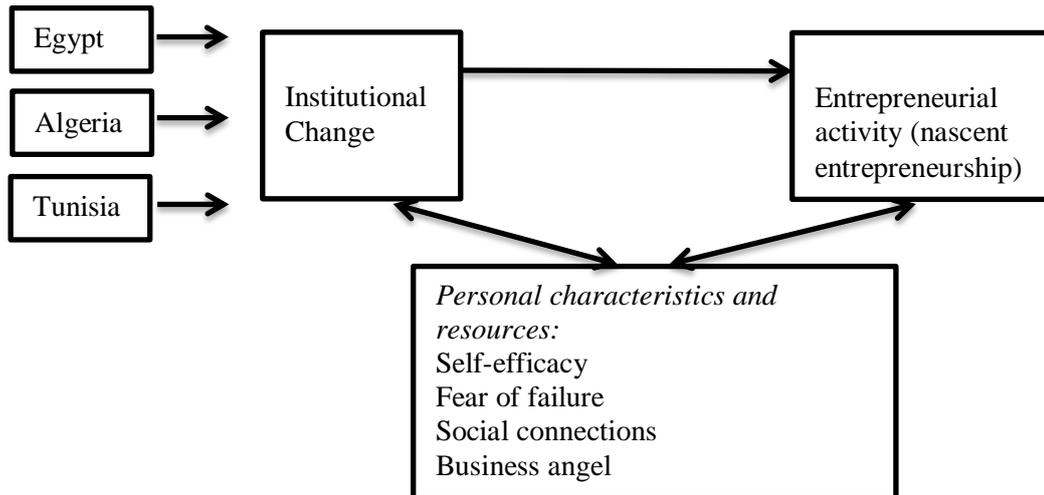
Note. Institutional Indicators and direction of their impact on immigrant entrepreneurial activity.

1.5.4 Empirical chapter 4 summary

In chapter four of this research, I answer question three above. Specifically, I focus on the impact of personal characteristics and resources such as self-efficacy, the lack of fear of failure, social connections and having been a business angel in the past (as a proxy for a financial resource) on decisions to start a business in Algeria, Egypt and Tunisia before and after political/economic change (Arab Spring). I build on existing research to emphasize the importance of aggregate personal characteristics and resources for entrepreneurial activity especially in uncertain environments (Stephan and Uhlaner, 2010, Nolan et al., 2008, Arenius and Minniti, 2005, De Clercq et al., 2013). In this chapter, I will present an analysis of the entrepreneurial decisions to start a business venture in the context of institutional change taking place, and explore whether the influence of personal characteristics on entrepreneurial behaviour is sensitive to the institutional environment. Asked differently, do personal characteristics and resources matter more or less for entrepreneurial behaviour in light of institutional change? Specifically, I will advance the understanding of which personal characteristics influence the decisions to start a business more

strongly conditional on the different profile of change in the three countries. Finally, I explore the influence of these personal characteristics before and after the Arab Spring revolutions. Figure 1.4 below illustrates the theoretical framework for this chapter. Further details of this question are analysed in chapter 4.

Figure 1.4 Theoretical model of Chapter 4



1.6 Contribution of Research

Over the last two decades, institutional theory became a focus of studying entrepreneurship in diverse disciplines including economics. This interest was triggered by a surge of institutional change affecting former communist planned economies after transformation to market-based economies (Johnson et al., 1997, Johnson et al., 2000, Aidis et al., 2008). A growing number of studies of environments of entrepreneurship such as of cultural, social, legal and political characteristics and specific institutional aspects which affect economic growth has gained importance in the economics literature (Bruton et al., 2010, Aidis et al., 2008, Co, 2004, Efendic et al., 2011).

To summarize, my research makes several contributions. First, it complements the existing literature on entrepreneurship and institutions (Hopp and Stephan, 2012, Stephan and Uhlaner, 2010, Hessels et al., 2008, Thornton et al., 2011, Aidis et al., 2008, Aidis et al., 2009, Estrin et al., 2012, Estrin and Mickiewicz, 2011a, Estrin et al., 2013) by analysing the effects of macro level

political, economic and social institutional change interacted with individual level social and psychological characteristics and how these cross-level interactions influence the decision to start a business venture. Second, the research investigates the magnitude of the impact of social institutional change on decisions to start a business in a large number of countries focusing on immigration. Finally, it adds to our understanding of the literature of economies in conflict and how wars and revolutions may impact entrepreneurial development in different countries.

The rest of this thesis is organized as follows: each chapter investigates different aspects of institutions and entrepreneurship including the context associated and how they influence each other. Several aspects of institutions are re-examined using key elements of empirical and theoretical literature for discussion. Additionally, I conduct unique empirical analysis using a combination of data that is specifically tailored to optimally capture the phenomena under investigation. Each chapter outlines its contributions to theory and practice in entrepreneurship. I conclude the thesis by reviewing the findings from all empirical chapters.

CHAPTER 2: THE IMPACT OF POLITICAL INSTITUTIONAL CHANGE ON ENTREPRENEURSHIP

Abstract

The chapter distinguishes between measures of high-order constitutional change, political stability, economic regulation and practices of corruption. Therefore, in this chapter I use an institutional perspective to investigate the ways in which change in high-order formal political institutions influences change in entrepreneurial activity. I develop a new short term institutional change perspective to investigate how these changes in high-order political institutions influence entrepreneurial activity. The findings suggest that short-term changes in political institutions are essential in explaining the development of entrepreneurship activity. Positive change over time in political stability, freedom from corruption and political legitimacy seems to play the most significant role in explaining an increase in a country's entrepreneurial rates over time. Therefore, I argue that positive changes in fundamental political institutions of political freedom and stability positively influences entrepreneurship development and subsequently provide policy makers with a better understanding of economic growth attributed to entrepreneurship development, reinforcing important links between practitioners, academics and policy makers.

2.1 Introduction

A great deal of entrepreneurship literature has focused on the impact of formal and informal institutions on entrepreneurship activity; however, less attention has been paid to the varying types of institutions and their *dynamic* impact on entrepreneurship. Much of the existing research on entrepreneurship examines broad national formal institutions (constitutional and regulatory levels) (Du and Mickiewicz, 2016). However, this research does not take into consideration the more dynamic nature of formal political institutions and the short-term change (year on year variations) over time when analysing their impact on entrepreneurship. It is well established that entrepreneurship rates vary across countries and that these variations are not just attributed to economic institutional changes (e.g. economic freedom) (Minniti et al., 2006). There is an abundance of literature that investigates the effects of the rapid transition from communism to market economies post the fall of the Berlin Wall in 1989 and aids in disentangling the effects of abrupt and rapid institutional change on entrepreneurship (Smallbone and Welter, 2001; Estrin and Mickiewicz, 2011). However, this literature does not examine the effects of more frequent and gradual short-term institutional change on entrepreneurship. Short-term (year-on-year) variations in entrepreneurship do transpire; and understanding whether this variation is also affected by short-term institutional change is of importance theoretically and practically. Small changes can accumulate to significant increases. Therefore, understanding gradual short-term institutional change may help us to understand how some nations (but not others) build entrepreneurship over time. Understanding such changes can also provide valuable insights for policy makers interested in supporting entrepreneurship or in wanting to see the benefits of that support during their period of office.

This chapter, therefore, aims to investigate the impact of short-term change over time in the quality of political institutions on entrepreneurial activity. I seek to answer: how does short-term change over time, influence entrepreneurial activity.

The approach of this chapter builds on the work of Douglass North (North, 1990; 1994; 1997) on institutions. Institutional theory explains how different groups and organizations enhance and secure their legitimacy by complying with the rules, regulations, norms, and values of the institutional environment (Bruton et al., 2010). To define political institutions, I first provide a definition of institutions as a concept and then apply the political angle to this definition. Douglass North defines institutions as the “rules of the game in a society or, more formally, as the humanly devised constraints that shape human interaction” (North, 1990). These rules are usually derived from institutions such as government agencies, regulation agencies, courts, rule of law, and societal or culturally embedded norms (Bruton et al., 2010). Political institutions could thus be defined as a system of politics and government, and the sets of rules, regulations, and norms that organize political activity. They explain aspects of political activity such as political legitimacy, political freedoms, stability and differences between government systems (democracies, autocracies). In doing so, these institutions also establish and regulate access to economic opportunities, entrepreneurial rents and rule of law (Autio and Fu, 2015).

The following section looks at economic institutions. Economic institutions influence on entrepreneurship has been investigated in abundance in comparative entrepreneurship literature. Strong economic institutions such as those that enhance protection of property rights through rule of law are argued to assist entrepreneurs in accessing resources required to start business ventures such as finance and capital (De Soto, 2000, Estrin and Mickiewicz, 2011b, Estrin and Mickiewicz, 2011a). However, the impact of political institutions (e.g. political freedom, democracy, political stability, and political legitimacy) on entrepreneurship development remains under-researched, even though much institutional research has revealed that political institutions can have powerful influences on economic activity, also via shaping economic institutions (North, 1990, North, 1994, Acemoglu et al., 2012, Weingast, 1995). Strong political institutions that support a fair judicial system where contracts are enforced and regulated can provide security of property rights. This minimizes the government’s ability to engage in corrupt activities, thus encouraging potential

entrepreneurs to start business ventures. According to (Wittman, 1995), political institutions act as the tools that alleviate “political market failures”, by reducing transaction costs in the political process and reducing political opportunism that fails to create an inclusive society and a broad base for entrepreneurship (see also: Acemoglu and Robinson, 2012). Therefore, examining the influence of political institutions on entrepreneurship merits detailed investigation.

Evidence suggests that characteristics of political institutions such as political stability and type of regime (democracy or autocracy) are important in recognizing whether countries have well-defined and enforced property rights or weak protection of these rights (Aron, 2000). As defined earlier in chapter 1 of this thesis, political institutions are those institutional structures that establish and standardize access to economic opportunities, entrepreneurial rents and rule of law (Autio and Fu, 2015). The stability and quality of these political institutional environment provides for a positive and conducive environment for entrepreneurs to thrive (review chapter 1 for characteristics of the quality of political institutions and a discussion of the constructs used throughout this thesis).

Long term historical changes in institutions provide this research with a historical lens that contributes to the analytical framework that allows us to understand economic changes. Although globalization and internationalization are important facets of economic change and growth, the influence of the ‘national education system, industrial relations, technical and scientific institutions, government policies, cultural traditions and many other national institutions is fundamental.’ (Freeman, 1995). These institutions typically encounter some change over time. Change over time in some political institutions has been examined in recent transition economies literature. For instance, the dominant institutional change that took place in transition (post-Soviet) economies, has focused on the transformation from centrally planned to more open, competitive markets economies (Aidis et al., 2008, Bruno et al., 2008, Estrin and Mickiewicz, 2011a, Smallbone and Welter, 2001). Additionally, there is a discussion in the literature about the process of institutional change (e.g. North, 1990, Williamson, 2000) where it is argued that change can be relatively slow,

whilst dramatic changes like the collapse of communism and transformation to open and free market institutions are rare.

Therefore, scholarly work in the field has ignored short term change because it has been thought that short term institutional change does not happen very often. Koellinger and Roy Thurik (2012) find that fluctuations in entrepreneurship are not always explained by GDP, suggesting that there are other factors besides the global business climate that influence trends in entrepreneurship. The authors also argue that fluctuations in the global market prices, geopolitical changes (change in national policies and conditions) and technological advances which can happen incrementally can impact entrepreneurship development over time. A growing body of research argues that political institutional change need not only happen through episodes of “institutional upheaval” or moment of abrupt and large transformation, but that there is short term and gradual change that accumulates over time into significant institutional transformation (Mahoney and Thelen, 2009). They propose a unique theoretical lens about gradual and short term institutional change by linking institutional stability and change. The authors also argue that institutional stability is a function of active, ongoing political mobilization and that institutions are not only changing in times of crisis but on a more short term and continuous basis.

Unlike in the traditional literature where many scholars attribute radical change in institutions to exogenous shocks, political institutions like constitutions and property rights laws do also evolve and shift in more subtle ways over time especially through endogenous developments. Consequently, I use this as a starting point of analysis of this chapter and aim to understand the impact of these short term and gradual institutional changes on entrepreneurship. However, the literature on institutional change has yet to consider how often changes particularly in political institutions take place and how short-term change occurring over a long period impacts entrepreneurship.

The lack of detailed data on countries’ political institutional characteristics over time has been a major obstacle in examining their influence on entrepreneurship (Beck et al., 2001).

Consequently, only a few research papers have explored the impact of political institutions on entrepreneurship in a cross-country setting including the paper by Autio & Fu (2015), which examines one form of entrepreneurship: informal entrepreneurship. However, in countries where good political institutions thrive and support economic freedom by providing secure property rights, fair judicial systems and constraints on the government's ability to acquire wealth through political opportunism via arbitrary taxation and weak regulation, productive entrepreneurship is more likely to thrive (Sobel et al., 2007). It is, therefore, crucial to understand the impact of these political institutions on entrepreneurship development. Thus, I posit that positive change in political institutions over time has an important positive impact on entrepreneurial activity.

The contribution in this chapter is therefore twofold. First, it produces empirical evidence that complements the existing literature on economic institutions impact on entrepreneurial activity (Hopp and Stephan, 2012, Stephan and Uhlaner, 2010, Hessels et al., 2008, Thornton et al., 2011, Aidis et al., 2008, Aidis et al., 2009, Estrin et al., 2012, Estrin and Mickiewicz, 2011a, Estrin et al., 2013), with emphasis on political institutions. I conclude that change over time in formal political institutional plays an essential role in understanding how entrepreneurship decisions take place. Second, I argue that entrepreneurship activity is influenced by more than one dimension of the formal political institutional environment such as *democratization, political freedom, regulation/stability of property rights through executive constraints, political rights, freedom from corruption, political stability and political legitimacy*. Thus, I propose new generalizable proxies for political institutional strengths.

The rest of this chapter is organized as follows: the next section introduces the conceptual framework and development of the hypotheses. The following section is the methodology, data, and model specification section, followed by the key empirical findings. Finally, discussion and conclusions are provided in the last section.

2.2 Conceptual Framework/theoretical background and hypotheses

2.2.1 Entrepreneurship and institutions

In the following section, I briefly refer to the definition of entrepreneurship used in this chapter. Entrepreneurship can be defined and classified using two distinctive categories. The occupational category of entrepreneurship emphasizes the choice of starting a business venture as an occupation type. This defines entrepreneurs as individuals that work for their own accord (Gartner, 1985, Gartner, 1988, Gartner, 1990). In contrast, the behavioural category defines entrepreneurship as ‘the perceptions and creation of economic opportunities by an individual’ (Wennekers and Thurik, 1999). Several other authors define entrepreneurship as part of a taxonomy of functions and behaviours of the entrepreneur. Some economists define entrepreneurship as a medium of reaching market equilibrium through entrepreneurial activities (Wennekers and Thurik, 1999, Marshall and Guillebaud, 1961, Schultz, 1980, Kirzner, 1978). Schumpeterian economists stress the entrepreneur as a source of creative destruction (Schumpeter, 1951, Wennekers and Thurik, 1999). Consistent with this, the Austrian school of thought emphasizes the abilities of the entrepreneur to perceive opportunities following an exogenous shock (Wennekers and Thurik, 1999, Jacobson, 1992). Fundamentally, entrepreneurship is associated with the behavioural traits of an individual in which said individual uses entrepreneurial skills and abilities to take advantage of an opportunity and create a business venture as a result (Hébert and Link, 1988).

Furthermore, economic growth literature has examined the importance of entrepreneurship to economic growth with evidence indicating that recently economic activity has shifted from large firms to smaller entrepreneurial firms (Wennekers and Thurik, 1999, Wennekers et al., 1997, Wennekers et al., 2002, Baumol, 1993). Therefore, entrepreneurship is considered an essential economic activity for economic growth and development through its ability to generate employment, promote innovation, and create wealth (Acs et al., 2008, Baumol, 2002a).

A plethora of scholarship about entrepreneurship has found that entrepreneurship rates vary greatly across countries and much of this variation is not only credited to economic country

differences alone (Autio et al., 2013, Autio and Fu, 2015, Baumol, 1996, Baumol, 1993) but also to change and differences in formal institutions. Therefore, progressively, more research on entrepreneurship is conducted using institutional theories to better examine macro level cross-country differences (Autio and Fu, 2015, Aidis et al., 2008, Estrin et al., 2012). In consequence, recent research efforts examine the impact of a country's formal regulatory framework (formal institutions) on economic behaviours and activity (Djankov et al., 2002, Acemoglu et al., 2005, Acemoglu et al., 2012, Demirguc-Kunt et al., 2009, Autio and Fu, 2015).

However, current research efforts using institutional theories have yet to investigate the effects of formal political institutional change at country level as characterized by several dimensions of political activity such as political freedom, regulation/stability of property rights through executive constraints, political rights, freedom from corruption, political stability, political legitimacy, and political regime i.e. democracy versus autocracy, on the economic behaviour of entrepreneurial entry.

The works of Douglass North (North, 1990; 1994; 1997) and William Baumol (Baumol, 1968; 1993; 1996; 2002b) on institutions and entrepreneurship provide the theoretical underpinnings of this chapter. They suggest that entrepreneurship behaviour (intention, motivation, and decisions to create a new business) is influenced by the institutional environment. Institutional theory describes how individuals and organizations assure their positions and legitimacy by following the rules and norms of the institutional environment (Turró et al., 2014). Scholars have argued that the institutional environment does not only determine individual decisions to become an entrepreneur but it also determines the characteristics of new business ventures and the ensuing impact they have on economic development and growth (Minniti and Lévesque, 2008, Fuentelsaz et al., 2015).

According to (North, 1990; 1994; 1997), institutions constitute the structures which provide rules, constraints and incentives that operate as tools of governance for exchanges between individuals (economic, social or political). More specifically, North defines institutions as the

‘rules of the game in a society, or more formally, the constraints that shape human interaction’ (North, 1990).

Formal institutions are the formal written rules and regulations such as property rights, rule of law and the legal and organizational framework in a society (Smallbone and Welter, 2012, North, 1990, North, 1997). Informal institutions, on the other hand, are the culture, values or social norms of a society. North suggests that formal and informal institutions interact together whereby some of the formal written rules and regulations are more effective when reliant on the cultural values and norms of the society (informal institutions). Therefore, informal institutions limit the impact of formal institutions but can also be constrained by formal institutions (North, 2006, Aparicio et al., 2016).

Next, I identify several institutional elements that are important to the study of entrepreneurship.

Efficient government procedures may “guarantee that the mechanisms of the market work efficiently by eliminating market failures and possible administrative rigidities” (Fuentelsaz et al., 2015, pg. 248), pointing to several dimensions such as property rights, rule of law, and finally freedom from corruption seen as an outcome of formal order.

Williamson (2000) pinpoints the importance of property rights and argues that the ‘rules of the game’ correspond to property rights. Property rights have been identified as key to effective economic transactions and it is a principal formal institution. The important point, however, is that it is anchored in political institutions, effective enforcement of rule of law, in particular, consequently counteracting “potential expropriations that entrepreneurs may suffer” (Fuentelsaz et al., 2015, Baumol, 1993). Property rights and freedom from corruption are further discussed later in this chapter.

Employing institutional theory has been well established in researching entrepreneurship (Bruton et al., 2010, Aidis et al., 2008, Turró et al., 2014, Smallbone and Welter, 2012, Ács et al., 2014, Ács et al., 2011) for some time now and applying institutional theory to entrepreneurship has

proven to be sufficiently helpful in explaining actual outcomes of entrepreneurship (Turró et al., 2014, Johnson et al., 1997, Aidis et al., 2008, Aidis et al., 2009, Estrin et al., 2012) . Despite this, the impact of specific outcomes of institutional change such as political regime change and weakness of formal political institutions arising from the too frequent institutional change over a period of time, on entrepreneurial activity, have fared limited attention in the literature. And thus, far, not enough investigation into this impact has taken place.

To explore political institutions, I briefly introduce the impact of economic institutions on entrepreneurship. Consistent with (Aidis et al., 2008, Davidsson and Henrekson, 2002, Acemoglu and Johnson, 2003, Acemoglu et al., 2005), entrepreneurship activity is influenced by economic institutions such as legal structures that govern business entry (Djankov et al., 2002), and security of property rights (Autio and Acs, 2010, Estrin et al., 2013). Entrepreneurship studies explored the influence of a country's regulations on the prevalence of entrepreneurial activity (Levie and Autio, 2011). This is because it has been argued that entrepreneurial behaviour and choice are regulated by a country's institutional framework (Autio and Fu, 2015, Estrin et al., 2012, Bowen and De Clercq, 2008).

Compelling evidence suggests that economic institutional qualities of a country such as economic freedom, fair regulatory institutions, and prevalence of economic policies that encourage business entrance, play an important role in enabling economic growth (Glaeser et al., 2004, Acemoglu et al., 2000, Henisz, 2000).

In turn, a country's political institutional framework represents the laws and regulations that govern and regulate the sustainability of different economic activities such as entrepreneurship. Many scholars have argued that political institutions can have an influential impact on the operation of the economic structures and societal wealth creation in countries (Acemoglu et al., 2012, Weingast, 1995, Autio and Fu, 2015). Political institutions could thus be defined as a system of politics and government, and the sets of rules and norms that organize political activity. These institutions describe the degree to which these rules and norms shape political institutions such as

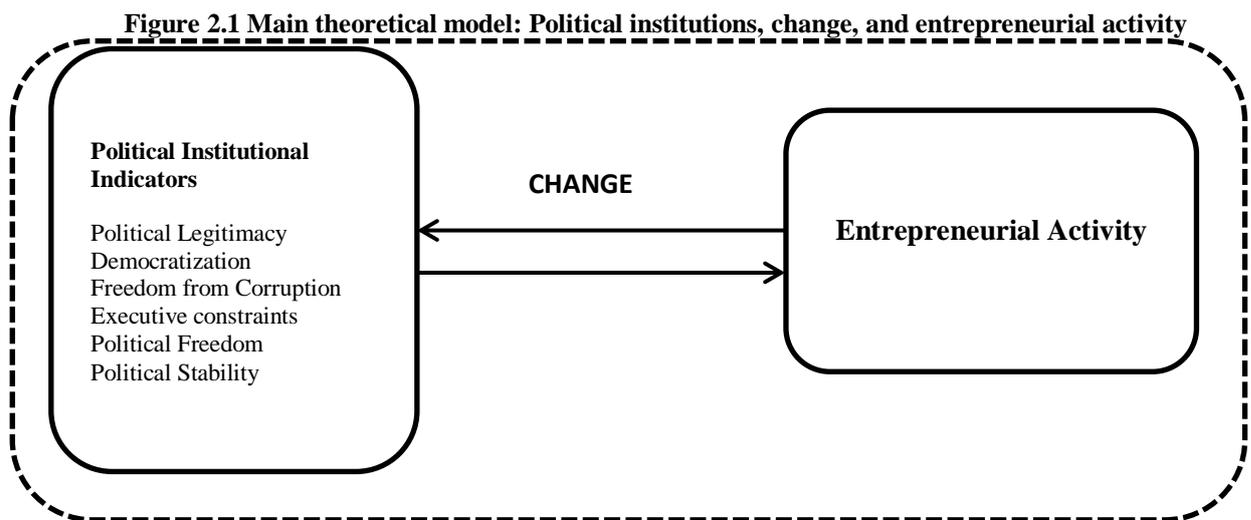
political legitimacy, political freedoms, stability and the basic differences between types of governments (democracies, autocracies).

Acemoglu et al. (2012) argue that weak and non-inclusive political institutions (institutions that only consider the welfares of special interest groups such as the elites) can encourage inequality and increase poverty which in turn inhibits economic growth, impacting entrepreneurship negatively. Poorly functioning political institutions can decrease productivity and innovation in the economy thus hindering economic growth and entrepreneurial development (Bruton et al., 2010, Bruton et al., 2013).

On the other hand, (Weingast, 1995) argues that political systems that protect political freedoms also encourage citizens' participation in economic behaviour as they help to develop wide skills of self-organisation, initiative and voluntary cooperation; an idea that can be traced back to De Tocqueville's *Democracy in America*, (De Tocqueville, 2003). In countries where political institutions develop fair judicial systems and constrain the government's ability to acquire wealth through political opportunism via arbitrary taxation and weak regulation, productive entrepreneurship is more likely to thrive (Sobel et al., 2007).

Therefore, in this chapter, I focus on the impact of the outcomes of short-term political institutional and regime change over time on entrepreneurship activity and ask: How do short-term political institutional change and regime change through democratization influence entrepreneurship activity in a mixed range of developing, developed and emerging countries? I aim to answer this question by utilizing (Gnyawali and Fogel, 1994) framework which identifies a number of environmental dimensions key to entrepreneurship development and recognise the impact of several formal political institutions pertinent to entrepreneurship: political freedom, regulation/stability of property rights through executive constraints, political rights, political stability, political legitimacy and freedom from corruption which is recognized as an outcome of good political institutions.

The theoretical model (figure 2.1 below) considers entrepreneurship to be influenced by the formal political institutional framework at the macro level and the prevailing personal characteristics for which I control for at the micro level. Recent research has investigated the impact of individual level psychological and social characteristics relevant to entrepreneurship (Arenius and Minniti, 2005, Hayton et al., 2013, Aidis et al., 2008, Hopp and Stephan, 2012). These can be divided into personal characteristics including lack of fear of failure (Kihlstrom and Laffont, 1979), self-efficacy (Baron, 2000), financial resources (being a business angel in the past), and social capital which includes social connections (Aldrich, 1999, Baron, 2000, Arenius and Minniti, 2005, Minniti, 2004). Thus, I address the gap in the literature by examining the influence of *change* in formal political institutions over time, controlling for the influence of prevailing personal characteristics of fear of failure and self-efficacy on entrepreneurship activity.



Note. Political Institutional Indicators and direction of their impact on entrepreneurial activity.

2.2.2 Main effects of political change on entrepreneurship activity

Although changes to political, economic and social institutions can positively impact entrepreneurship by improving the business environment and expanding business opportunities, there is also a counterweighting increasing element of uncertainty which may lead to negative effects on the economy (Collier and Hoeffler, 2004, Collier, 2007). Unstable political institutional environments provoke hostile conditions for entrepreneurs to operate under. Potential entrepreneurs living in countries where either political institutions are unstable or suffer from weak

formal enforcement of rights, i.e. weak rule of law and lack of freedoms, are less likely to endeavour into starting a business venture (Aidis et al., 2008).

Challenges to entrepreneurs can occur because of the lack of credible legal frameworks, lack of stable political structures and lack of political and expression freedoms deterring potential entrepreneurs from starting businesses. At the same time, when these dimensions change for better, the change itself may lead to instability and the outcomes of entrepreneurship in an unstable environment are highly uncertain (Tracey and Phillips, 2011).

Freedom House (FH) indicators such as the freedom status index can be used to identify weakness in formal political institutions because it surveys important indicators of freedom that are associated with free and strong political institutions. Political rights and civil liberties are two sets of indices that FH investigates. Indicators of freedoms that may influence entrepreneurial entry such as political pluralism and participation, rule of law, personal autonomy and individual rights are aggregated over time. Thus, to examine the impact of short-term change in these political institutions over time on entrepreneurial activity I use Freedom House indicators of ‘political rights and civil liberties’ as proxies to test H1a below.

Another important challenge that faces entrepreneurs in weak political institutional environments is the weak protection of property rights. Scholars like Acemoglu and Johnson in (Acemoglu et al., 2005) emphasise that security of property rights is in fact shaped by political institutions, i.e. effective constraints on arbitrary action by the executive branch of the government, which decreases the risk of expropriation without due compensation (Acemoglu et al., 2005, Acemoglu and Johnson, 2003). This may also hamper access to capital and finance through constraining the development of strong financial institutions (De Soto, 2000, Estrin and Mickiewicz, 2011b), as liquid assets are most easy to be expropriated. To test the quality of protection of property rights institutions, I follow Estrin et al. (2012) model and use the Polity IV indicator of efficient constraints on the arbitrary power of the executive branch of the government also called “constraints on executive” to test H1b below.

Political institutions affect how economic activities are regulated. In that regard, the degree of political democracy versus autocracy is expected to enhance entrepreneurial activity in a country (Laplume et al., 2014). Democratic political processes in contrast to autocratic political processes allow for a representative political agenda where property rights are universally protected and abuse of power is repressed creating a better environment for entrepreneurship (Autio and Fu, 2015). Thus, democratic countries inspire potential entrepreneurs to start business ventures and participate in an economic activity (Autio and Fu, 2015). To test the impact of democratic institutions on entrepreneurship, I use Polity data from the Polity IV database project. Polity IV project defines polity as the degree of political democracy versus the degree of political autocracy at country level (Marshall and Cole, 2008, Marshall and Jaggers, 2002). Using democracy and autocracy scores I am able to test the impact of the change in political regime over time on entrepreneurship activity in H1c stated below.

H1a: Countries characterized by increasingly politically free environments are likely to experience positive change in entrepreneurial activity rates.

H1b: Countries characterised by increasing constraints on the executive are likely to experience positive change in entrepreneurial activity rates.

H1c: Countries which develop more democratic institutions over time are likely to experience positive change in entrepreneurial activity rates.

H1d: Countries with increased political stability over time are likely to experience positive change in entrepreneurial activity rates.

2.2.3 Effects of freedom from corruption on entrepreneurship

An important political institutional weakness outcome indicator is corruption; this outcome inflicts uncertainty and insecurity into economic activities and relations. Thus, an index of freedom from corruption may be utilised to evaluate the influence of corruption on economic activity, based on the measures of the perceived level of public sector corruption in a multitude of countries derived from expert and business surveys (Aidis et al., 2012). A corrupt environment is one

characterised by government/country officials who accrue private benefits at the cost of private businesses and entrepreneurs (Estrin et al., 2012). Corruption is a reflection of an “over regulated environment with officials endowed with discretionary power” (Aidis et al., 2008). More generally, corruption results from inefficient institutions (Aparicio et al., 2016, Klapper et al., 2006). Consequently, high prevalence of corruption may reduce entrepreneurial entry and activity in an economy and may have serious negative consequences on development of entrepreneurship (Aidis et al., 2008, Akimova, 2002). (Aidis et al., 2008) investigated the impact of control of corruption on entrepreneurial development and found that higher control of corruption presented better opportunities for potential entrepreneurs.

Another important but unexplored political institutional indicator that impacts entrepreneurship activity is political legitimacy. Political legitimacy can be defined as the people’s recognition and acceptance of the validity of the rules, laws, and regulations of their political system (Lipset, 1959). With strong political legitimacy, political systems will be more resilient in periods of crisis and instability. Additionally, political instability and the likelihood of violent threats to the government in power decreases with strong legitimacy thus promoting political stability. Citizens recognize equal political rights as well as democratic legitimacy where they have a say in electing authority. Given this, political legitimacy and stability encourage potential and current entrepreneurs to establish businesses ventures in a politically salient environment: where the political system is seen as legitimate and stable and where it is less likely that rights will be endangered by private action. As a result, the following is hypothesized:

H2: Countries which exhibit a decrease in corruption over time are likely to experience positive change in entrepreneurial activity rates.

H3: Countries with increased political legitimacy over time are likely to experience positive change in entrepreneurial activity rates.

2.3 DATA AND METHODS

2.3.1 Datasets

I combined Global Entrepreneurship Monitor (GEM), World Bank, Polity IV, Freedom House, Heritage Foundation and Quality of Government datasets to test the hypotheses. I drew the sample from all countries surveyed in GEM data resulting in a sample of 77 countries that have participated at least once in the GEM survey. Therefore, an unbalanced cross-country panel data for the period 2001 – 2014 with a maximum of 481 observations based on TEA (Total Entrepreneurial Activity) rates is utilized.

GEM uses harmonized cluster sampling of at least 2000 individuals per country to identify new entrepreneurs. It measures different aspects of entrepreneurship including types of entrepreneurs, entrepreneurial intentions and other characteristics of entrepreneurial activity (Bosma et al., 2012). The data from GEM captures both formal and informal entrepreneurs, including self-employment, thus response bias is reduced. Accordingly, GEM database provides an internationally comparable data set that has been commonly accepted as a source of data to use for entrepreneurship research (Freytag and Thurik, 2010, Bowen and De Clercq, 2008); among others. The sampling procedure is reviewed by (Reynolds et al., 2005).

As noted earlier, this chapter explores how institutional political change can impact entrepreneurial entry. Following the work of (Aparicio et al., 2016), I use natural logarithm in both dependent and independent variables to allow for a direct interpretation of their coefficients in terms of percentage change of the independent on the change in the dependent variables, for which a logarithmic difference is a good approximation (Wooldridge, 2010). Table 5 in the appendix presents a list of the variables used in this study, including a brief description and their sources.

2.3.2 Dependent variable

The dependent variable used is the change in the individual Total Entrepreneurial Activity rate (TEA), an important indicator from the Global Entrepreneurship Monitor (GEM) database. It defines entrepreneurs as the percentage of adult individuals in a sample between the age 18-64

involved in either starting their own business or in managing their new business that is less than 42 months old. As I seek to investigate how short-term change over time impacts entrepreneurs, I calculate the TEA rate as the lagged difference (lagged by one year) or change between the years 2001 to 2014 (14-year period). Thus the dependent variable is change in a country's entrepreneurship rates over time. Additionally, the study employs an unbalanced panel data design as data is not available for consecutive years for the years and countries tested.

2.3.3 Independent variables

Formal political institutional factors can be examined using several measures. To ensure validity and reliability, I use several measures of political institutional change. It is important to note that I calculate the lagged difference/change between the years for all the independent variables (similar to the dependent variable above) as I am interested in identifying the impact of change over time in these variables. These variables are: political freedom from the Freedom House database (House, 2014a, House, 2014b); regime characteristics from Polity IV database (Marshall and Jaggers, 2002); levels of executive constraints (Marshall and Cole, 2008, Aidis et al., 2008, Estrin et al., 2012, Acemoglu and Johnson, 2003) from the same source; political legitimacy (Marshall and Cole, 2011) from Polity IV database; freedom from corruption (Miller, 2015) from Heritage Foundation, and political stability from the Quality of Government (QoG) project. I also use two variables from the QoG project as robustness measures: control of corruption and voice and accountability (Charron et al., 2010); these are explained further below in the Robustness Checks section.

Political institutions can influence entrepreneurship in several ways; however, in this thesis, I look at approaches I believe to have an all-encompassing influence on political activity in a country and ensuing entrepreneurship.

One way that a political system can be characterized is being defined as closer to a democracy and/or an autocracy (Marshall et al., 2010, Marshall and Jaggers, 2002). Democracy is operationalised as a three interdependent elements measure. The first element is the presence of

strong institutions and procedures whereby citizens are able to express their preferences about alternative policies and leaders. Secondly, the presence of institutionalized constraints on the exercise of power by the executive branch of a government, or in other words, the limitations imposed by law to provide checks and balances between decision makers in a government. Finally, the guarantee of civil liberties to all citizens in their daily lives and in political participation (Marshall et al., 2010, Marshall and Jagers, 2002). Having a democratic system ensures a political system composed of a parliamentary system where executives (president, prime minister, etc.) are elected directly or by an electoral college.

Autocracy on the other hand is operationalised in terms of the presence of distinct political characteristics. The first characteristic of an autocracy is where competitive political participation is suppressed or restricted. Secondly, chief executives are chosen in a standardised process of selection within a political elite and once in office they exercise power with few institutional constraints. And finally, autocracies are characterized by a high degree of control over social and economic activity (Marshall et al., 2010, Marshall and Jagers, 2002).

Another important concept in political institutions is political freedom, which is identified by a combination of factors that represent political rights and civil liberties as crucial pieces of this construct (House, 2014b). Political rights and civil liberties enable people to participate freely in political process, ensuring the right to vote freely for alternatives in legitimate elections as well as the freedom of expression without the interference from the state (House, 2014b). Therefore, increases in political rights and civil liberties is typically synonymous with democracy rather than an autocracy. More so, democratic institutions in contrast to autocratic ones allow for a representative political agenda where property rights are universally protected and abuse of power is repressed, creating a better environment for entrepreneurship (Autio and Fu, 2015). In line with the above, political stability is maintained under democracies more so than under an autocracy. Likewise, a democratic system may help to reduce the likelihood of a “long-

term radical political change” and induce political stability, which positively impacts economic activity by reducing uncertainty and increasing incentives to invest (Feng, 2001).

Along with political stability comes political legitimacy. Political legitimacy is defined as the people’s recognition and acceptance of the validity of the rules, laws, and regulations of their political system (Lipset, 1959). It is likely that in democratic and politically free institutional environments, political legitimacy increases as people’s trust in their political system/regime increases. Consequently, these political systems are more efficient and incur fewer transaction costs, thereby encouraging citizens’ participation in economic activity. Additionally, effective constraints on arbitrary action by the executive branch of the government, decreases the risk of expropriation without due compensation, thus securing the property rights of economic agents (Acemoglu et al., 2005, Acemoglu and Johnson, 2003). Strong property rights ensures appropriate access to finance through encouragement of the development of strong financial institutions (De Soto, 2000, Estrin and Mickiewicz, 2011b), which decreases expropriation of liquid assets by the government. For strong property rights protection to take place, institutions need to be democratic and politically free to allow for a representative political agenda as well as appropriate checks and balances on executives. This is especially important if the inherited political institutional framework isolates the government from democratic and politically free processes, so that government misuse of power is inhibited. In essence, a well-designed political system that integrates the elements discussed is more likely to protect property and political freedoms, and in doing so encouraging participation of individuals in economic and political life (Autio and Fu, 2015).

Strong and well-designed political institutions also encourage less economic and political corruption. Corruption is usually defined as the abuse of public power and authority for the private benefit of government agents (Anokhin and Schulze, 2009). It has the ability to be present in many layers of institutional arrangements from the legal and judicial down to the lower layers of administration, in any one country (McMullen et al., 2008). The levels of corruption in different countries can also be correlated with levels of economic freedom, i.e. higher levels of

freedom from corruption correlate to higher economic freedom and vis versa (Charron et al., 2010). This relationship implies that the higher the freedom from corruption in a country, the better the control of corruption. Different perceptions of corruption are conventionally defined as the exercise of public power for private gain but can have different aspects of corruption incorporated in the construct ranging from additional payments/bribery which affects the economic environment directly to also measuring “grand corruption” or political corruption (Charron et al., 2010).

For H1, I explain the construction of the relevant variables in this section. The Polity2 indicators from Polity IV database measure a country’s regime characteristics over time by means of defining democratic versus autocratic regimes (for further details please see: Marshall and Cole, 2008; Marshall and Cole 2011, Marshall and Jaggers, 2002). These are constructed as two indices, scoring from -10 (strongly autocratic) to +10 (strongly democratic). The democracy index is an additive 11-point scale from 0-10 with 10 being most *democratic*. The autocracy index follows the same 11-point scale with 10 being most *autocratic*.

Levels of executive constraints are measured using a variable that refers to the “extent of institutionalized constraints on the decision making powers” of the executive branch of the government (Marshall and Jaggers, 2002). Higher levels of constraints are thus accountable for by the power of a strong and independent judiciary system; therefore, stronger protection of property rights.

Freedom House uses Political Rights and Civil Liberties indices to score countries based on the level of political and economic freedom. The political rights index scaled from 1-7 with 1 being the best political rights (most free) and 7 being the worst political rights (least free). The civil liberties index is constructed in a similar fashion (House, 2014a).

Political stability is measured using the World Governance Indicators index found in the QoG database (Charron et al., 2010). The index is scored between -2.5 and 2.5, with the higher scores corresponding to better outcomes, thus a 2.2 score means more political stability in relation to a -1.5 score.

H2 and H3 are estimated using freedom from corruption and political legitimacy respectively. Using an indicator from Heritage Foundation I measure freedom from corruption using a 0-100 scale in which a score of 100 indicates very little corruption and a score of 0 indicates a very corrupt government (Charron et al., 2010). Political legitimacy is scored from 0 to 3 with 0 being most politically legitimate to 3 least politically legitimate (for further details on the construction of the variable see Marshall and Cole, 2011).

2.3.4 Control variables

Embarking on entrepreneurship requires the utilization and mobilization of multiple resources (De Clercq et al., 2013, Shane and Venkataraman, 2000, Gartner, 1985). These resources relate to the financial, human and social capital (Arenius and Minniti, 2005, Davidsson and Honig, 2003). With entrepreneurs facing various challenges when embarking in entrepreneurship, particularly in weaker formal institutional frameworks, access to these resources becomes essential to their efforts.

An important characteristic considered in this chapter is self-efficacy or confidence in one's skills and abilities to start a business venture. It is relevant to business start-up decisions (Aparicio et al., 2016, Estrin et al., 2012, Estrin and Mickiewicz, 2012). Individuals who believe in their own abilities and skills are less prone to perceiving higher levels of uncertainty and instability and have more confidence to start a business venture (Estrin and Mickiewicz, 2012, Aparicio et al., 2016). Baron (2000) suggests that the decision to start a business is highly dependent on the intentionality and locus of control experienced, and by high perceptions of self-efficacy leading to more entrepreneurship.

A second important characteristic is fear of failure (Kihlstrom and Laffont, 1979, Arenius and Minniti, 2005). Fear of failure is viewed by Arenius and Minniti (2005) as the perceived risk of experiencing failure and its consequences when engaging in entrepreneurship. It can be argued then, that fear of failure is context specific and thus displays a reflection of the impact of institutional change (political, social and economic). It has also been discussed that fear of failure

plays an important in individual's occupational and achievement aspirations including decisions to start a business venture (Welppe et al., 2012, Burnstein, 1963).

Consequently, I control for change in these prevailing personal characteristics in the analysis to account for possible confounding effects of aggregate personal characteristics which could be seen to reflect the supply-side 'entrepreneurial potential' of a country (Stephan and Uhlaner, 2010).

With regards to the self-efficacy indicator, it was found in GEM and it measures the percentage of individuals between age 18-64 who indicated that they have confidence in their skills and capabilities to start a business venture (Gartner, 1985, Arenius and Minniti, 2005, Baron, 2000). Fear of failure is viewed as the perceived risk of experiencing failure and its consequences when engaging in entrepreneurship (Arenius and Minniti, 2005). Like self-efficacy, it is measured as the percentage of individuals who indicated that fear of failure would deter them from starting a business venture or embarking on entrepreneurial activity.

High growth aspiring entrepreneurship is another control variable I use in my analysis estimations. It is correlated with subsequent growth and expansion of firms and further economic development (unobserved directly from GEM data) (Efendic et al., 2014, Autio and Acs, 2010, Bowen and De Clercq, 2008). As a proxy for high growth, I use GEM data TEA High Growth indicator which measures the percentage of individuals who expected to hire more than 20 employees in their businesses five years into the future. Similar to the dependent and independent variables above, the control variables are also measured using one year lagged difference/change overtime.

2.3.5 Robustness checks

To investigate and ensure robustness of the findings I utilize two proxy variables for the variables of freedom from corruption and political legitimacy. These are control of corruption and voice and accountability respectively. As a result, I report two models where freedom from

corruption and political legitimacy are replaced with control of corruption and voice and accountability.

First, I replace freedom from corruption with an indicator named control of corruption obtained from the QoG data set (Charron et al., 2010). Control of corruption measures perceptions about corruption ranging from the effects of corruption on the business environment to measuring “grand corruption” in the political dynamic in a country. It is measured using a scoring mechanism where scores range between -2.5 (worst outcomes) to 2.5 (best outcomes, hence, least corruption) (Charron et al., 2010).

Second, I replace political legitimacy with an indicator of voice and accountability. Voice and accountability combine several indicators measuring several aspects of political legitimacy and freedom including political rights and civil liberties. Similar to the control of corruption, voice and accountability is measured using a scoring system ranging between -2.5 (worst outcomes) to 2.5 (best outcomes) (Charron et al., 2010).

2.3.6 Estimation strategy

I use panel data modeling techniques to address the research problem within a context of cross-country and time-series data. Panel data modeling accounts for country-level heterogeneity as it allows me to study the change in political institutions over time across countries and examine how this change impacts differences in TEA rates. I use fixed effects models, which are more robust than random effects. By using fixed effects models I can analyse the impact of the independent variables as they vary over time (Bartels, 2008) on the dependent variable. Table 5 (in the appendix), 2 and 3 present the variables used in the analysis, descriptive statistics and correlations respectively. I test the effects of the political institutional short-term change over time in H1a to H1d by exploring how entrepreneurial activity, proxied by TEA rates, vary across countries when political change expressed using (political freedom, executive constraints, political stability and regime status) takes place. Additionally, I control for the prevalence of personal characteristics of entrepreneurs using self-efficacy and fear of failure variables, and quality of

entrepreneurial activity using the high growth aspirations variable. All estimation results are illustrated in Table 3.

First, I report the estimates of 4 models in which I regress change over time in TEA rates against several country level institutional variables controlling for individuals' personal characteristics. Models 1-3 test the impact of change over time in regime status, in other words, the Polity2 indicator (of democracy and autocracy deconstructed), on the change in TEA rates. I perform an additional test to estimate the elements of decompositions of the polity2 indicator, democracy, and autocracy, on the change in TEA rates over time in the sample (review Table 6 in the appendix). In model 4 I test the impact of change over time in political rights (political freedom) on the change in TEA rates. While in model 5 I test the impact of effective protection of property rights using the indicator of the level of executive constraints in a country over time on the change in TEA rates. Finally, model 6 estimates the impact of the change in political stability in a country over time on the change in TEA rates.

The second set of hypotheses postulates that entrepreneurship activity is likely to be positively impacted by a decrease in corruption and an increase in political legitimacy at country level over time, leading to an increase in TEA rates. Change in the freedom from corruption index and political legitimacy index over time respectively are used to test their separate impact on entrepreneurial activity (Table 4).

In addition, I report two models where the two factors, political legitimacy and freedom from corruption, are replaced with alternative indicators as a robustness check (Table 7 in the appendix). Freedom from corruption is replaced by an indicator for control of corruption obtained from the QoG data set (Charron et al., 2010). Political legitimacy measure is replaced by an indicator for voice and accountability similarly obtained from the QoG data set (Charron et al., 2010).

All models use logarithmic differences in the independent variables over time to test the hypotheses. For instance, in model one, I estimate the difference in $Polity2_{it}$ overtime and the

impact it has on the difference in the dependent variable $TEA\ rate_{it}$. The same estimation procedure applies for all models:

Political Change

$$\text{Model 1: } \Delta TEA\ rate_{it} = \Delta Polity2_{it} + \Delta Fear\ of\ failure_{it} + \Delta Established\ business_{it} + \Delta Self\text{-}efficacy_{it} + \Delta High\ aspirations_{it} + \mu_{it}$$

$$\text{Model 2: } \Delta TEA\ rate_{it} = \Delta Democracy_{it} + \Delta Fear\ of\ failure_{it} + \Delta Established\ business_{it} + \Delta Self\text{-}efficacy_{it} + \Delta High\ aspirations_{it} + \mu_{it}$$

$$\text{Model 3: } \Delta TEA\ rate_{it} = \Delta Autocracy_{it} + \Delta Fear\ of\ failure_{it} + \Delta Established\ business_{it} + \Delta Self\text{-}efficacy_{it} + \Delta High\ aspirations_{it} + \mu_{it}$$

$$\text{Model 4: } \Delta TEA\ rate_{it} = \Delta Political\ rights_{it} + \Delta Fear\ of\ failure_{it} + \Delta Established\ business_{it} + \Delta Self\text{-}efficacy_{it} + \Delta High\ aspirations_{it} + \mu_{it}$$

$$\text{Model 5: } \Delta TEA\ rate_{it} = \Delta Executive\ constraints_{it} + \Delta Fear\ of\ failure_{it} + \Delta Established\ business_{it} + \Delta Self\text{-}efficacy_{it} + \Delta High\ aspirations_{it} + \mu_{it}$$

$$\text{Model 6: } \Delta TEA\ rate_{it} = \Delta Political\ stability_{it} + \Delta Fear\ of\ failure_{it} + \Delta Established\ business_{it} + \Delta Self\text{-}efficacy_{it} + \Delta High\ aspirations_{it} + \mu_{it}$$

Corruption and Political Legitimacy

$$\text{Model 7 } \Delta TEA\ rate_{it} = \Delta Freedom\ from\ corruption_{it} + \Delta Fear\ of\ failure_{it} + \Delta Established\ business_{it} + \Delta Self\text{-}efficacy_{it} + \Delta High\ aspirations_{it} + \mu_{it}$$

$$\text{Model 8: } \Delta TEA\ rate_{it} = \Delta Political\ legitimacy_{it} + \Delta Fear\ of\ failure_{it} + \Delta Established\ business_{it} + \Delta Self\text{-}efficacy_{it} + \Delta High\ aspirations_{it} + \mu_{it}$$

where

$$\mu = \text{country} + \text{time} + \text{residual}$$

$$\mu_{it} = \mu_i + \mu_t + \varepsilon_{it}$$

In these models $TEA\ rate_{it}$ represents the measure of entrepreneurship activity,

$Polity2_{it}$, $Political\ rights_{it}$, $Civil\ liberties_{it}$, $Executive\ constraints_{it}$, $Freedom\ from\ corruption_{it}$, $Political\ legitimacy_{it}$, and $Political\ stability_{it}$ represent institutional factors,

Fear of failure i_t , *Self-efficacy* i_t , *Established business* i_t , *High aspirations* i_t represents controls including personal characteristics, phase of establishment and quality of entrepreneurship.

2.4 RESULTS

2.4.1 Descriptive statistics

The descriptive statistics and correlations between variables are reported in Tables 1, and 2 below respectively. Table 1 illustrates raw and change scores respectively. Descriptive statistics of the variables reveal a few important points. The average TEA rate level across the sample is around 10%. It is an indication of how much entrepreneurship activity takes place on average across the 77-country sample. However, the average level of change in TEA over time is 0.11%, meaning that the TEA rate has increased by 0.11% on average over the 14 year period examined. The political rights and civil liberties index level across the sample is 2.6 indicating that political freedom across the countries is relatively high since the countries are graded between 1 (most free) and 7 (least free) (House, 2014a). This result is further supported by the polity2 index which reveals that most countries are relatively more democratic than they are autocratic. However, the level of change in political freedom proxied by polity2 is only 0.2% over time meaning that change is relatively slow over the 14 year period.

Compared to the Freedom House score, the average score across the countries is almost half at a score of 3.7 indicating that political freedom is generally split between mostly free and least free or in other words *somewhat free*. Surprisingly, freedom from corruption is almost 50% across the sample suggesting that only about half the sample revealed little to no corruption while the other half displayed relatively high corruption. On the other hand, the level change over time in freedom from corruption is 0.09% which similar to political freedom, indicates slow positive change into less corrupt environments across the sample over the 14 year period. Compared to the full freedom from corruption sample for the years 2001-2014 however, the average score was 37

out of 100, which is an indication that more than half of the sample indicated relatively high corruption.

In terms of the control variables, positive perceptions of self-efficacy are reported by 49% of the sample countries while 33% of the sample report no fear of failure. High growth aspiring businesses represent a quarter of the sample of TEA at around 26% while established businesses represent a small 7% of the total sample. In the remainder of this section, I report the results of the hypotheses testing.

2.4.2 Hypotheses testing

Table 3 reports the fixed effects coefficient estimations for the 6 models corresponding to hypothesis 1. I report 6 models to indicate the robustness of the findings. Models 1 to 6 are named as in table 3 below: Polity2 (Democ/Autoc), Political rights, Executive constraints, and Political stability respectively. Most of the institutional variables show variation over the years, thus, a fixed effects model works. All estimations follow a similar procedure. Thus, I sequentially test every independent variable including controls separately in the 6 models.

Model 1 tests political regime status using the polity2 difference score. Results indicate that other things being equal, change towards more democratic regimes over time is positively significant at the 95% confidence level, thus supporting hypothesis 1a that entrepreneurship activity increases in more democratic institutional environments over time. The coefficients reveal a positive change in polity2 is associated with a 46% positive improvement in TEA rates over time.

In models 2 and 3 I estimate the decomposition of the polity2 construct and test change in democracy and autocracy respectively over time and their impact on entrepreneurial activity. Results for both are consistent with the polity2 indicator estimations in that they are both significant and show the hypothesized sign direction. The findings for the democracy model suggest that change to more democracy over time is associated with an improvement in TEA rates. The sign in the autocracy model is negative but significant indicating that change to more autocracy over time in the country samples is associated with a decrease in TEA rates. Therefore, hypothesis 1a is

confirmed. Table 6 in the appendix illustrates decomposition models of democracy and autocracy separate from the remainder of the models.

In models 4, 5 and 6 I estimate change over time in the other political institutional factors of political freedom (political rights), executive constraints and political stability and find that they present the expected signs and are statistically significant. Consequently, hypothesis 1b, 1c, and 1d are supported.

Table 4 illustrates the results corresponding to hypothesis 2, 3 using a different and distinct set of political institutional variables which are freedom from corruption (as an outcome of good institutions) and political legitimacy (being the social perceptions of individuals in a country about the legitimacy of their political environment). The findings are significant and present the expected sign for both models suggesting that in the country sample positive change in freedom from corruption over time and more positive change in perceptions about political legitimacy are associated with an increase in TEA rates. Once again, this pattern is consistent with findings about the impact of corruption on entrepreneurship, in particular outcomes such as inefficient and over regulated environments where officials are given unrestricted power (Djankov et al., 2006a, Aidis et al., 2008). Consequently, my findings support hypotheses 2 and 3.

Accordingly, the findings allow several conclusions. Entrepreneurship activity increases in countries with more political freedom over time proxied by the political rights and civil liberties index. Stronger constraints on the executive branch of the government through change over time reflects more effective rule of law and is also positively associated with higher rates of entrepreneurship activity. This result is consistent with previous literature (Estrin et al., 2012, Estrin et al., 2013). Higher political legitimacy over time in the sample is positively associated with higher rates of entrepreneurship. More democracy over time is also positively associated with higher rates of entrepreneurship. Finally, these results suggest that out of all political institutional variables examined, change over time in political legitimacy, political freedom and freedom from corruption have the most prominent impact on entrepreneurial activity in the sample.

In terms of controls, the findings about change in self-efficacy and established business are significant at the 1% level and present the expected signs in all the models. However, fear of failure and high growth aspirations are not significant in any of the models and thus seem to have no impact on TEA rates on the basis of the current models or otherwise might not be as influential as other controls.

2.4.3 Robustness checks

To check for robustness of the results, I estimated alternative specifications that measure freedom from corruption and political legitimacy. In this set (see table 7) I estimated two models that test the impact of change over time in control of corruption (a proxy for freedom from corruption) and voice and accountability (a proxy for political legitimacy) on change in TEA rate. The results reveal that both controls of corruption and voice and accountability are significant and represent the expected signs suggesting that more control of corruption and more accountability over time account for the positive change in TEA rates.

Finally, table 8 in the appendix estimates all the variables in one model to provide an overview of all institutional variables. The results highlight similar patterns to the results in the above mentioned models; political stability, freedom from corruption and political legitimacy are all significant and present the expected signs. Additionally, the proxies for freedom from corruption (control of corruption) and political legitimacy (voice and accountability) both present the expected signs and are also significant. However, the measures of political regime (polity2), democracy, political rights and executive constraints are all insignificant in this model. This result is not surprising as all of these measures are highly correlated and therefore, I did not expect results to be statistically significant. To confirm the high correlation, a VIF test as conducted results in a mean of 10.14 indicating high correlation between the polity2, democracy, political rights and executive constraints measures.

Table 1. Descriptive statistics: raw and change scores

Variable	Mean (raw)	Mean (change)	S.D. (raw)	S.D. (change)	Min (raw)	Min (change)	Max (raw)	Max (change)	No. Obs.
Total TEA Rate	10.90012	0.1138877	7.708886	3.08706	1.48	-14.19	52.11	15.19	481
Political rights index	2.612182	-.0033223	1.91121	.3078182	1	-4	7	4	481
Civil liberties index	2.659985	-.0257475	1.612799	.2483559	1	-1	7	1	481
Polity2 index	5.668693	.0245499	5.42586	.8601009	-10	-14	10	8	481
Democracy index	5.52782	-.0437247	10.02313	5.635011	0	-5	10	5	481
Autocracy index	-.0721805	-.0680162	8.887097	5.625703	0	-5	10	5	481
Exec constraints index	4.551168	-.0607639	9.665244	5.903344	0	-4	7	7	481
Freedom from corruption	47.70962	.0961943	24.40834	3.73142	0	-24	100	34	481
Political legitimacy index	.9022556	-.0040486	1.023903	.203255	0	-2	3	2	481
Self-efficacy	48.72537	.0289813	15.71066	5.724917	8.65	-23.81	89.48	28.53	481
Fear of failure	33.53532	.1321414	8.724349	6.22188	10.43	-20.04	65.4	25.77	481
TEA High aspirations	26.09944	.1377339	12.0275	7.780878	0	-32.2	91.44	33.64	481
Established business	7.480763	.1539085	5.086118	2.61866	0	-20.25	37.74	12.71	481
Political stability	.0720197	-.0010653	.9272882	.1749812	-2.5	-.7794521	2.5	.763721	481
Control of corruption	.3282983	.0000491	1.038029	.1221667	-1.5	-.5809187	2.5	.8057017	481
Voice and Accountability	.3211269	.0004845	.9161772	..0942877	-1.8	-.5840169	1.8	.9825296	481

Note. Descriptive statistics for all variables in estimations.
Descriptive statistics are summarized using original form and differences

Table 2. Correlation matrix

Correlation	TEA	Polity2	Freedom	Democracy	Autocracy	Executive constraints	Political stability	Freedom Corruption	Business Freedom	Self-efficacy	Establ. bus.	Fear of failure	GDP
TEA	1.00												
Polity2	0.05	1.00											
Freedom	0.06	0.3812*	1.00										
Democracy	0.04	0.9310*	0.3638*	1.00									
Autocracy	-0.07	-0.8547*	-0.2059*	-0.6061*	1.00								
Exec Constraints	0.02	-0.02	-0.2588*	0.8758*	-0.4902*	1.00							
Political stability	0.0943*	-0.02	0.0813*	0.02	0.03	0.02	1.00						
Freedom from corruption	-0.08	-0.01	-0.05	0.00	0.02	0.00	0.03	1.00					
Business Freedom	-0.02	0.00	-0.02	0.00	0.00	0.00	-0.03	-0.03	1.00				
Self-efficacy	0.1958*	0.05	0.10	0.05	-0.06	0.07	0.03	-0.1105*	0.03	1.00			
Established bus.	0.3240*	-0.09	-0.07	-0.0960*	0.07	-0.1100*	-0.02	-0.1331*	0.07	0.2370*	1.00		
Fear of failure	-0.03	-0.01	-0.07	0.00	0.03	0.00	-0.06	-0.06	0.08	-0.1198*	-0.07	1.00	
GDP per capita	0.04	-0.01	-0.02	0.00	0.00	-0.01	0.00	0.04	0.01	-0.01	-0.02	0.05	1.00

Note. Correlations matrix is based on a sample of 481 observations.

Correlations are calculated using differences.

Table 3. Regression of change in political indicators on change in TEA rate

Independent Variables	(1)	(2)	(3)	(4)	(5)	(6)
Polity2 = D	0.46***					
	(0.05)					
Democracy = D		0.67***				
		(0.10)				
Autocracy = D			-1.25***			
			(0.35)			
Political Rights = D				1.51+		
				(0.84)		
Executive Constraints = D					1.54***	
					(0.15)	
Political Stability = D						2.03*
						-0.83
Fear of Failure Rate = D,	0.02	0.01	0.02	0.01	0.01	0.01
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Established Business Ownership Rate = D,	0.31**	0.31**	0.31**	0.31**	0.31**	0.30*
	(0.10)	(0.10)	(0.10)	(0.09)	(0.09)	(0.11)
Perceived Capabilities = D,	0.08+	0.08+	0.08+	0.08+	0.08+	0.09+
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
Growth Expectation = D,	0.02	0.02	0.03	0.03	0.03	0.04+
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
GDP Per Capita = D	0.00	0.00	0.00	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Constant	0.05*	0.05+	0.06*	0.03	0.05*	0.13***
	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03
Observations	475	475	475	478	481	451
R-squared	0.126	0.125	0.127	0.132	0.128	0.121
Number of country	78	78	78	77	79	77

Note. Dependent variable: TEA Rate.
Robust Standard errors are in parentheses.
* significant at *** p<0.001, ** p<0.01, * p<0.05, + p<0.10

Table 4. Regression of change in political legitimacy and freedom from corruption on change in TEA rate

Independent Variables	(1)	(2)
Political Legitimacy = D,	-2.45** (0.87)	
Freedom from corruption = D,		-0.09* (0.03)
Fear of Failure Rate = D,	0.01 (0.02)	0.01 (0.02)
Established Business Ownership Rate = D,	0.30** (0.09)	0.29* (0.11)
Perceived Capabilities = D,	0.09* (0.04)	0.09* (0.04)
Growth Expectation = D,	0.02 (0.02)	0.03 (0.02)
GDP Per Capita = D,	0.00 (0.00)	0.00 (0.00)
Constant	0.03 (0.03)	0.12*** (0.03)
Observations	481	454
R-squared	0.130	0.122
Number of countries	79	79

Note. Dependent variable: TEA Rate.
Robust Standard errors are in parentheses.
* significant at *** p<0.001, ** p<0.01, * p<0.05, + p<0.10

2.5 LIMITATIONS, DISCUSSION AND CONCLUSION

Drawing on a 14 year panel data (2001-2014) of entrepreneurship development (GEM data (Reynolds et al., 2005)) in combination with independent data on institutional indicators (Polity IV, Freedom House, Heritage Foundation and Quality of Government datasets), I tested how political institutional change over time, in particular, regime status change, political freedom, freedom from corruption, political legitimacy and political stability, impact the development of entrepreneurship over time in a sample of 77 countries. This study provides deeper insights into the effect of short-term change in institutional quality on entrepreneurship development. The study uses panel data analysis techniques and thus extends existing research that is mainly based on cross-sectional data (Aidis et al., 2008, Aidis et al., 2009, Estrin et al., 2012, Estrin and Mickiewicz, 2011b). The overall results indicate that countries which develop into more democratic and stable states, characterized by politically freer environments over time, experience improvement in entrepreneurship prevalence rates. More democratic political environments bring about better protection of property rights, and a fair legal framework generates stable political environments resulting in enhanced entrepreneurship (Bruno et al., 2008).

The results have shown that improvement in formal political institutions and political stability over time positively impact entrepreneurship development. The results thus far complement the existing literature which examines the effects of levels of institutions on the prevalence of entrepreneurship (Bowen and De Clercq, 2008, Levie and Autio, 2011, Aidis et al., 2008, Estrin et al., 2012, Estrin and Mickiewicz, 2011a, Davidsson and Henrekson, 2002) in that I find similar effects when examining change in institutions. My findings also extend the existing literature by using alternative measures of high order and constitutional level political institutions: political freedom, stability, freedom from corruption and regime status.

I find support for all the hypotheses. Additionally, I also find support for the impact of change in aggregate personal characteristics of positive self-efficacy perceptions as a control

variable, combined with political institutional change over time and positive rates of entrepreneurship.

More generally, this chapter study makes two contributions to comparative entrepreneurship research and to the wider institutional theory literature. It introduces a novel dynamic perspective emphasizing the dynamic change in both institutions and entrepreneurship. It also helps to understand which changes and in which institutions are most significant for entrepreneurship. The focus on institutional change enriches and advances both institutional theory and comparative entrepreneurship research.

I hypothesized that more free environments over time characterized by better political rights and civil liberties have a positive impact on entrepreneurial activity rates in the samples. For increasingly politically stable environments over time, I also find support for the hypothesis suggesting that these positively impact entrepreneurial development. This result is consistent with research by (Estrin et al., 2012) and confirms that when uncertainty in the business environment is lessened this encourages entrepreneurial start-ups (Acemoglu and Johnson, 2003, Williamson, 2000). The findings also suggest that property rights enforcement as a higher order institution enhances stability over time when effectively enforced as it provides for “transactional trust” which makes it easier for entrepreneurs to access to finance and other resources. In contrast, entrepreneurs face risks of opportunistic behaviour where the rule of law is weak; consistent with (Estrin et al., 2012). Strong rule of law over time brings along political stability, unlocking avenues for entrepreneurs to appropriately plan, coordinate and acquire resources in an expropriation-free environment (Tonoyan et al., 2010, Baumol, 1996). Rule of law also sustains stability as it reflects a strong legal framework, where business agreements and disputes are efficiently and impartially resolved and business procedures such as applying for finance are simplified and transparent, promoting more entrepreneurship development (Tonoyan et al., 2010).

As far as inducing a positive impact on entrepreneurship, democratization over time is an important factor and thus I also find support for this hypothesis. Similar results were found

regarding freedom from corruption. The results showed that freedom from corruption is statistically significant but less impactful to entrepreneurship than political institutional change; less corruption over time has a positive impact on entrepreneurship. One possible explanation is that formal institutional factors of political stability, political freedom and democratization may have a more relevant and direct impact on entrepreneurship development than corruption. Aidis et al., 2012 and Du and Mickiewicz, 2016 argue that corruption may be less harmful to an economic environment than an arbitrary and predatory government because corruption in its essence is an informally embedded behaviour that requires more than just improvement in the formal environment but additionally a societal change that needs to be targeted over a period of time to reap results. Alvarez and Urbano (2011) argue that control of corruption has a positive but lower impact on entrepreneurship because some countries, especially in the developing world, are characterized by high rates of unofficial economies where entrepreneurs assume the payment of bribes and other forms of transactions costs to be a business cost (Aparicio et al., 2016). Similar studies suggest that the regulatory environment is not necessarily related to the prevalence of entrepreneurship activity (Stenholm et al., 2013). This is also the case when entrepreneurs are faced with persistent and extensive formal institutional weaknesses and are thus pushed into finding other solutions to start and operate business ventures (Acs and Virgill, 2010).

The influence of change in institutions that spans over a 14-year period on the development of entrepreneurship in a large 77 country sample is the most significant contribution. While past research has investigated long-term historical changes as well as change related to the fall of communism, the present study is to my knowledge the first that examines change over the short-term in several formal institutions and how this change affects the development of entrepreneurship or in other words, the change in TEA. By relating short-term change in institutions to short-term change in entrepreneurship, this research also introduces a novel perspective to comparative entrepreneurship research by emphasizing the change in institutions (as explained above) and also the change in entrepreneurship (as the dependent variable). The findings also point to the important

role of political institutions, which are often overlooked in economics and business research (Easterly, 2013). This chapter also extends research in comparative entrepreneurship that hitherto has largely overlooked political institutions even though they can be a key source of stability and thus entrepreneurial behaviour. The important role of political institutions has been generally overlooked in the economics and business research (Easterly, 2013).

Additionally, the study improves upon existing research on entrepreneurship by employing several indicators of political institutional change over time rather than using single institutional indicators in cross-sectional format. Past research examines the impact of formal and informal institutions on entrepreneurship development; however, the use of several institutional change indicators, as well as panel data analysis, have not been as prevalent due to the lack of appropriate data. Recent research explored the influence of some institutions such as control of corruption and confidence in one's skills over time but as of yet, formal institutional change spanning a period of more than 10 years and a large country sample offering dynamism in the relationship between institutional change and entrepreneurship activity has yet to surface (Aparicio et al., 2016).

Because of the long period studied and employment of several political institutional change indicators over time, the results reflect the strong impact on entrepreneurship development and thus benefit existing entrepreneurship research. The robustness of the results on the importance of democratization, political freedom and political stability generate even more positive impact on entrepreneurship development and subsequently provides us with a better understanding of economic growth attributed to entrepreneurship development over a period of time.

2.6 Appendices

Table 5. Description of variables

Dependent variable	Description	Source
Change in Entrepreneurial activity (TEA rate)	Percentage of individuals involved in TEA (Total Entrepreneurial Activity) between the age 18-64 involved in either starting their own business or in managing their new business that is less than 42 months old.	GEM for the period 20001 to 2014
Independent variable	Description	Source
<i>Formal institutions: change in scores over time</i>		
Political Rights Index (political freedom)	Scores countries on a 7 to 1 ranking scale, with 1 representing the greatest of political freedom and 7 the smallest degree of political freedom (House, 2014a).	Freedom House for the period 2001 to 2014
Civil Liberties Index (civil freedom)	Scores countries on a 7 to 1 ranking scale, with 1 representing the greatest of civil liberties and 7 the smallest degree of civil liberties (House, 2014a).	Freedom House for the period 2001 to 2014
Polity2 Index (Democracy versus Autocracy)	Combines scores of Autocracy and subtracting scores of Democracy with a resulting unified polity scale ranging from +10 (strongly democratic) to -10 (strongly autocratic) (Marshall and Cole, 2008)	Polity IV project for the period 2001 to 2014
Democracy Index	Additive eleven point scale (0-10), ranging from 10 (most democratic) to 0 (least democratic) (Marshall and Cole, 2008)	Polity IV project for the period 2001 to 2014
Autocracy Index	Additive eleven point scale (0-10), ranging from 10 (most autocratic) to 0 (least autocratic) (Marshall and Cole, 2008)	Polity IV project for the period 2001 to 2014
Executive constraints index	Scores from 1 = “unlimited authority” to 7 = “executive parity”; the higher the value, the less arbitrariness (Marshall and Cole, 2008)	Index of Economic Freedom, Heritage Foundation 2001 to 2014
Freedom from corruption index	Freedom from corruption uses a 100 point scale; higher freedom from corruption score means less corruption; thus 1 = very corrupt government, 100 = very little corruption (Miller, 2015)	State Fragility Index, 2001 to 2014
Political legitimacy index	Political legitimacy: uses a scale from 0-3, with 0 = highest political legitimacy and 3 = least political legitimacy (Marshall and Cole, 2011)	Quality of Government 2001 to 2014
Political legitimacy index	Political stability: uses a scoring scales from -2.5 to 2.5, with higher scores corresponding to better outcomes; thus -2.5 is least politically stable and 2.5 most politically stable (Charron et al., 2010)	2001 to 2014

Political Stability Index		
<i>Aggregate personal characteristics change over time</i>		
Self-efficacy	Percentage of individuals who answer whether they believed to have the knowledge, skill, and experience required to start a new business.	GEM for the period 2001 to 2014
Fear of failure	Percentage of individuals who answer whether fear of failure would stop them from starting a business or not.	GEM for the period 2001 to 2014
High growth aspirations	Percentage of individuals who answer whether they have high aspirations and expect to generate 10 or more jobs in first 5 years.	GEM for the period 2001 to 2014
<i>Control variables</i>		
Owner/Manager established business	Percentage of owners/managers of established business	GEM for the period 2001 to 2014

Note. Descriptions and sources of all variables.

Table 6. Regression of change in Polity2 measures deconstructed to include democracy and autocracy on change in TEA rate

Independent Variables	(1)	(2)	(3)
Polity2 = D	0.46*** (0.05)		
Democracy = D		0.67*** (0.10)	
Autocracy = D			-1.25*** (0.35)
Fear of Failure Rate = D,	0.02 (0.02)	0.01 (0.02)	0.02 (0.02)
Established Business Ownership Rate = D,	0.31** (0.10)	0.31** (0.10)	0.31** (0.10)
Perceived Capabilities = D,	0.08+ (0.04)	0.08+ (0.04)	0.08+ (0.04)
Growth Expectation = D,	0.02 (0.02)	0.02 (0.02)	0.03 (0.02)
GDP Per Capita = D	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Constant	0.05* (0.03)	0.05+ (0.03)	0.06* (0.03)
Observations	475	475	475
R-squared	0.126	0.125	0.127
Number of countries	78	78	78

Note. Dependent variable: TEA Rate.
Robust Standard errors are in parentheses.
* significant at *** p<0.001, ** p<0.01, * p<0.05, + p<0.10

**Table 7. Regression of change in control of corruption
and voice and accountability on change in TEA rate (robustness)**

Independent Variables	(1)	(2)
Control of corruption = D,	2.45*	
	(1.21)	
Voice and accountability = D,		4.98**
		(1.68)
Fear of Failure Rate = D,	0.02	0.00
	(0.03)	(0.02)
Established Business Ownership Rate = D,	0.32**	0.30**
	(0.12)	(0.11)
Perceived Capabilities = D,	0.09*	0.09+
	(0.04)	(0.04)
Growth Expectation early-stage Entrepreneurial Activity: Relative Prevalence = D,	0.04+	0.05+
	(0.02)	(0.02)
GDP Per Capita = D,	0.00	0.00
	(0.00)	(0.00)
Constant	0.11**	0.14***
	(0.04)	(0.03)
Observations	424	451
R-squared	0.131	0.127
Number of countries	77	77

Note. Dependent variable: TEA Rate.
Robust Standard errors are in parentheses.
* significant at *** p<0.001, ** p<0.01, * p<0.05, + p<0.10

Table 8. All variables model

Independent Variables	(1)
Polity2 = D,	0.82 (1.50)
Democracy = D,	-1.70 (1.93)
Political Rights = D,	-0.52 (0.80)
Executive Constraints = D,	1.68 (3.14)
Political Stability = D,	1.73+ (1.04)
Freedom from corruption = D,	-0.09* (0.04)
Political Legitimacy = D,	-2.83* (1.11)
Control of corruption = D,	1.98+ (1.09)
Voice and accountability = D,	3.71+ (2.05)
Fear of Failure Rate = D,	0.03 (0.02)
Established Business Ownership Rate = D,	0.28*** (0.07)
Perceived Capabilities = D,	0.08** (0.03)
Growth Expectation = D,	0.03+ (0.02)
GDP Per Capita = D,	0.00 (0.00)
Constant	0.14 (0.14)
Observations	408
Number of country	74
R-squared	0.178

Note. Dependent variable: TEA Rate.

Robust Standard errors are in parentheses.

* significant at *** p<0.001, ** p<0.01, * p<0.05, + p<0.10

CHAPTER 3: IMMIGRATION AND ENTREPRENEURSHIP, A CROSS-COUNTRY ANALYSIS

Abstract

Immigration is considered to be strategic to recipient countries as it helps in closing the gap in the shortage of skilled and entrepreneurial labour (Xavier et al., 2012). Research evidence from many economies suggests that immigrants differ from home country nationals in their entrepreneurial intentions and motivations. Some studies investigated the positive externalities of immigrants, and effects on innovation and economic growth in several countries. This leads to the question of how do the host country institutional environments influence intentions and motivations of immigrants about self-employment and subsequent growth of their ventures. In this chapter, I utilize macro level institutional indicators of countries to investigate how immigrant entrepreneurship activity in host countries is influenced by institutional environments. I find strong support confirming the positive relationship between strong political institutions, freedom from corruption and prevalence of immigrant entrepreneurial activity compared to non-immigrants in host countries. The findings are central to policy makers in their attempts not only to integrate and assimilate immigrants into host country social environments but also to contribute to long term economic growth of a host country through targeted policies that aim to attract immigrant entrepreneurial efforts.

3.1 Introduction

Immigration to developed countries is a topic of extensive discussion in the current global political and socio-economic environment. Part of this debate is focused on the current crisis causing political upheaval in several countries in the Middle East and North Africa (MENA) region, such as in Syria and Yemen. The implications of global events such as Brexit are also topics of concern; as immigration policies face scrutiny and change, they can bring about uncertain consequences and challenges, and impact the business creation by immigrants.

The levels of immigrant entrepreneurial activity vary across countries (Xavier et al., 2012). Past entrepreneurship research has documented macro-level institutions as important in explaining cross-country differences in entrepreneurship more generally; however, the purpose of this chapter is to explore how institutions may impact immigrant entrepreneurship in particular. Therefore, I seek to answer: how do political institutions, economic freedom, and corruption influence immigrant entrepreneurial activity compared to nonimmigrants in the same environment. I aim to examine how these factors can shape immigrant entrepreneurship globally.

Recent empirical studies that use regional data illustrated the impact of immigrants on entrepreneurship in several countries. OECD reports, for instance, have shown that immigrants are more likely than non-immigrants to engage in entrepreneurship activity (Desiderio and Mestres-Domènech, 2011, Mestres, 2010). Research conducted in Germany has also found that immigrants earn considerably more from self-employment than their non-immigrant counterparts (Constant and Zimmermann, 2006). In Italy, Piergiovanni et al. (2012) find that immigrant entrepreneurship plays an important role in economic performance. They argue that immigrants contribute to economic growth through creativity acquired from a diversity of experiences, knowledge and the “know-how” coming from different countries. Complementing research efforts provide data and statistics on the impact of immigrant entrepreneurs in many developed countries such as the UK, US, Canada, and Australia. Business ownership rates are higher among the foreign-born than the native-born in many of these countries (Fairlie and Lofstrom, 2015, Clark and Drinkwater, 2006,

Clark and Drinkwater, 2000). One important aspect of this debate about immigration is about the influence of host country institutional environments on immigrant entrepreneurial activity compared to non-immigrants. The focus of this chapter is to examine how host country institutional environments that include political institutions, economic freedom and corruption influence immigrant entrepreneurial activity compared to non-immigrants. Within the institutional factors prevalent to entrepreneurship and immigration, this chapter focuses on the three mentioned previously.

The focal reason for this choice of factors is that migrants often choose the countries that they migrate to. Thus, those with more resources or who are more able to spot opportunities are likely to choose countries with good and strong political and economic institutions and less prevalence of corruption which are also usually developed economies. By seeking an opportunity, immigrants are also taking advantage of strong political and economic freedoms conducive to positive growth in economic activities such as entrepreneurship. On the other hand, refugees - those migrants who have been pushed rather than leaving their countries for economic opportunities, are more likely to live in less developed countries – the World Economic Forum states that 84% of refugees live in developing countries and therefore they may not reap any potential benefits from a positive institutional environment.

Another crucial reason for examining the above institutions is that immigrants are usually unfamiliar with their hosting country environment. This possess additional challenges for immigrants when navigating their new environment compared to non-immigrants. Arbitrariness of officials stems from lack of clarity of rules and regulations which can lead to implicit and explicit prejudice against immigrants. Therefore, host countries which are politically freer are likely to attract those immigrants who are seeking opportunities and who have resources as they navigate their new environment in comparison to non-immigrants. In freer more democratic countries it is easier to find out about the business environment because these environment are more transparent and have key attributes of clarity of rules and regulations. As (Przeworski, 2000) illustrated, the

more democratic the regime, the more political freedom associated. Another important association in democratic regimes is that there is a difference between the interactions and allocation of decision-making rights between a presidential system that strictly separates the powers between the executive and the legislature, or a parliamentary system, where a legislative majority elects the executive and there is less power separation (Przeworski, 2000). A well designed political system where a legislative majority can elect the executive such as a in a parliamentary system is able to protect property rights and political freedoms, thereby encouraging citizens' participation in the economic life but also encourage immigrants to capitalize on the freedoms when it comes to economic activity. Attention to these relations is therefore important to understand the effect of political institutions on different forms of entrepreneurship. My contribution from this chapter is thus to present one of the first empirical examinations of the impact of institutions on immigrant entrepreneurship status.

A different aspect of the debate is that immigration is a driver of economic growth in host countries through the promotion of immigrant entrepreneurship (Wennekers and Thurik, 1999, Wennekers et al., 1997, Hunt and Gauthier-Loiselle, 2008, Peroni et al., 2016). Immigrant entrepreneurs are arguably of particular importance to economic growth due to the unique human capital resources they are endowed with in comparison with home country entrepreneurs (Neville et al., 2014). Immigration and entrepreneurship are both regarded as drivers of economic growth; however, much of the existing research examines these concepts independently (Peroni et al., 2016, Borooah and Hart, 1999, Levie et al., 2007, Levie and Hart, 2013, Peri, 2012). Recent research efforts have attempted to investigate the contribution of immigrants to economic growth (Kerr et al., 2013, Wennekers and Thurik, 1999). However, less research has investigated the association between immigrants and entrepreneurship due to challenges in assessing the contribution of immigrants to entrepreneurship activity (Peroni et al., 2016).

In addition to contributing to economic development, economist William Easterly presents a second argument on the importance of immigrant entrepreneurship. Easterly reveals some of the

important hindrances for immigrants when he argues that many in developed countries, natives express hostility towards individuals emigrating from developing countries whilst expressing and feeling no hostility when they “in-migrate within the country” (Easterly, 2013). With the rise of right wing nationalist parties in Europe and elsewhere, this ideology is gaining ground. Easterly contends that alleviating poverty can only work when immigrants are treated fairly as individuals in their pursuit of a better quality of life including finding work or becoming self-employed in a stable and free environment.

“The development mindset is apparently that eliminating poverty only counts if you stay at home and not if you as an individual migrate to another country. Immigrants contribute to global economic development (GDP), however, development and aid are only particular about national development and not the individual influence of people in diaspora” (Easterly, 2013).

Tabellini (2010) argued that collectivist values of today are associated with autocratic regimes from the past. In his research, Tabellini found that regions with a history of autocracy have very low values of trust and respect for others outside the group. Alongside these discoveries, the study also noted that these autocratic countries and regions are still poorer than other more democratic and individualistic societies (Tabellini, 2010). As a result, business creation and economic growth of individuals in these countries are hindered (Easterly, 2013). Yet one important missing link in this mechanism is that these countries are more hostile to immigrants, hindering their economic contribution.

The rest of the chapter is organized as follows. In the next section, I develop the conceptual framework and hypotheses. The methodology, data and estimation strategy are explained in section three of this chapter. Results and findings are described in section four. Section five discusses these findings. Finally, in section six I conclude.

3.2 Conceptual Framework / Theoretical Background and Hypotheses

3.2.1 Entrepreneurship & Immigration

Entrepreneurship activity is influenced by multiple factors, which can be grouped as personal characteristics (e.g. age, education and gender etc.) and institutional environments (e.g. economic freedom and prevalence of corruption) (Aidis et al., 2008, Arenius and Minniti, 2005, Davis and McClelland, 1962). However, it has always been more challenging to examine the latter cluster of factors. Likewise, studies that examine the association between entrepreneurship and immigration can be grouped into two types (Peroni et al., 2016).

One group of research examines the unique features (individual factors such as demographics) of immigrants compared to nonimmigrants to explain differences in entrepreneurship activity. The second group explores the influence of institutional environments on immigrants and their entrepreneurship. Much of the research on immigration and entrepreneurship has focused on one group or the other in isolation, potentially giving rise to incomplete findings and omitted variable bias. Therefore, a combined view on the interrelationships between individual factors and institutional environments could provide richer insights. The next few paragraphs shed some light on the two streams of research relating to individual factors and institutions. I aim to bridge the gap between these two groups of studies and examine both socioeconomic individual and institutional factors in this chapter.

The first group of studies is based on such mezzo level social factors as the occupational characteristics, demographic background (ethnicity, age, gender, education etc.), and access to resources. Migrant entrepreneurs acquire access to much-needed resources such as capital, information, and labour through social networks embedded within the host country and the country of origin (Peroni et al., 2016, Altinay, 2008). Scholars suggest that immigrants choose self-employment through entrepreneurship to escape low paying jobs and discrimination in the job market, based on race, language, religion etc., see: (Hatton and Leigh, 2011, Light, 1979, Peroni et al., 2016), therefore accounting for the higher entrepreneurial rates among migrants. In countries

like the US, UK, Canada and Australia, there are practically no formal barriers to the immigrant's geographical or economic mobility, therefore enabling potential business start-ups (Aldrich and Waldinger, 1990).

The first model in the first group of studies, the *middleman minority* theory, developed by (Bonacich, 1973), suggests that immigrant businesses are more common amongst immigrant-concentrated areas in a host country. Within these immigrant groups, the economic role played by business owning immigrants is that they act as an intermediary between producers and consumers, owner and renter, and the masses and the elite. This usually means that they tend to be in self-employment, particularly in trade and commerce. Research has discussed that this is a natural reaction to the hostility immigrants face due to racial, ethnic and or religious differences from host nations. Therefore to escape this hostility and its resultant economic discrimination, immigrants are pushed from full-time employment to self-employment (Bonacich, 1973). Similar to (Easterly, 2013), *middleman minority* theory purports that minority immigrant entrepreneurs have high "intra-group solidarity" and therefore do not integrate with the rest of the society, supporting a collectivist's attitude that shuns outsiders. These close knit communities usually use this collectivist's mechanism to bypass formal and informal institutions of their host nations. Nestorowicz (2012) argues the following: "Owing to solidarity, organisation, thrift, and access to low-cost co-ethnic labour force middleman minorities are able to compete with native businesses successfully enough to generate heavy concentrations of ethnic enterprises in certain middleman-specific industries or occupations, what may further lead to ethnic domination of these markets." However, this may bring about hostility towards the immigrant population that may result in less assimilation (Easterly, 2013, Nestorowicz, 2012).

The second model called *ethnic enclaves* was developed to emphasize the importance of addressing the internal economic structures used within the immigrant societies (Nestorowicz, 2012). Ethnic enclaves are defined as areas where there exists a concentration of a certain ethnic group within a host country that share the same values, norms and attitudes as well as similar

demographic characteristics (Altinay, 2008, Peroni et al., 2016). These commonly shared values and cultural norms present in an ethnic enclave provide several essential benefits to immigrant entrepreneurs, including facilitating business start-up decisions and acquisition of resources such as capital, or information (Auster and Aldrich, 1984, Peroni et al., 2016). However, similar to middleman minorities, ethnic enclaves arguably create a disconnection between the resident population in a host country and the immigrant community in the enclave, thus encouraging feelings of discrimination and antagonism between the immigrant and non-immigrant populations (Peroni et al., 2016). The difference between the middleman minorities and ethnic enclaves theories is that the middleman minorities theory assumes that immigrants are inherently more inclined to be entrepreneurial within communities in which they feel attached while the ethnic enclaves theory assumes that immigrants benefit from the support of other immigrants in their ethnic enclave, thus resulting in the facilitation of entrepreneurial activity.

The second group of theories explores the relationship between features of the institutional environment of the host country and individual characteristics of immigrant entrepreneurs. Some scholars have credited immigrants' choice of self-employment to cultural attributes in the home country that encourage an entrepreneurial attitude (Basu and Altinay, 2002, Levie and Hart, 2013). Another name given to these theories is the *interactive model*, and it postulates that immigrant entrepreneurial activity takes place because of opportunities perceived by immigrants originating from their exposure to host country market structures and institutional environment (Aldrich and Waldinger, 1990, Peroni et al., 2016). In extending this interactive model, (Kloosterman and Rath, 2001, Kloosterman et al., 1999) incorporated the country's institutional framework (formal and informal institutions). Calling it "mixed embeddedness", the authors argued that immigrants belong to specific ethnic networks but they are also *entrenched and predisposed to the* unique political and socioeconomic institutional environments of their hosting country (Peroni et al., 2016). Building on this, the research aims to investigate the impact of formal political institutions and informal institutions (corruption) as well as economic freedom in the host country when examining

immigrant entrepreneurship activity. Thus, this research seeks to answer the question: how do institutions influence immigrants' entrepreneurial activity.

3.2.2 Formal political institutions' effects on immigrant entrepreneurship: political freedom

Stability of the political institutional environment provides a positive and conducive environment for entrepreneurs to thrive. However, research has found that insecurity coupled with lower economic growth rates arising from instability of institutions leads to weak formal enforcement of political rights and freedoms and can, therefore, deter potential entrepreneurs from actively pursuing entrepreneurial activity in a host country (Aidis et al., 2008). Immigrants are more likely than non-immigrants to be unfamiliar with the host country institutional environment (Neville et al., 2014) and therefore, unstable institutions provide an additional challenge for these immigrants, constraining their entrepreneurship activity.

Evidence suggests that political institutions are important in recognizing whether countries have well-defined and enforced property rights or weak protection of these rights (Aron, 2000). As defined earlier in this thesis, political institutions are those institutional structures that establish and standardize access to economic opportunities, entrepreneurial rents and rule of law (Autio and Fu, 2015). However, the impact of political institutions (e.g. political freedom, democracy, political globalization, and regime durability) on entrepreneurship development in particular remains under-researched, even though much institutional research has revealed that political institutions can have powerful influences on economic activity, also via shaping economic institutions (North, 1990, North, 1994, Acemoglu et al., 2012, Weingast, 1995, Autio and Fu, 2015, Easterly, 2013). Strong political institutions also encourage less economic and political corruption (Anokhin and Schulze, 2009), therefore, stability and the high quality of the political institutional environment provides a positive and conducive environment for entrepreneurs to thrive and merits further investigation.

Thus, this research predicts that the degree of political stability as measured by the variability of political freedom is expected to have a stronger impact on immigrant entrepreneurial activity in a host country compared to non-immigrants (Laplume et al., 2014). The concept of

political freedom is identified by a combination of factors that represent political rights and civil liberties as crucial pieces of this construct. Political rights enable people to participate freely in the political process: the right to vote freely for distinct alternatives in legitimate elections, compete for public office, join political parties and organizations, and elect representatives who have a decisive impact on public policies and are accountable to the electorate. Whilst civil liberties represent freedom of expression and belief, associational and organizational rights, rule of law, and personal autonomy without interference from the state. These elements having an ensuing impact of stability over time where usually only “natural” changes in the environment take place (eg. newly elected president, new party wins the election in the parliament). (Przeworski, 2000) illustrate that these “natural” changes in institutions are not radical and therefore have low to no impact on economic and social activity over time.

Democratic and politically freer institutions in contrast to autocratic and less free institutions allow for a representative political agenda where property rights are universally protected and abuse of power is repressed, creating a better environment for entrepreneurship (Autio and Fu, 2015). Thus, more politically free countries motivate potential immigrant entrepreneurs to start business ventures and participate in economic activity (Autio and Fu, 2015) as more opportunities are identified by these immigrants. Although I did not test for this relation, however, host country citizens on the other hand may not perceive this conducive environment as an opportunity because it may be perceived that the labour market (especially in developed countries) is advantageous for paid employment; additionally, embarking on a business start-up is a complicated task with numerous considerations (e.g. access to resources, being risk averse, etc.) (Parker, 2009). Political freedom illustrates the strength and formal enforcement of strong property rights, and more generally, the rule of law. The degree to which a country is more democratic than autocratic is expected to encourage the entrepreneurial entry (Laplume et al., 2014). Consequently, I argue that more politically free countries positively influence immigrant entrepreneurship activity and entry in comparison to non-immigrants.

Acemoglu et al. (2005) discuss two related aspects of property rights. The vertical aspect which is about “the risk of expropriation by arbitrary government”, and the horizontal aspect which is associated with the quality of contracting institutions (Estrin et al., 2012). Strong political freedom ensures the protection and stability of property rights; in particular, Weingast (1995) views the limits imposed on the ability of the government to confiscate wealth as the constitutional foundation conducive to entrepreneurship (Estrin et al., 2012). Immigrant entrepreneurs are especially vulnerable to this, because of the increased uncertainty associated with their new environment as well as with having to deal with issues of institutional discrimination. A move toward democracy is conducive to a reduction in institutional discrimination. In turn, the political instability measures used in economic growth literature summarize a part of the uncertainties faced by entrepreneurs, and by immigrant entrepreneurs (Ali, 2001). Immigrants are more likely to take into account the “probability that the rules of the game will still be in force tomorrow” (Ali, 2001).

Likewise, a democratic system may help to reduce the likelihood of the “long-term radical political change”, which positively impacts economic activity by reducing uncertainty and increasing incentives to invest (Feng, 2001). This is another reason why political freedom is likely to have a greater positive effect on immigrants’ entrepreneurship activity.

Another important facet of political freedom and entrepreneurship is the level of political globalization. As a nation-state transforms itself into a competitive state, the extent of political globalization becomes a crucial factor in this transformation. When a country’s institutional framework develops at the national level, so does its political, economic and social relationships and connectedness at a multinational/global level ‘so that (countries) increasingly must be seen as components in a larger and more complex international political configuration.’ (Ougaard, 2004, Cerny, 1997). Within an increasingly interconnected international and political system, the integration of the global economy intensifies. Immigrants are usually endowed with unique skills, capabilities, cultural norms and values from their countries of origin which they can utilize in their hosting countries. With more interconnectedness, it is likely more important for immigrants to have

a breadth of avenues and cultures through which they can utilize these unique skills and share their traditions as well as seize entrepreneurial opportunities based on their distinctiveness. Being a proxy for general openness of a country, strong political globalization can benefit immigrants as they reap the benefits of a more welcoming and interconnected business environment in comparison to less politically globalized countries. Consequently, the greater the intensity of this global connectedness is likely to have a greater positive influence on immigrants' entrepreneurial activity in light of economic opportunities in comparison to non-immigrants.

More so, having a parliamentary political system is typically associated with free and transparent elections that reflect on political freedoms. Parliamentary systems are argued to be more conducive to the stability of democracy than in presidential systems. The presidential system usually takes an 'undesirable element of winner-take-all politics into societies..' (Horowitz, 1990). While in a presidential system, a president is elected as a sole entity; in a parliamentary system, there are many possible outcomes and numerous political parties can have a presence which lessens the possibility of conflicts as well as give a larger number of people in society a voice in their chosen leadership. This reflects upon a more politically free environment which in hand is conducive to favour a positive outlook on immigration policies and associated economic growth through immigrant entrepreneurial activity.

Finally, political regime durability represents the number of years since the most recent regime change and/or the end of transition period identified by the lack of political stability over time (Marshall et al., 2010). Research has found that semi-democratic regimes are less durable over time than autocratic or democratic regimes (Knutsen and Nygård, 2015, Gurr, 1974). Therefore, a more democratic polity associated with (i.e. higher regime durability) is favourable for entrepreneurship and in hand reflects on immigrant's positive entrepreneurial activity development in such environments.

To test the effect of political freedom institutions on immigrant entrepreneurship activity, I use several measures and I posit therefore:

H1a: Strong political freedom in recipient economies positively influences immigrant entrepreneurial activity compared to home country entrepreneurs.

H1b: Democratic institutions in recipient economies positively influence immigrant entrepreneurial activity compared to home country entrepreneurs.

H1c: Greater political globalization in recipient economies positively influences immigrant entrepreneurial activity compared to home country entrepreneurs.

H1d: Parliamentary political systems in recipient economies positively influence immigrant entrepreneurial activity compared to home country entrepreneurs.

H1e: High regime durability in recipient economies positively influences immigrant entrepreneurial activity compared to home country entrepreneurs.

3.2.3 Corruption, Government Effectiveness, and Immigrant Entrepreneurship

Corruption is typically defined as the abuse of public power and authority for the private benefit of government agents (Anokhin and Schulze, 2009). It can be present in several layers of institutions from the legal and judicial down to the lower layers of administration, in any one country (McMullen et al., 2008) leading to government ineffectiveness. If left untouched, corruption leads to insecurity and uncertainty in the economic environment and can challenge the foundations of institutional trust needed for entrepreneurial development (Anokhin and Schulze, 2009). It also leads to market inefficiencies, again resulting in a decrease in entrepreneurial activity (Aidis et al., 2008). With the prevalence of corruption, the quality of the bureaucracy and independence of the civil service from political pressures becomes negatively affected leading to loss of credibility and government ineffectiveness.

Decisions to migrate are typically complex and multi-faceted and many times depends on the interplay of several factors including corruption in immigrant countries of origin. Skilled workers for example tend to leave corrupt countries of origin to move to less corrupt environments where employment is less hampered by nepotism (Ariu and Squicciarini, 2013). Therefore, immigrant entrepreneurs may face an increasing burden when pursuing entrepreneurial activity in

an environment hampered by favoritism and opportunism because, in the absence of effective enforcement of contracts and laws, depending on legal contractual agreements becomes an unsafe and risky option (Anokhin and Schulze, 2009).

The inability to enforce contracts due to corruption tends to typically be locally embedded in the institutional environment, particularly in developing countries where immigrants usually come from resulting in less confidence in the appropriate systems to appeal to formal institutions. Because these rights are not universally protected due to the prevalence of corruption, immigrants will have less confidence in formal institutions. The alternative to institutional trust, in this case, would be to rely on the foundations of ethnic belonging, social capital, and connections. However, these alternatives are not long term economic solutions because they have their own limitations (such as exposure to adverse selection and loss of potential economic linkages through this type of selection; see, (Anokhin and Schulze, 2009). Consequently, I agree with the literature arguing that efficient and appropriately regulated environments that are not fraught with corruption will have a positive impact on immigrant entrepreneurial activity compared to non-immigrants (Djankov et al., 2006a, Aidis et al., 2008, Estrin et al., 2013). Government effectiveness has been shown to be a strong macro-level predictor of democratic support (Magalhães, 2014). In more democratic regimes, government effectiveness, which implies the quality of the policy making formulation and implementation, quality of the bureaucracy and satisfaction of citizens to the credibility of the government, positively influence democratic support and therefore more political freedom. Therefore, I also argue that higher government effectiveness positively influences immigrant entrepreneurial behaviour.

The hypotheses for this section are below:

H2a: More freedom from corruption in recipient countries positively influences immigrant entrepreneurial activity compared to home country entrepreneurs.

H2b: Stronger government effectiveness in recipient countries positively influences immigrant entrepreneurial activity compared to home country entrepreneurs.

3.2.4 Economic Freedom and Immigrant Entrepreneurship

This set of hypotheses is concerned with how the institutions of economic freedom can influence immigrants' business start-up rates. Several authors argue that entrepreneurs and private investors are concerned more about the stability of the country's economic environment than the stability of the political environment (Ali, 2001). Private investors and entrepreneurs alike take their business decisions, by considering a number of important economic factors such as wages, interest and exchange rates, taxation and regulatory policies. When these business factors are deemed to be unstable, confidence and 'animal spirits' (Keynes, 2016) decrease, raising the question as to whether immigrant entrepreneurs should invest or postpone (Ali, 2001). Business freedom is measured as an index of regulation and business friendliness as well as competitiveness. In particular, start-up regulation is defined as how easy or difficult it is to open and operate a business (McMullen et al., 2008, Heckelman, 2000). More regulations imposed by a government usually translates into further difficulties for entrepreneurs that want to start business ventures. More so, immigrant entrepreneurs face the burden of uncertainty and lack of knowledge and experience with local host country business regulations and start up procedures, and are therefore more disadvantaged. The efforts and time required to register a new business and other regulations can vary significantly between countries. For example, Singapore is ranked number one in the World Bank's Ease of Doing Business report in 2016 for continuing to be the economy with the most business-friendly environment, the United Kingdom comes in at 6th, whilst for Germany, the ranking is 15th globally.

Immigrants are often faced with additional restrictions on business freedom in their host countries. Some of these restrictions are in the form of labour movement regulation for example, which can impede the process of hiring foreign-born as well as restrict their access to investment opportunities (Clark et al., 2015). Some other business freedom restrictions include access to finance for immigrants and the difficulty to provide settled immigrants the same access to business start-up tools (e.g. entrepreneurial support programs). Furthermore, differences in how a country

implements its business regulations can also influence immigrant entrepreneurship. One country may apply the regulations and laws stated in a transparent and clear manner whilst another country may have issues in the application. Consequently, variations and irregularities may occur opening the path for less transparent and corruption-prone business environments.

Next, financial freedom measures the relative openness of a country's banking and financial environment in providing lending and other financial services to promote businesses and economic growth. Much research has cited that access to finance is a major constraint to entrepreneurship (Korosteleva and Mickiewicz, 2011, Ho and Wong, 2007). Therefore, a developed financial sector plays a major role in assisting with the financing hardships faced by entrepreneurs. Immigrant entrepreneurs, in particular, are more likely to benefit from higher financial freedom as they are more likely than non-immigrants to face hardships in environments hampered by restrictive financial regulatory systems that impose restrictions and heavy regulation and prevent implementation of many essential financial services due to discrimination, settlement, trust and more importantly shorter credit histories – crucial criteria for lending in many countries. When procedures of opening bank accounts, lending and operating other financial services is deemed unfriendly (heavy bureaucratic requirements, timely and costly), then that leaves a burden on potential investors and entrepreneurs, some of which may choose not to seek formal financial assistance. Consequently, I posit that immigrants are more likely to enter entrepreneurship in countries with higher financial and business freedom.

H3a: Strong economic freedom in recipient economies positively influences immigrant entrepreneurial activity compared to home country entrepreneurs.

3.3 Data and methods

3.3.1 Data sources

I empirically analyse the impact of macro institutions of political freedom, informal corruption practices, government effectiveness, as well as economic freedom on individual Total Early Stage (TEA) entrepreneurial activity status in a cross country sample for the year 2012. I

merged data for this chapter from several sources including: The Global Entrepreneurship Monitor (GEM), Quality of Government (QoG) database, Heritage Foundation, Freedom House, Polity IV project and the World Bank World Development Indicators (WDI). The sample is obtained from all countries surveyed in GEM data for the year 2012 resulting in a cross-country sample of a maximum of 60 countries and 178,688 observations. This maximum number is based on the measure of TEA status (dependent variable, explained below). Year 2012 was chosen because the GEM survey for that year contains specific questions on migration. The next few paragraphs discuss the data sources and setup.

GEM is a global project developed by the collaboration of a number of established academic and non-academic institutions around the world. The key goal of the project is providing robust data that can be used to investigate differences in attitudes, perceptions, motivations, and rates of entrepreneurship across many countries. In addition, GEM provides data that measures diverse characteristics of entrepreneurship including types of entrepreneurs, entrepreneurial intentions and others (Bosma et al., 2012). GEM data are collected via surveys taken from population-representative stratified samples of at least 2000 individuals per country. Both formal and informal entrepreneurs are included in the dataset, thus mitigating any potential response bias, and providing a comprehensive outlook on entrepreneurial activity. Therefore, GEM database offers the research and policy making communities an internationally comparable data set that is commonly accepted as a source of data to use in entrepreneurship research (Freytag and Thurik, 2010, Bowen and De Clercq, 2008, Aidis et al., 2008, Estrin et al., 2012, Estrin et al., 2013), among others. The design and sampling procedure of GEM is reviewed by (Reynolds et al., 2005).

The remaining datasets provide several of the measures used in this analysis. QoG is a unique dataset that compiles several datasets drawing on a number of sources about political institutions and good governance. From QoG and the Polity IV project I obtain the formal institution's data on political freedom proxied by Polity2 measure, Freedom House score (democracy vs autocracy), political globalization, and the type of political system (parliamentary

vs presidential). QoG also provides data on freedom from corruption and economic freedom (I use business and financial freedom indicators). WDI provides data on government effectiveness, measures of corruption and GDP per capita. Finally, I also acquire several control and robustness measures from QoG, Polity IV, and GEM datasets. Table 10 in the appendix illustrates the list of variables used in this study including a brief description for each variable and the sources.

3.3.2 Dependent Variable

I use Total Early Stage Entrepreneurial Activity (TEA) status as the dependent variable. TEA takes the value of one for the working age adults in a population who are either involved in the process of starting a business venture or are active owners-managers of businesses which are less than 42 months old (Wong et al., 2005, Reynolds et al., 2005). The variable is constructed from the GEM dataset.

3.3.3 Independent variables

As noted earlier, this investigation examines how formal political institutions (political freedom), informal institutions of corruption, and finally business and financial freedom influence immigrant participation in entrepreneurial entry, when also controlling for individual level characteristics (immigrant vs non-immigrant, age, gender, education, self-efficacy, and opportunity perception). Several measures and robustness indicators of political institutional factors are used in this investigation to ensure validity and reliability; some of which have been previously used in the literature. I look at TEA status of immigrant entrepreneurs to identify immigrants vs non-immigrants. I use the GEM indicator of migration in which a question is asked whether they were born in the country they are in the recipient country or elsewhere. This is coded 1 for immigrant and 0 for home country entrepreneurs.

Macro level predictors (H1): Political Institutions

I proxy for political freedom in a host country by using the Polity2 indicator from Polity IV database (Marshall and Jaggers, 2002). The Polity2 indicator measures a country's political freedom over time by defining regime characteristics through the lens of democracy versus

autocracy (Marshall and Cole, 2008, Marshall and Cole, 2011, Marshall and Jagers, 2002). The polity score ranges from -10 which indicates a strongly autocratic regime to +10 for strongly democratic regimes. Therefore, countries which score higher are more politically free.

The Polity2 score comes from QoG (Charron et al., 2010, House, 2014a). To ensure robustness, I use both the Polity2 and Freedom House index, which follows a similar pattern of measurement, where 0 indicates least democratic and 10 as most democratic (Marshall and Jagers, 2002, Charron et al., 2010). The imputed version from QoG used has values for countries where Polity data is missing and it is constructed by regressing Polity on the average Freedom House measure (Charron et al., 2010). It is constructed by averaging the Freedom House measures of political rights and civil liberties and transforming them to a scale from 0-10 and transforming Polity into a similar scale. These variables are then averaged to the imputed measure. Hadenius and Teorell (2005) find that this imputed average score has more validity and reliability than its separate elements.

Another measure of political freedom is the political openness and democracy indicator from the QoG database (Charron et al., 2010). The degree of political openness and democracy is measured using a unique political globalization index (Dreher, 2006). It is “measured using the number of embassies and high commissions in a country, the number of international organizations of which the country is a member, the number of UN peace missions the country has participated in, and the number of international treaties that the country has signed since 1945” (Charron et al., 2010, Dreher, 2006).

Next, a measure of types of political system is obtained also from the QoG database (Charron et al., 2010). This political system measure categorizes constitutional institutions into three types: presidential, assembly-elected president and parliamentary with the latter indicating more political freedom (Charron et al., 2010).

I examine a final measure of regime durability. Regime durability is measured by the number of years since the most recent regime change defined by a three point change in the polity

score over a period of three years or less, or the end of a transition period defined by lack of stability in political institutions (Charron et al., 2010).

Macro level predictors (H2): Corruption and Government effectiveness

Like political measures, corruption indicators are collected from several sources. These sources are the QoG database, Heritage Foundation, Transparency International and the World Bank Governance Indicators (review table 33 in chapter 5 appendix for details of all measurements). I use an indicator from Heritage Foundation/QoG to measure freedom from corruption. Freedom from corruption relies on the corruption perceptions index (review table 33 in appendix chapter 5) and measures the level of corruption in different countries and is also correlated with levels of economic freedom, i.e. higher levels of freedom from corruption correlate to higher economic freedom and vis versa (Charron et al., 2010). This relationship also implies that the higher the freedom from corruption in a country, the better the control of corruption score. Control of corruption looks at perceptions of corruption conventionally defined as the exercise of public power for private gain but can have different aspects of corruption incorporated ranging from additional payments/bribery which affects the economic environment directly to also measuring “grand corruption” or political corruption (Charron et al., 2010).

Similar aspects are captured by political corruption. However, political corruption measures distinct types of corruption that cover both areas and levels of the polity realm, distinguishing between executive, legislative and judicial corruption. The concept also differentiates between corruption at the highest levels of the executive branch of the government (rules, cabinet, ministers etc.) and in the public sector at large (Charron et al., 2010). What makes this concept unique is that it captures different types of corruption: ‘petty’ and ‘grand’; bribery and theft; both corruption aimed at influencing law making but also corruption that affects implementation. Therefore, political corruption includes elements from control of corruption, freedom from corruption and the corruptions perceptions index and can thus identify the level of

government effectiveness in terms of quality of the public service provision and the quality of the bureaucracy.

Government effectiveness is measured using a variable from the QoG/World Bank Governance Indicators, which combines responses on the quality of public service provision, quality of bureaucracy, independence of the civil service from political pressures and credibility of the government's commitment to its policies (Charron et al., 2010).

Macro level predictors (H3): Economic Freedom

Lastly, I proxy for economic freedom using business and financial freedom constructs which are captured from the QoG database. Business freedom is scored using 10 components all weighed equally, based on data from the World Bank's Doing Business Report (for a review of components, check Charron et al., 2010). Financial freedom measures the openness of a country's banking and financial sector by determining the extent of government regulation and intervention in the financial services system. The financial environment is therefore measured using a score between 0 and 100, where 100 is the maximum degree of freedom (Charron et al., 2010).

Control variables

Several streams of literature have argued that there are factors which explain why immigrants seek entrepreneurship rather than employment. Many of these studies cite that immigrants are pushed into self-employment affected by individual characteristics such as age, gender, education etc., and as a result of facing discrimination in the host country which makes finding employment challenging (Fairlie and Lofstrom, 2015, Fairlie and Robb, 2008, Collins, 2003, Aldrich and Waldinger, 1990, Waldinger et al., 1990). The role of individual level characteristics which influence entrepreneurship has been studied widely in literature (Arenius and Minniti, 2005, Levesque and Minniti, 2006, Minniti and Nardone, 2007, Aidis et al., 2008, Estrin and Mickiewicz, 2011b). Age, for instance, has been shown to have an inverted U-shaped relationship with entrepreneurship activity rates. Empirical evidence found that individuals between 25 and 35 years old are most likely to be nascent entrepreneurs (Acs et al., 2004, Arenius

and Minniti, 2005); however, there is a higher likelihood for older individuals to be established business entrepreneurs. Older individuals may be better equipped to run established businesses as they are more likely to have acquired the experience and social capital to succeed in business. Therefore, I control for age in my analysis. I use logarithmic age in my analysis to try and achieve a normal distribution but also for ease of interpretation as is routinely used in regression analysis (Wooldridge, 2010)

In line with past research on the relationship between gender and entrepreneurship, I also control for gender as it has been argued that gender differences have an impact on business creation. Several studies examined the similarities and differences between genders especially with respect to individual psychological, personal, and attitudinal characteristics (Brush, 1992, Ahl, 2006); however, many of these studies have yet to examine these effects on immigrant females in particular. The gender debate in entrepreneurship has been a precarious one. Due to the societal expectations toward women in the social context of a family, such as raising children and domestic caring, they are more likely to have a lower engagement in entrepreneurship activity than men (Estrin and Mickiewicz, 2011b).

The relationship between education and entrepreneurship, on the other hand, has been less clear in research. Arenius and Minniti (2005) argue that entrepreneurs usually have a 'broad range of talents' but no specific higher education qualifications. Other scholars find that entrepreneurial entry decisions are influenced by education (Delmar and Davidsson, 2000); whilst (Uhlener and Thurik, 2004) find that entrepreneurship rates are negatively correlated with higher education. More so, I only find limited research on the role of education on immigrants and how it impacts their entrepreneurship activity (Peroni et al., 2016).

I proxy for financial resources using a dummy variable that represents previous provision of funds for business start-ups in the form of business angels. Being a business angel in the past is associated with not only capital provision but also experience and contact networks which can aid

potential entrepreneurs in their ventures (Storey, 2003). Therefore I control for this being a business angel in my estimations.

As established in the psychology literature, confidence in one's skills and abilities is an important aspect of the intentionality and the locus of control in entrepreneurial start-up decisions (Arenius and Minniti, 2005). Starting a firm requires intentionality and it is also an activity that requires repeated attempts to induce control over the process in order to achieve success and that requires confidence in an individual's skills and abilities – self-efficacy. Therefore, I also control for self-efficacy.

Opportunity perception presents itself as another important factor linked to higher likelihood of entrepreneurial activity. Alertness to untapped opportunities (Kirzner, 1978) is a necessary prerequisite to many entrepreneurial endeavours and therefore an individual's perception of opportunity is also controlled for.

At low income levels, starting a new business venture may substitute for weak labour markets but can also provide high expected returns that deter from employment and promote opportunity. High income levels on the other hand may decrease a household's financial strains, therefore increasing the likelihood of starting a business (Arenius and Minniti, 2005). Thus, I also control for income level.

Employment status has also been considered an important factor in determining entrepreneurship as an employment choice in empirical studies in economics. Generally, research has argued that employed individuals are more likely to start new businesses however less agreement exists about the relationship between aggregate unemployment and decisions to become entrepreneurs (Arenius and Minniti, 2005, Blanchflower, 2004).

Age, gender, education, income level, being a business angel, employment status, self-efficacy and opportunity perception controls are taken from the GEM Adult Population Survey of 2012. Age is a continuous variable measuring the individuals in the sample between ages 18-64 years old. I generate a dummy variable for gender. GDP control is measured using WDI GDP per

capita for the year 2012. I use the self-efficacy indicator found in GEM to measure the percentage of individuals between age 18-64 who indicated that they have confidence in their skills and capabilities to start a business venture (Gartner, 1985, Arenius and Minniti, 2005, Baron, 2000). I also examine immigrant opportunity perception using an opportunity variable available from GEM. Opportunity is constructed by asking respondents a question whether they see that there are business opportunities within the next 6 months in their environment.

3.3.4 Empirical model

This cross-sectional study utilizes multi-level random effects logistic regression models to compare the individual likelihood of an immigrant participating in TEA or no entrepreneurial activity. The levels in this analysis are individual and country levels. The baseline category is participation in TEA (coded as 1) and no entrepreneurial activity (coded as 0). I use the 'Xtlogit' command in Stata to run these models to estimate the impact of political freedom, corruption, and business freedom, controlling for individual level characteristics, on entrepreneurship. The Xtlogit regression command corresponds to a binary response logit estimation technique that is used to estimate the probability of a binary response occurring based on one or more independent variable(s) (Cox, 1958), with random effects. The model aims to isolate the impact of immigrant status on entrepreneurship, accounting for country level political freedom, corruption and business freedom whilst controlling for individual characteristics. Therefore, the random effects multi-level logit model is an appropriate estimation technique to use in this analysis as the dependent variable is divided into two categories and I am seeking to estimate the likelihood that the independent variables discussed above influence TEA entrepreneurial activity.

To examine the impact of institutional factors and how they influence migrant entrepreneurship activity I use random (country level) effects models. For instance, in model one, I estimate the interaction in Polity2 with migrant status and the impact it has on the dependent variable TEA. The same estimation procedure applies for all models. β_0 is the constant term; β_{1-n} are coefficients of variables to be estimated that correspond with the 3 sets of hypotheses. Table 9

in the appendix summarizes the hypotheses and their expected signs, followed by the empirical models. Table 10, also in the appendix, summarizes the variables and their sources.

3.3.5 Econometric Models

In this section I present the main models tested in this analysis. Each section below corresponds to the respective set of hypotheses as discussed earlier in this chapter. I estimate variations of the basic political freedom model below by adding (1) an interaction between Polity2 and migrant, (2) an interaction between Imputed Polity2 and migrant, (3) interaction between political globalization and migrant, (4) interaction between political system and migrant, (5) interaction between regime durability and migrant. The remaining 2 sets of hypotheses (corruption, government effectiveness and economic freedom) are tested in a similar manner. More econometric model elements can be found in the appendix titled Econometrics models details.

3.4 Results

3.4.1 Descriptive statistics: Sample, Demographics, Self-efficacy, and Opportunity

Tables 11 and 12 of the descriptive statistics below summarize the details of this study's sample and reveal a few important points. The sample consists of a minimum of 170,166 and a maximum of 178,688 individual observations from 60 countries in 2012. Among the full sample (immigrants and non-immigrants), almost 12% indicated that they are involved in Total Early Stage Entrepreneurship (TEA) which is approximately 21,450 individuals. However, upon further exploration, nearly 10% of those engaged in TEA are immigrants, compared with the percentage of non-migrants. An interesting statistic concerns female participation in TEA. Based on the sample, more female immigrants are involved in TEA than male immigrants.

Across the 60 countries, about 7% of immigrants in the sample stated they were born in Russia, while others coming next on the ranks were born in Germany (around 4%), Iran 3% and Malaysia 2%. The tables titled *Country of Origin and Correlations* respectively illustrates countries of origin of migrants and a correlations analysis and can both be found in the appendix. Finally, among the immigrant sample, only 30% indicated that they see an opportunity to start a business

venture within the next 6 months. More than 50% of the sample reported that they have positive perceptions about self-efficacy suggesting that they see themselves as having the skills required for starting a business venture.

3.4.2 Formal institutions: Political Freedom

The average value of the political freedom index proxied by Polity2 (Marshall and Jaggers, 2002, Charron et al., 2010) is around 7.5 suggesting that most respondents in the sample live in relatively democratic and politically free institutional environments. I find additional support for this statistic from the Imputed Polity2 and Freedom House (House, 2014a, Charron et al., 2010) results which reveal the same democratic pattern across the sample. Further exploration of the descriptive statistics indicates that almost 70% of immigrants reside in countries with high ratings of political freedom.

The statistics also suggest that most respondents in the sample live in countries which are more open to political globalization based on the high number of operational embassies and high commissions suggesting strong relationships with other nations. Other results suggest that 51% of individuals in the sample live within a parliamentary political system suggesting that many live in relatively developed countries.

3.4.3 Business and Financial freedom, Government effectiveness and Corruption

Results for freedom from corruption reveal that surprisingly only about 50% of the respondents in the sampled countries revealed little to no corruption while the remaining 50% are on average on the highly corrupt end of the spectrum. This may be an indication of the pervasive nature of corruption even in relatively politically free countries. The corruption perceptions index corroborates the results and reveals a similar pattern. After further investigation using several other measures of corruption such as the corruption perceptions index (CPI), political corruption and control of corruption, the results follow the same pattern.

In terms of business and financial freedom, the Heritage Foundation indices reveal that there is relatively high economic freedom in the sampled countries. As for government

effectiveness, the results reveal that a more effective government is associated with higher business creation by immigrant entrepreneurs.

3.4.4 Hypotheses Testing

Tables 13 to 15 below report the multi-level Xtlogit regressions results for the 3 groups of hypotheses. In Table 13 I report the estimation results for effect of macro level political institutions interacted with migrant's status. Table 14 reports estimations for the second set of hypotheses related to corruption and government effectiveness and immigrant entrepreneurship. Finally, Table 15 illustrates estimations for the third set of hypotheses related to economic freedom. The dependent variable used is the TEA status. The main effects models investigate how the independent variables interacted with migrant status impact their entrepreneurial entry; for example, when being a migrant is interacted with political freedom, implies exploring how political freedom impacts entrepreneurial entry of migrants compared to home country entrepreneurs. Table 16 in the appendix estimates all the variables in one model to provide an overview of all institutional variables. The results illustrate some expected insignificance and correlation between polity2 (political freedom), imputed polity2 and political globalization. This result is not surprising as all of these measures are highly correlated and therefore, I did not expect results to be statistically significant. However, the measure political system and government effectiveness became negative yet still significant. Additionally, the measures for business freedom displays a similar pattern to former, however financial freedom remains similar to the initial results.

All the estimations follow a similar procedure. Thus, I sequentially test every independent variable including the controls separately in the models. In each of the tables, I report an all variables model that excludes the interaction terms (model 1 in each of the tables). For H1, macro level political institutions models are reported in the remaining columns in Table 13. Model 1 in Table 13 shows that all independent variables but political freedom, regime durability, and imputed polity are significant at least at the 5% level. In model one in table 13, the probability of participating in TEA is 0.19 higher for migrants than for non-migrants under higher levels of

political freedom in the host country. Therefore, this finding reveals that migrants are more likely to engage in TEA in politically freer environments than home country entrepreneurs. Moreover, when interacting migrants with the imputed political freedom indicator (Freedom House and Polity IV), the results are confirmed. H1a and H1b are consequently supported.

The remaining interacted models related to political freedom and migrant interactions (political globalization, political system, and regime durability) are all significant and positively associated with new business creation compared to nonimmigrants in the same environment which confirms H1c, H1d and H1e.

The controls in these models indicate that being one year younger is associated with a 0.55 increase in the probability of participating in business creation. I also find that attaining a post-secondary education is associated with an 8% increase in the likelihood of participating in TEA. This may be a direct result of the movement towards more innovative businesses that require higher education skills in countries where such environment is encouraged (many developed countries like US, Canada, UK etc.). In addition, the models show that having been a business angel in the past and possessing positive perceptions about self-efficacy are also positively associated with positive TEA.

The second set of hypotheses examines the influence of informal institutions (corruption) and government effectiveness on immigrant's business creation activities. Yet, when looking at model 1 in Table 14, I encounter some unexpected results. All but the corruption indices are insignificant in this model, prompting further exploration of the effect of corrupt political and economic institutions on immigrants' business creation activities. Therefore, in the remaining interaction models, I tested the influence of freedom from corruption on migrant's participation in entrepreneurship. The results revealed what is expected. Freedom from corruption is significant at the 1% level and displays the anticipated positive sign suggesting that migrants' engagement in entrepreneurship activity increases in less institutionally corrupt environments. Therefore, the results contribute to past literature which suggests that entrepreneurship is nurtured in environments

where corruption practices are less prevalent (Anokhin and Schulze, 2009, Aidis et al., 2008) but the findings in this chapter also enhances the current literature by illustrating this effect on immigrants compared to nonimmigrants in the same host country environment. H2a is therefore supported. Additionally, immigrants are more likely to become engaged in entrepreneurial activity than non-immigrants under stronger government effectiveness, showing support for H2b.

The final set of hypotheses are about economic freedom and are shown in Table 15. Model 1 illustrates an all variables model. Utilising business and financial freedom indicators, results from models 2 and 3 are both significant and display the expected sign. This suggests that migrants' entrepreneurial activity rates increase in environments with better business and financial freedom compared with non-migrants' entrepreneurial activity. The implications of higher business and financial freedom can be seen as supporting the significance of financial institutional openness and lower transactional costs of business creation such as time, licensing and paperwork required, among others. Therefore, H3a is also supported.

Again, age, gender, education, income level, being a business angel, employment status, self-efficacy and opportunity perception controls are significant and present the expected signs in all these models.

Table 11. Descriptive statistics

Variable	Level	Observations	Mean	SD	Min	Max
TEA	Individual	187063	.11	.32	0	1
Migrant	Individual	184841	0.04	.20	0	1
Log_age1	Individual	185189	3.62	.37	2.77	4.59
Male	Individual	187060	.48	.499	0	1
Post Sec	Individual	187063	.31	.46	0	1
Work FT/PT	Individual	187063	.6310973	.4825088	0	1
Mid Income Level	Individual	187063	.2706104	.4442763	0	1
Business angel	Individual	187061	.0572534	.2323268	0	1
GDP	Country	181943	21447.4	19233.67	268.0539	99557.73
Self-efficacy	Individual	187058	.4880902	.4998595	0	1
Opportunity	Individual	187057	.3541718	.4782628	0	1
Polity2	Country	180564	.4589393	.4983125	0	1
Fh_Polity2	Country	180564	.3924316	.4882933	0	1
Democracy	Country	187063	.443035	.4967457	0	1
Political Globalization	Country	187063	84.98067	12.60821	40.78684	97.51914

Political System	Country	187063	1.096278	.9665166	0	2
Freedom from Corruption	Country	187063	50.89745	20.63252	19	93
Corruption Perception index	Country	187063	53.2022	18.31441	22	90
Political corruption	Country	185081	.3418273	.2634262	.0097602	.877192
Control of Corruption	Country	187063	.4309916	.9741979	-1.295879	2.391255
Government effectiveness	Country	187063	.5606612	.8449145	-1.02327	2.21447
Business Freedom	Country	187063	73.64065	13.5827	42	99.1
Financial Freedom	Country	187063	60.07771	17.25876	10	90
Regime Durability	Country	184906	39.49327	40.22876	0	203

Table 12. Descriptive statistics (immigrant vs. non-immigrant)

Status in %	TEA (No)	TEA (Yes)	Female	Male	Non-secondary	Post-secondary	Not working	Work FT/PT	Mid income (No)	Mid income (Yes)
Non-immigrant	88.31	11.69	51.17	48.83	68.49	31.51	37.20	62.80	73.04	26.96
Immigrant	90.06	9.94	54.31	45.69	54.95	45.05	35.36	64.64	72.80	27.20
Total	88.39	11.61	51.31	48.69	67.89	32.11	37.12	62.88	73.03	26.97

Status	Self-efficacy (No)	Self-efficacy (Yes)	B.angel (No)	B.angel (Yes)	Opport (No)	Opport (Yes)
Non-immigrant	51.44	48.56	94.41	5.59	64.74	35.26
Immigrant	55.76	44.24	94.53	5.47	71.17	28.83
Total	51.63	48.37	94.42	5.58	65.03	34.97

**Table 13. Estimation results of interaction
between political institutions and migrant status**

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Status: Migrant	0.19*** (0.04)	0.07 (0.07)	0.08 (0.07)	0.06 (0.07)	-0.63** (0.24)	0.01 (0.08)	0.11+ (0.06)
Log Age	-0.55*** (0.03)	-0.53*** (0.02)	-0.53*** (0.02)	-0.53*** (0.02)	-0.53*** (0.02)	-0.53*** (0.02)	-0.54*** (0.02)
Gender = Male	0.07*** (0.02)	0.06*** (0.02)	0.06*** (0.02)	0.07*** (0.02)	0.07*** (0.02)	0.07*** (0.02)	0.07*** (0.02)
Post-Secondary Education	0.08*** (0.02)	0.07*** (0.02)	0.07*** (0.02)	0.07*** (0.02)	0.07*** (0.02)	0.07*** (0.02)	0.07*** (0.02)
Work: F-T, P-T	1.42*** (0.02)	1.41*** (0.02)	1.41*** (0.02)	1.42*** (0.02)	1.42*** (0.02)	1.42*** (0.02)	1.44*** (0.02)
Middle Income 33%tile	-0.06** (0.02)	-0.05** (0.02)	-0.05** (0.02)	-0.05** (0.02)	-0.05** (0.02)	-0.05** (0.02)	-0.06*** (0.02)
Business Angel	0.40*** (0.03)						
GDP per capita (current US\$)	-0.00* (0.00)	-0.00*** (0.00)	-0.00*** (0.00)	-0.00** (0.00)	-0.00*** (0.00)	-0.00** (0.00)	-0.00*** (0.00)
Polity2	-0.14 (0.18)	-0.25+ (0.13)					
Imputed Polity/Freedom	-0.09 (0.18)		-0.18 (0.14)				
Political Globalization	-0.01+ (0.00)				-0.01* (0.00)		
Political System	-0.14* (0.06)					-0.15* (0.06)	
Regime Durability	0.00 (0.00)						0.00 (0.00)
Perceived Capabilities	1.41*** (0.02)	1.40*** (0.02)	1.40*** (0.02)	1.40*** (0.02)	1.40*** (0.02)	1.40*** (0.02)	1.41*** (0.02)
Opportunity Perception	0.53*** (0.02)	0.52*** (0.02)	0.52*** (0.02)	0.52*** (0.02)	0.52*** (0.02)	0.52*** (0.02)	0.53*** (0.02)
Polity2 X Migrant		0.19* (0.09)					
Imputed Polity/Freedom X Migrant			0.18* (0.09)				
Democracy				-0.21 (0.14)			
Democracy X Migrant				0.19* (0.09)			
Political Globalization X Migrant					0.01*** (0.00)		
Political System X Migrant						0.12* (0.05)	

Regime Durability X Migrant							0.00+
							(0.00)
Constant	-0.33	-2.14***	-2.16***	-2.23***	-1.44***	-2.16***	-2.30***
	(0.40)	(0.12)	(0.12)	(0.12)	(0.36)	(0.12)	(0.12)
Insig2u	-2.19***	-1.89***	-1.86***	-1.74***	-1.79***	-1.79***	-1.83***
	(0.20)	(0.19)	(0.19)	(0.19)	(0.19)	(0.19)	(0.19)
Observations	170,165	172,239	172,239	178,687	178,687	178,687	176,613
Number of Countries	57	58	58	61	61	61	60

Note. Dependent variable: TEA Rate.
Robust Standard errors are in parentheses.
* significant at *** p<0.001, ** p<0.01, * p<0.05, + p<0.10

**Table 14. Estimation results of interaction between
corruption and government effectiveness and migrant status**

Variables	(1)	(2)	(3)	(4)	(5)	(6)
Status: Migrant	0.18*** (0.04)	-0.13 (0.14)	-0.22 (0.16)	0.29*** (0.06)	0.07 (0.06)	0.04 (0.07)
Log Age	-0.53*** (0.02)	-0.53*** (0.02)	-0.53*** (0.02)	-0.53*** (0.02)	-0.53*** (0.02)	-0.53*** (0.02)
Gender = Male	0.07*** (0.02)	0.07*** (0.02)	0.07*** (0.02)	0.07*** (0.02)	0.07*** (0.02)	0.07*** (0.02)
Post-Secondary Education	0.07*** (0.02)	0.07*** (0.02)	0.07*** (0.02)	0.07*** (0.02)	0.07*** (0.02)	0.07*** (0.02)
Work: F-T, P-T	1.42*** (0.02)	1.42*** (0.02)	1.42*** (0.02)	1.42*** (0.02)	1.42*** (0.02)	1.42*** (0.02)
Middle Income 33%tile	-0.05** (0.02)	-0.05** (0.02)	-0.05** (0.02)	-0.05** (0.02)	-0.05** (0.02)	-0.05** (0.02)
Business Angel	0.39*** (0.03)	0.40*** (0.03)	0.40*** (0.03)	0.39*** (0.03)	0.40*** (0.03)	0.40*** (0.03)
GDP per capita (current US\$)	-0.00 (0.00)	-0.00* (0.00)	-0.00* (0.00)	-0.00** (0.00)	-0.00* (0.00)	-0.00 (0.00)
Perceived Capabilities	1.40*** (0.02)	1.40*** (0.02)	1.40*** (0.02)	1.40*** (0.02)	1.40*** (0.02)	1.40*** (0.02)
Opportunity Perception	0.52*** (0.02)	0.52*** (0.02)	0.52*** (0.02)	0.52*** (0.02)	0.52*** (0.02)	0.52*** (0.02)
Freedom from Corruption	0.00 (0.02)	-0.00 (0.00)				
Corruption Perceptions Index	0.03 (0.03)		-0.00 (0.01)			
Political corruption	-0.31 (0.46)			0.19 (0.29)		
Control of Corruption	-0.53 (0.57)				-0.06 (0.10)	
Government Effectiveness	-0.39* (0.20)					-0.17 (0.11)
Freedom from Corruption X Migrant		0.00* (0.00)				
Corruption Perceptions Index X Migrant			0.01* (0.00)			
Political Corruption X Migrant				-0.53* (0.21)		
Control of Corruption X Migrant					0.11* (0.05)	
Government Effectiveness X Migrant						0.13* (0.05)
Constant	-3.60** (1.31)	-2.17*** (0.19)	-2.18*** (0.23)	-2.33*** (0.20)	-2.28*** (0.13)	-2.28*** (0.12)

Insig2u	-1.85***	-1.72***	-1.72***	-1.76***	-1.72***	-1.75***
	(0.19)	(0.19)	(0.19)	(0.19)	(0.19)	(0.19)
Observations	176,731	178,687	178,687	176,731	178,687	178,687
Number of Countries	60	61	61	60	61	61

Note. Dependent variable: TEA Rate.
Robust Standard errors are in parentheses.
* significant at *** p<0.001, ** p<0.01, * p<0.05, + p<0.10

Table 15. Estimation results for interaction of business and financial freedom with migrant status

Variables	(1)	(2)	(3)
Status: Migrant	0.17*** (0.04)	-0.42+ (0.25)	-0.20 (0.21)
Log Age	-0.53*** (0.02)	-0.53*** (0.02)	-0.53*** (0.02)
Gender = Male	0.07*** (0.02)	0.07*** (0.02)	0.07*** (0.02)
Post-Secondary Education	0.07*** (0.02)	0.07*** (0.02)	0.07*** (0.02)
Work: F-T, P-T	1.42*** (0.02)	1.42*** (0.02)	1.42*** (0.02)
Middle Income 33%tile	-0.05** (0.02)	-0.05** (0.02)	-0.05** (0.02)
Business Angel	0.40*** (0.03)	0.40*** (0.03)	0.40*** (0.03)
GDP per capita (current US\$)	-0.00 (0.00)	-0.00 (0.00)	-0.00*** (0.00)
Perceived Capabilities	1.40*** (0.02)	1.40*** (0.02)	1.40*** (0.02)
Opportunity Perception	0.52*** (0.02)	0.52*** (0.02)	0.52*** (0.02)
Business Freedom	-0.02*** (0.00)	-0.02*** (0.00)	
Financial Freedom	0.00 (0.00)		
Business Freedom X Migrant		0.01* (0.00)	
Financial Freedom X Migrant			0.01+ (0.00)
Constant		-1.10*** (0.33)	-2.37*** (0.24)
lnsig2u		-1.92*** (0.19)	-1.71*** (0.19)
Observations		178,687	178,687
Number of countries		61	61

Note. Dependent variable: TEA Rate.
Robust Standard errors are in parentheses.
* significant at *** p<0.001, ** p<0.01, * p<0.05, + p<0.10

3.5 Discussion and Conclusion

Drawing on a combination of institutional indicators and databases (Reynolds et al., 2005), including GEM, Polity IV, Freedom House, Heritage Foundation and Quality of Government datasets, this chapter tested how micro level individual characteristics (education, age, and gender) and institutions, in particular: political freedom, freedom from corruption, and business freedom, impact immigrant business entry in a large sample of 60 countries from the year 2012. This study offers a deeper investigation and insights into the influence of both micro and macro level individual characteristics and institutions respectively on immigrant entrepreneurial activity.

The main findings in this chapter suggest that immigrant entrepreneurs thrive in environments characterized by democratic and politically free institutions which in turn provide for a supporting mechanism in an unfamiliar cultural, economic and political setting that immigrants usually experience. The degree of political freedom can be measured in a number of ways. In this chapter, I measure political freedom using three indicators: political globalization, political system (parliamentary, presidential) and degree of democracy versus autocracy.

Thus, the investigation findings have shown that immigrants are more likely to participate in entrepreneurial activity when political freedom is strong and host countries benefit from outlets of political liberty, autonomy, and democratic choice. Neville et al. (2014) argued that immigrants are most likely to be unfamiliar with the host country institutional environment which can lead to increased uncertainty, constraining immigrant's entrepreneurship activity.

Furthermore, this analysis also finds that more politically free institutions have a more pronounced positive impact on migrant entrepreneurial activity than on non-migrant entrepreneurial activity. This is consistent with previous research (Peroni et al., 2016) which suggests that migrants moving into a host country benefit more at the margin from supportive institutions than non-migrants because they not only have to adhere to new systems wherein there lies great uncertainty, but they also face an additional challenge of having to adjust their

expectations on the stability of institutions (typically from one that is very unstable to one that is stable).

Therefore, the higher degree of political stability as measured by the variability of political freedom positively impacts entrepreneurial activity by immigrants in a country (Laplume et al., 2014) and more so than home/non-immigrant country entrepreneurs. Democratic political institutions in contrast to autocratic ones allow for a representative political agenda where property rights are universally protected and abuse of power is repressed creating a better environment for entrepreneurship (Autio and Fu, 2015). To add to the robustness of the results several indicators of high order and constitutional level political institutions were tested: political globalization, political system (parliamentary, presidential) and degree of democracy versus autocracy.

Additionally, another important argument is that migrants often choose the countries that they migrate to and therefore, migrants with more resources or who are more likely to spot opportunities are likely to choose countries with good and strong political and economic institutions with less prevalence of corruption, usually those being developed economies. Immigrants are also taking advantage these opportunities through strong political and economic freedoms conducive to positive growth in economic activities such as entrepreneurship. On the other hand, migrants who have been pushed out of their countries due to war or conflict for example, are more likely to live in less developed countries – as mentioned earlier, the World Economic Forum states that 84% of refugees live in developing countries and therefore may not reap any potential benefits from a positive institutional environment.

The analysis from this chapter also finds that younger, male, and secondary-educated individuals are more likely than their older, female, and non-secondary school educated counterparts to start businesses. Findings pertaining to individual level characteristics, therefore, suggest that entrepreneurs are more likely to be more educated and also younger. This has important policy implications in both immigrant producing countries and host countries. It suggests that there is a linkage between entrepreneur's skills and business start-ups. Host country policies can aim to

attract highly skilled and educated immigrants promoting at the same time innovation as a catalyst for economic growth. Immigrant producing countries may develop policies that aim to support immigrants in their endeavours as well as support labour export such as in the case of the Philippines (Asis, 2006).

Migration has significant impact on economic activity of countries, especially in Europe given the aging population of some European countries and the several refugee crises (Syria, Yemen, among others) (Levie, 2007). Literature has also discussed evidence about the positive influence of net contributions of immigrant entrepreneurs to economic growth. However, much less research has contributed to the importance of the impact of the institutional environment (political and economic) on potential immigrant entrepreneurial activity and even less so, across countries.

Additionally, issues of national, regional, urban and rural development are topics of great significance for policy makers. Policy decisions need to take into account how to balance national economic development through immigrant integration and social harmony and therefore research like the current one provides data on migrants and locals to aid policy makers with appropriate decision-making (Levie, 2007). If countries aspire to increase new rates of business activity, then the potential contribution from immigrants should form part of the public policy debate in these countries. As evidence suggests (e.g. Keeble and Tyler (1995)), the environment and its attractiveness play a vital role in enticing potential immigrants and subsequently entrepreneurship activity and therefore, institutions need to be supportive and promote policies tailored to engage immigrants (Li et al., 2017). The research thus contributes to the relatively scarce literature on the interplay between institutions, immigration and entrepreneurship development and adds a comparative perspective to host country nationals bringing in deeper insights.

This chapter also contributes to the literature on corruption and entrepreneurship (Djankov et al., 2006a, Aidis et al., 2008). In particular, the findings suggest that efficient and appropriately regulated environments where government and public officials face checks and balances on their

power resulting in freedom from corruption positively influence immigrant entrepreneurial activity. The findings also suggest that there is an important linkage between the institutional framework/environment in a host country and immigrant's potential entrepreneurial activity. This is central to policy makers in their attempts not only to integrate and assimilate immigrants into host country social environments but also to contribute to long-term economic growth of a host country through targeted policies that aim to attract immigrant entrepreneurial efforts.

Future research could expand on the above findings to look at the impact of strong, free political and economic institutions on ethnic minorities, new refugees and generational immigration. Additionally, research in the future could investigate differences between pull and push factors for immigration and how some immigrants are pushed becoming refugees in countries neighbouring these coming out of conflict (wars, economic deterioration, prevalence of corruption, natural disasters etc.). The particular contribution of immigrants to entrepreneurial activity is another avenue for future research especially examination of job creation, innovation and productivity in light of supportive political institutions.

3.6 Appendices

Table 9. Hypotheses Summary

Hypothesis	Variables	Sign	Support
H1a: Strong political freedom in recipient economies positively influences immigrant entrepreneurial activity compared to home country entrepreneurs.	Political Freedom interacted with migrant	+	Yes
H1b: Democratic institutions in recipient economies positively influence immigrant entrepreneurial activity compared to home country entrepreneurs.	Democracy interacted with migrant	+	Yes
H1c: Greater political globalization in recipient economies positively influences immigrant entrepreneurial activity compared to home country entrepreneurs.	Political Globalization interacted with migrant	+	Yes
H1d: Parliamentary political systems in recipient economies positively influence immigrant entrepreneurial activity compared to home country entrepreneurs.	Political System interacted with migrant	+	Yes
H1e: High regime durability in recipient economies positively influences immigrant entrepreneurial activity compared to home country entrepreneurs.	Regime durability interacted with migrant	+	Marginal support
H2a: More freedom from corruption in recipient countries positively influences immigrant entrepreneurial activity compared to home country entrepreneurs.	Freedom from Corruption interacted with migrant	+	Yes
H2b: Stronger government effectiveness in recipient countries positively influences immigrant entrepreneurial activity compared to home country entrepreneurs.	Government Effectiveness interacted with migrant	+	Yes
H3a: Strong economic freedom in recipient economies positively influences immigrant entrepreneurial activity compared to home country entrepreneurs.	Business and Financial Freedom interacted with migrant	+	Yes

Table 10. Data sources and description of variables

Dependent Variable	Description	Source
Total Early-stage Entrepreneurial Activity (TEA)	The prevalence rate of individuals in the working age population who are actively involved in business start-ups, either in the phase of starting a new firm (nascent entrepreneurs) or in the phase spanning 42 months after the birth of the firm (owner- manager of new firms).	GEM APS for 2012
Independent Variables	Description	Source
Immigration status	Individuals are asked whether they were born in the country they are living in currently or born elsewhere.	GEM APS for 2012
Log Age	Age of respondents to GEM survey between (18-64 years old) in logarithm form.	GEM APS for 2012
Gender	Gender of respondents male = 1, Female = 0.	GEM APS for 2012
Post-Secondary Education	Educational Attainment: post-secondary.	GEM APS for 2012
Business angel	Being a business angel in the past 3 years.	GEM APS for 2012
Work Status	Working status: in full-time/part-time work dummy	GEM APS for 2012
Income level	Income level: Middle-income level dummy	GEM APS for 2012
GDP	GDP per capita in current \$US.	World Bank Development Indicators 2012
Opportunity	Individuals that see an opportunity to start a business in the next 6 months.	GEM APS for 2012
Self-efficacy	Individuals are asked whether they have the knowledge, skills, and experience required to start a new business. Dichotomous Yes or No using a dummy	GEM APS for 2012
Polity2 (level of democracy)	Combines scores of Autocracy and subtracting scores of Democracy with a resulting unified polity scale ranging from +10 (strongly democratic) to -10 (strongly autocratic) (Marshall and Cole, 2008) Additive eleven point scale (0-10), ranging from 10 (most democratic) to 0 (least democratic) (Marshall and Cole, 2008).	Polity IV project for the year 2012
Fh_Polity2 (level of democracy)	The scale ranges from 0-10 where 0 is least democratic and 10 most democratic. Average of Freedom House (fh_pr and fh_cl) is transformed to a scale 0-10 and Polity (p_polity2) is transformed to a scale 0-10. These variables are averaged into fh_polity2. The imputed version has imputed values for countries where data on Polity is missing by regressing Polity on the average Freedom House measure. (Charron et al., 2010).	Quality of Government Dataset 2016
Democracy	Democracy Score: additive eleven point scale (0-10), ranging from 10 (most democratic) to 0 (least democratic) (Marshall and Cole, 2008).	Polity IV project for the year 2012
Political Globalization	Measured by the number of embassies and high commissions in a country, the number of international organizations of which the country is a member, the number of UN peace missions the country has participated in, and the number of international treaties that the country has signed since 1945.	Axel Dreher Index of Globalization, Quality of Government 2016

Political System	0. Presidential 1. Assembly-elected President 2. Parliamentary	World Bank Database of Political Institutions 2012, Quality of Government 2016
Freedom from Corruption	Is based on a 100-point scale in which a score of 100 indicates very little corruption and a score of 0 indicates a very corrupt government.	Heritage Foundation 2012, Quality of Government 2016
Corruption Perception index	The CPI Score relates to perceptions of the degree of corruption as seen by business people, risk analysts, and the general public and ranges between 10 (highly clean) and 0 (highly corrupt).	Transparency International, Quality of Government 2016
Political corruption	The directionality of the Political Corruption index runs from less corrupt to more corrupt. The corruption index includes measures of six distinct types of corruption that cover both different areas and levels of the polity realm, distinguishing between executive, legislative and judicial corruption.	Varieties of Democracy, Quality of Government 2016
Control of Corruption	All scores lie between -2.5 and 2.5, with higher scores corresponding to better outcomes.	World Bank Governance Indicators, Quality of Government 2016
Government effectiveness	All scores lie between -2.5 and 2.5, with higher scores corresponding to better outcomes.	World Bank Governance Indicators, Quality of Government 2016
Business Freedom	The business freedom score encompasses 10 components, all weighted equally and based on objective data from the World Bank's Doing Business study. It is graded from 0 to 100, where 100 represents the maximum degree of business freedom	Heritage Foundation 2012, Quality of Government 2016
Financial Freedom	The financial freedom factor measures the relative openness of each country's banking and financial system by determining: the extent of government regulation of financial services; the extent of state intervention in banks and other financial services; the difficulty of opening and operating financial services firms (for both domestic and foreign individuals); and government influence on the allocation of credit. It is graded from 0 to 100, where 100 represents the maximum degree of financial freedom.	Heritage Foundation 2012, Quality of Government 2016
Regime Durability	The number of years since the most recent regime change (defined by a three point change in the p_polity score over a period of three years or less) or the end of transition period defined by the lack of stable political institutions (denoted by a standardized authority score).	Polity IV project for the year 2012

Table. Country of origin

Country of birth	Freq.	Percent	Cum.
United States	113	1.47	1.47
Russia	564	7.35	8.82
Egypt	10	0.13	8.95
South Africa	43	0.56	9.51
Greece	18	0.23	9.74
Netherlands	40	0.52	10.26
Belgium	50	0.65	10.92
France	208	2.71	13.63
Spain	76	0.99	14.62
Hungary	32	0.42	15.03
Italy	126	1.64	16.67
Romania	149	1.94	18.61
Switzerland	91	1.19	19.8
Austria	42	0.55	20.35
United Kingdom	295	3.84	24.19
Denmark	32	0.42	24.61
Sweden	73	0.95	25.56
Norway	26	0.34	25.9
Poland	168	2.19	28.08
Germany	376	4.9	32.98
Peru	82	1.07	34.05
Mexico	70	0.91	34.96
Cuba	46	0.6	35.56
Argentina	131	1.71	37.27
Brazil	95	1.24	38.5
Chile	33	0.43	38.93
Colombia	138	1.8	40.73
Venezuela	97	1.26	42
Malaysia	162	2.11	44.11
Australia	20	0.26	44.37
Indonesia	86	1.12	45.49
Philippines	38	0.49	45.98
New Zealand	5	0.07	46.05
Singapore	5	0.07	46.11
Thailand	14	0.18	46.29
Christmas Island	1	0.01	46.31
Japan	18	0.23	46.54
South Korea	19	0.25	46.79
Vietnam	33	0.43	47.22
China	81	1.06	48.27
Turkey	146	1.9	50.18
India	245	3.19	53.37
Pakistan	47	0.61	53.98

Afghanistan	24	0.31	54.29
Sri Lanka	14	0.18	54.47
Burma (Myanmar)	20	0.26	54.73
Iran	198	2.58	57.31
Canada	55	0.72	58.03
Morocco	133	1.73	59.76
Algeria	93	1.21	60.97
Tunisia	29	0.38	61.35
Libya	7	0.09	61.44
Senegal	8	0.1	61.55
Mauritania	1	0.01	61.56
Mali	5	0.07	61.63
Guinea	7	0.09	61.72
Ivory Coast	6	0.08	61.79
Burkina Faso	1	0.01	61.81
Niger	1	0.01	61.82
Togo	1	0.01	61.83
Benin	7	0.09	61.93
Mauritius	4	0.05	61.98
Liberia	1	0.01	61.99
Sierra Leone	4	0.05	62.04
Ghana	13	0.17	62.21
Nigeria	22	0.29	62.5
Central African Republic	4	0.05	62.55
Cameroon	8	0.1	62.65
Cape Verde	18	0.23	62.89
Sao Tome and Principe	3	0.04	62.93
Equatorial Guinea	1	0.01	62.94
Gabon	4	0.05	62.99
Republic of the Congo	11	0.14	63.14
Democratic Republic of the Congo	36	0.47	63.61
Angola	69	0.9	64.5
Guinea-Bissau	5	0.07	64.57
Barbados	2	0.03	64.6
Sudan	11	0.14	64.74
Rwanda	15	0.2	64.93
Ethiopia	13	0.17	65.1
Somalia	31	0.4	65.51
Djibouti	2	0.03	65.53
Kenya	17	0.22	65.75
Tanzania	9	0.12	65.87
Uganda	2	0.03	65.9
Mozambique	31	0.4	66.3
Bahamas	1	0.01	66.31

Zambia	44	0.57	66.89
Madagascar	5	0.07	66.95
Zimbabwe	127	1.65	68.61
Malawi	16	0.21	68.82
Lesotho	6	0.08	68.89
Botswana	3	0.04	68.93
Comoros	3	0.04	68.97
Namibia	4	0.05	69.02
Swaziland	2	0.03	69.05
Saint Helena	1	0.01	69.06
Eritrea	6	0.08	69.14
Aruba	18	0.23	69.38
Faroe Islands	5	0.07	69.44
Greenland	6	0.08	69.52
Gibraltar	1	0.01	69.53
Portugal	75	0.98	70.51
Luxembourg	9	0.12	70.63
Ireland	18	0.23	70.86
Iceland	5	0.07	70.93
Albania	27	0.35	71.28
Malta	1	0.01	71.29
Cyprus	7	0.09	71.38
Finland	65	0.85	72.23
Bulgaria	51	0.66	72.89
Lithuania	45	0.59	73.48
Latvia	21	0.27	73.75
Estonia	9	0.12	73.87
Moldova	22	0.29	74.16
Armenia	12	0.16	74.31
Belarus	83	1.08	75.39
Andorra	5	0.07	75.46
Monaco	3	0.04	75.5
Ukraine	182	2.37	77.87
Serbia	164	2.14	80.01
Montenegro	21	0.27	80.28
Kosovo	22	0.29	80.57
Croatia	112	1.46	82.02
Slovenia	24	0.31	82.34
Bosnia and Herzegovina	244	3.18	85.52
Macedonia	28	0.36	85.88
Czech Republic	79	1.03	86.91
Slovakia	20	0.26	87.17
Liechtenstein	1	0.01	87.18
Bermuda	1	0.01	87.2

Grenada	9	0.12	87.31
Falkland Islands	1	0.01	87.33
Belize	1	0.01	87.34
Guatemala	7	0.09	87.43
El Salvador	8	0.1	87.53
Honduras	20	0.26	87.79
Nicaragua	154	2.01	89.8
Costa Rica	4	0.05	89.85
Panama	7	0.09	89.94
Haiti	11	0.14	90.09
Bolivia	56	0.73	90.82
Guyana	15	0.2	91.01
Ecuador	85	1.11	92.12
Paraguay	37	0.48	92.6
Suriname	31	0.4	93.01
Uruguay	56	0.73	93.73
Netherlands Antilles	2	0.03	93.76
Saint Martin	2	0.03	93.79
Guam	1	0.01	93.8
Brunei	1	0.01	93.81
Papua New Guinea	2	0.03	93.84
Fiji	1	0.01	93.85
Palau	1	0.01	93.86
Micronesia	1	0.01	93.88
Kazakhstan	99	1.29	95.17
Saint Lucia	2	0.03	95.19
Dominica	30	0.39	95.58
Saint Vincent and the Grenadines	7	0.09	95.68
Puerto Rico	3	0.04	95.71
Dominican Republic	15	0.2	95.91
Hong Kong	9	0.12	96.03
Macau	1	0.01	96.04
Cambodia	5	0.07	96.11
Laos	2	0.03	96.13
Trinidad and Tobago	9	0.12	96.25
Jamaica	20	0.26	96.51
Bangladesh	17	0.22	96.73
Taiwan	12	0.16	96.89
Lebanon	33	0.43	97.32
Jordan	4	0.05	97.37
Syria	13	0.17	97.54
Iraq	56	0.73	98.27
Kuwait	2	0.03	98.29
Saudi Arabia	4	0.05	98.35

Yemen	4	0.05	98.4
Gaza Strip & West Bank	2	0.03	98.42
United Arab Emirates	3	0.04	98.46
Israel	5	0.07	98.53
Bahrain	1	0.01	98.54
Qatar	1	0.01	98.55
Bhutan	1	0.01	98.57
Mongolia	1	0.01	98.58
Nepal	5	0.07	98.65
Tajikistan	6	0.08	98.72
Turkmenistan	2	0.03	98.75
Azerbaijan	24	0.31	99.06
Georgia	29	0.38	99.44
Kyrgyzstan	16	0.21	99.65
Uzbekistan	27	0.35	100
Total	7,677	100	

Table. Correlations

Variables	TEA	migrant	log age	male	postsec_high	work_ft_pt	midincome	bus_angel	gdppercapita	self_efficacy	opportunity	polity2
TEAydum2	1											
migrant	-0.0094	1										
log age	-0.0812	0.0311	1									
male	0.065	-0.0121	-0.0346	1								
postsec_high	0.0096	0.0426	0.0319	-0.0061	1							
work_ft_pt	0.1849	0.0032	-0.0111	0.1796	0.1547	1						
midincome	-0.0019	-0.004	-0.0028	-0.0045	-0.0544	0.0337	1					
bus_angel	0.1051	0.0003	-0.0062	0.0559	0.0335	0.0698	-0.0162	1				
gdppercapita	-0.1281	0.1277	0.1921	0.0016	0.1659	0.0393	-0.0035	-0.0645	1			
self_effic~y	0.2502	-0.0083	-0.0377	0.1309	0.045	0.1593	-0.0073	0.1177	-0.1413	1		
opportunity	0.1829	-0.0213	-0.0987	0.0534	-0.0091	0.0829	0.0218	0.098	-0.1287	0.224	1	
polity2	-0.1183	0.0939	0.1513	0.0015	0.1141	0.0166	-0.051	-0.0477	0.6577	-0.0719	-0.1875	1
imputed polity	-0.1048	0.1036	0.1415	0.0012	0.108	0.0224	-0.0492	-0.0373	0.64	-0.0509	-0.1502	0.8876
political globalization	-0.1213	0.0301	0.1482	-0.0023	0.0723	-0.0094	0.0214	-0.0907	0.4748	-0.1192	-0.1557	0.3835
dpi_system	-0.1334	0.092	0.1188	0.0075	0.0483	0.0011	-0.0331	-0.0723	0.477	-0.1223	-0.2036	0.4635
p_durable	-0.0458	0.0915	0.1552	-0.0082	0.1196	0.0189	-0.0092	-0.0291	0.6522	-0.0451	-0.03	0.4507
hf_corrupt	-0.1264	0.1312	0.1976	-0.0049	0.1431	0.0265	-0.0343	-0.0598	0.8543	-0.1298	-0.1341	0.7254
ti_cpi	-0.1311	0.1283	0.2002	-0.0031	0.1427	0.0202	-0.0377	-0.0644	0.8414	-0.1304	-0.1463	0.7209
vdem_corr	0.137	-0.1222	-0.1911	0.0012	-0.1204	-0.0079	0.0472	0.0776	-0.7361	0.1181	0.1829	-0.7504
wbgi_cce	-0.1338	0.1294	0.1987	-0.0037	0.1391	0.0186	-0.0384	-0.0666	0.8491	-0.1296	-0.1423	0.7228
wbgi_gee	-0.1518	0.1311	0.207	-0.0024	0.16	0.0259	-0.0332	-0.0751	0.8469	-0.1541	-0.1868	0.7277
hf_business	-0.1486	0.1003	0.163	-0.0009	0.2047	-0.0045	-0.0104	-0.0696	0.623	-0.1427	-0.1441	0.4893
hf_financ	-0.0866	0.0863	0.1411	-0.0061	0.0949	-0.0038	-0.0293	-0.0401	0.529	-0.0784	-0.1492	0.5423

Variables continued	imputed polity	political globalization	political system	P_durable	hf_corrupt	ti_cpi	vdem_corr	wbgi_cce	wbgi_gee	hf_business	hf_financ
TEAyydum2											
migrant											
log age											
male											
postsec_high											
work_ft_pt											
midincome											
bus_angel											
gdppercapita											
self_effic~y											
opportunity											
polity2											
imputed polity	1										
political globalization	0.3964	1									
dpi_system	0.3625	0.2796	1								
p_durable	0.4411	0.2232	0.0572	1							
hf_corrupt	0.7623	0.4183	0.5273	0.5435	1						
ti_cpi	0.7616	0.4337	0.5318	0.5286	0.9869	1					
vdem_corr	-0.7323	-0.4181	-0.4924	-0.4754	-0.8758	-0.8998	1				
wbgi_cce	0.7575	0.4325	0.5372	0.5236	0.9881	0.9953	-0.8989	1			
wbgi_gee	0.7348	0.4337	0.5901	0.5339	0.9475	0.9443	-0.9007	0.9477	1		
hf_business	0.487	0.3387	0.4447	0.4079	0.6719	0.6664	-0.6126	0.6745	0.7408	1	
hf_financ	0.5464	0.2944	0.4229	0.3288	0.6333	0.6386	-0.662	0.6381	0.7091	0.5646	1

Econometric models details

Political Freedom models

The political freedom models are as follows:

$$(1) \text{ TEA status} = \beta_0 + \beta_1(\text{Migrant}) + \beta_2(\text{Log_Age}) + \beta_3(\text{Male}) + \beta_4(\text{Post_sec High}) + \beta_5(\text{Work FT/PT}) + \beta_6(\text{Mid Income}) + \beta_7(\text{Business angel}) + \beta_8(\text{GDP/capita}) + \beta_9(\text{Self-efficacy}) + \beta_{10}(\text{Opportunity Perception}) + \beta_{11}(\text{Polity2}) + \beta_{12}(\text{Fh_Polity2}) + \beta_{13}(\text{Political Globalization}) + \beta_{14}(\text{Political System}) + \beta_{15}(\text{Regime Durability}) + \varepsilon$$

$$(2) \text{ TEA status} = \beta_0 + \beta_1(\text{Migrant}) + \beta_2(\text{Log_Age}) + \beta_3(\text{Male}) + \beta_4(\text{Post_sec High}) + \beta_5(\text{Work FT/PT}) + \beta_6(\text{Mid Income}) + \beta_7(\text{Business angel}) + \beta_8(\text{GDP/capita}) + \beta_9(\text{Self-efficacy}) + \beta_{10}(\text{Opportunity Perception}) + \beta_{11}(\text{Polity2}) + \beta_{12}(\text{Polity2*Migrant}) + \varepsilon$$

$$(3) \text{ TEA status} = \beta_0 + \beta_1(\text{Migrant}) + \beta_2(\text{Log_Age}) + \beta_3(\text{Male}) + \beta_4(\text{Post_sec High}) + \beta_5(\text{Work FT/PT}) + \beta_6(\text{Mid Income}) + \beta_7(\text{Business angel}) + \beta_8(\text{GDP/capita}) + \beta_9(\text{Self-efficacy}) + \beta_{10}(\text{Opportunity Perception}) + \beta_{11}(\text{Fh_Polity2}) + \beta_{12}(\text{Fh_Polity2*Migrant}) + \varepsilon$$

$$(4) \text{ TEA status} = \beta_0 + \beta_1(\text{Migrant}) + \beta_2(\text{Log_Age}) + \beta_3(\text{Male}) + \beta_4(\text{Post_sec High}) + \beta_5(\text{Work FT/PT}) + \beta_6(\text{Mid Income}) + \beta_7(\text{Business angel}) + \beta_8(\text{GDP/capita}) + \beta_9(\text{Self-efficacy}) + \beta_{10}(\text{Opportunity Perception}) + \beta_{11}(\text{P.Globalization}) + \beta_{12}(\text{P.Globalization*Migrant}) + \varepsilon$$

$$(5) \text{ TEA status} = \beta_0 + \beta_1(\text{Migrant}) + \beta_2(\text{Log_Age}) + \beta_3(\text{Male}) + \beta_4(\text{Post_sec High}) + \beta_5(\text{Work FT/PT}) + \beta_6(\text{Mid Income}) + \beta_7(\text{Business angel}) + \beta_8(\text{GDP/capita}) + \beta_9(\text{Self-efficacy}) + \beta_{10}(\text{Opportunity Perception}) + \beta_{11}(\text{P.System}) + \beta_{12}(\text{P.System*Migrant}) + \varepsilon$$

$$(6) \text{ TEA status} = \beta_0 + \beta_1(\text{Migrant}) + \beta_2(\text{Log_Age}) + \beta_3(\text{Male}) + \beta_4(\text{Post_sec High}) + \beta_5(\text{Work FT/PT}) + \beta_6(\text{Mid Income}) + \beta_7(\text{Business angel}) + \beta_8(\text{GDP/capita}) + \beta_9(\text{Self-efficacy}) + \beta_{10}(\text{Opportunity Perception}) + \beta_{11}(\text{Regime Durability}) + \beta_{12}(\text{Regime Durability*Migrant}) + \varepsilon$$

Corruption and Government Effectiveness models

For the next set of hypotheses, I utilise:

$$(7) \text{ TEA status} = \beta_0 + \beta_1(\text{Migrant}) + \beta_2(\text{Log_Age}) + \beta_3(\text{Male}) + \beta_4(\text{Post_sec High}) + \beta_5(\text{Work FT/PT}) + \beta_6(\text{Mid Income}) + \beta_7(\text{Business angel}) + \beta_8(\text{GDP/capita}) + \beta_9(\text{Self-efficacy}) + \beta_{10}(\text{Opportunity Perception}) + \beta_{10}(\text{Freedom corruption}) + \beta_{11}(\text{CPI}) + \beta_{12}(\text{Political Corruption}) + \beta_{13}(\text{Control of Corruption}) + \beta_{14}(\text{Government Effectiveness}) + \varepsilon$$

$$(8) \text{ TEA status} = \beta_0 + \beta_1(\text{Migrant}) + \beta_2(\text{Log_Age}) + \beta_3(\text{Male}) + \beta_4(\text{Post_sec High}) + \beta_5(\text{Work FT/PT}) + \beta_6(\text{Mid Income}) + \beta_7(\text{Business angel}) + \beta_8(\text{GDP/capita}) + \beta_9(\text{Self-efficacy}) + \beta_{10}(\text{Opportunity Perception}) + \beta_{10}(\text{Freedom corruption}) + \beta_{11}(\text{Freedom Corruption*Migrant}) + \varepsilon$$

$$(9) \text{ TEA status} = \beta_0 + \beta_1(\text{Migrant}) + \beta_2(\text{Log_Age}) + \beta_3(\text{Male}) + \beta_4(\text{Post_sec High}) + \beta_5(\text{Work FT/PT}) + \beta_6(\text{Mid Income}) + \beta_7(\text{Business angel}) + \beta_8(\text{GDP/capita}) + \beta_9(\text{Self-efficacy}) + \beta_{10}(\text{Opportunity Perception}) + \beta_{11}(\text{CPI}) + \beta_{12}(\text{CPI*Migrant}) + \varepsilon$$

$$(10) \text{ TEA status} = \beta_0 + \beta_1(\text{Migrant}) + \beta_2(\text{Log_Age}) + \beta_3(\text{Male}) + \beta_4(\text{Post_sec High}) + \beta_5(\text{Work FT/PT}) + \beta_6(\text{Mid Income}) + \beta_7(\text{Business angel}) + \beta_8(\text{GDP/capita}) + \beta_9(\text{Self-efficacy}) + \beta_{10}(\text{Opportunity Perception}) + \beta_{11}(\text{Political Corruption}) + \beta_{12}(\text{Political Corruption*Migrant}) + \varepsilon$$

$$(11) \text{ TEA status} = \beta_0 + \beta_1(\text{Migrant}) + \beta_2(\text{Log_Age}) + \beta_3(\text{Male}) + \beta_4(\text{Post_sec High}) + \beta_5(\text{Work FT/PT}) + \beta_6(\text{Mid Income}) + \beta_7(\text{Business angel}) + \beta_8(\text{GDP/capita}) + \beta_9(\text{Self-efficacy}) + \beta_{10}(\text{Opportunity Perception}) + \beta_{11}(\text{Control of Corruption}) + \beta_{12}(\text{Control of Corruption*Migrant}) + \varepsilon$$

$$\text{TEA status} = \beta_0 + \beta_1(\text{Migrant}) + \beta_2(\text{Log_Age}) + \beta_3(\text{Male}) + \beta_4(\text{Post_sec High}) + \beta_5(\text{Work FT/PT}) + \beta_6(\text{Mid Income}) + \beta_7(\text{Business angel}) + \beta_8(\text{GDP/capita}) + \beta_9(\text{Self-efficacy}) + \beta_{10}(\text{Opportunity Perception}) + \beta_{11}(\text{Government Effectiveness}) + \beta_{12}(\text{Government Effectiveness*Migrant}) + \varepsilon$$

Business and Financial Freedom models

And finally, I have:

$$(12) \text{ TEA status} = \beta_0 + \beta_1(\text{Migrant}) + \beta_2(\text{Log_Age}) + \beta_3(\text{Male}) + \beta_4(\text{Post_sec High}) + \beta_5(\text{Work FT/PT}) + \beta_6(\text{Mid Income}) + \beta_7(\text{Business angel}) + \beta_8(\text{GDP/capita}) + \beta_9(\text{Self-efficacy}) + \beta_{10}(\text{Opportunity Perception}) + \beta_{11}(\text{Business Freedom}) + \beta_{12}(\text{Business Freedom*Migrant}) + \varepsilon$$

$$(13) \text{ TEA status} = \beta_0 + \beta_1(\text{Migrant}) + \beta_2(\text{Log_Age}) + \beta_3(\text{Male}) + \beta_4(\text{Post_sec High}) + \beta_5(\text{Work FT/PT}) + \beta_6(\text{Mid Income}) + \beta_7(\text{Business angel}) + \beta_8(\text{GDP/capita}) + \beta_9(\text{Self-efficacy}) + \beta_{10}(\text{Opportunity Perception}) + \beta_{11}(\text{Business Freedom}) + \beta_{12}(\text{Business Freedom*Migrant}) + \varepsilon$$

$$(14) \text{ TEA status} = \beta_0 + \beta_1(\text{Migrant}) + \beta_2(\text{Log_Age}) + \beta_3(\text{Male}) + \beta_4(\text{Post_sec High}) + \beta_5(\text{Work FT/PT}) + \beta_6(\text{Mid Income}) + \beta_7(\text{Business angel}) + \beta_8(\text{GDP/capita}) + \beta_9(\text{Self-efficacy}) + \beta_{10}(\text{Opportunity Perception}) + \beta_{11}(\text{Financial Freedom}) + \beta_{12}(\text{Financial Freedom*Migrant}) + \varepsilon$$

Table 16. All variables model

VARIABLES	(1)
Status: Migrant	0.18*** (0.05)
Log Age	-0.55*** (0.03)
Gender = Male	0.07*** (0.02)
Post-Secondary Education	0.08*** (0.02)
Work: F-T, P-T	1.42*** (0.02)
Middle Income 33%tile	-0.06** (0.02)
Business Angel	0.39*** (0.03)
GDP per capita (current US\$)	-0.00+ (0.00)
Perceived Capabilities	1.41*** (0.02)
Opportunity Perception	0.53*** (0.02)
Polity2	-0.15 (0.16)
Imputed Polity/Freedom	-0.12 (0.18)
Political Globalization	-0.00 (0.00)
Political System	-0.09+ (0.05)
Regime Durability	0.00 (0.00)
Freedom from Corruption	0.02 (0.01)
Corruption Perceptions Index	0.01 (0.02)
Political corruption	-0.26 (0.37)
Control of Corruption	-0.33 (0.42)
Government Effectiveness	-0.31+ (0.19)
Business Freedom	-0.02*** (0.00)
Financial Freedom	0.01* (0.00)
Constant	-2.22* (1.01)
Observations	167,749
Number of Countries	56

Note. Dependent variable: TEA Rate.

Robust Standard errors are in parentheses.

* significant at *** p<0.001, ** p<0.01, * p<0.05, + p<0.10

CHAPTER 4: EFFECTS OF INSTITUTIONAL DISCONTINUITY ON BUSINESS CREATION IN THREE MIDDLE EAST AND NORTH AFRICA (MENA) COUNTRIES: ALGERIA, EGYPT & TUNISIA

Abstract

What happens to entrepreneurship and attitudes towards entrepreneurship when institutions change due to conflict (e.g. revolutions, uprisings, wars, etc.)? I explore this question by investigating how recent institutional changes related to the Arab Spring revolutions influence decisions to start a business in Algeria, Tunisia, and Egypt. The Arab Spring Revolutions are considered to have created a change in the political and economic fabric in the Middle East and North Africa (MENA) region. Thus, the choice of these countries is primarily based on the recent political and economic changes that have taken place since the revolutions started in 2010. I draw on the paradoxical nature of institutional change through radical change due to revolutions and crises. Therefore, this chapter contributes to the existing literature by exploring how radical institutional change after conflict (revolutions, war, and uprisings) both directly and in conjunction with the personal characteristics of individuals influence entrepreneurial activity. The findings suggest that there should be a greater focus in countries coming out of conflict on how to leverage the benefits of social and business networks to stimulate growth through entrepreneurial activity.

4.1 Introduction

The approach of this chapter builds upon the works of Mancur Olson and Daron Acemoglu (Acemoglu et al., 2012, Olson, 2008, Olson, 1993). Olson's theory of economic growth proposes that when a country experiences prolonged periods of stability, economic growth suffers. Thus, over time a stable democracy will tend to amass more and more distributional coalitions (rent-seeking special interest groups or elite oligarchs) whose political power will gradually grow, causing the impediment of economic growth.

In contrast, in countries that experienced a deep rooted change in political regime, surges in economic growth rates have taken place. It is thus particularly suitable to use Olson's work to analyse how political change may influence entrepreneurial business start-ups as entrepreneurial rates and development is expected to increase after political change (e.g. in the case of Arab Spring revolutions). An example of this argument in action is the following: in Great Britain, institutional structures that drive entrepreneurship, as well as cultural attitudes about these institutions, have remained intact for long periods of time despite several phases of political, economic and social change in its modern history that nevertheless did not cause any major disruption (Olson, 2008).

On the other hand, other countries in Europe such as Germany have historically endured long periods of instability, totalitarianism, civil conflict. The institutional structures that affect entrepreneurship such as the extent of the (formal) rule of law supportive of business start-ups as well as (informal) cultural values and norms were disrupted due to political change. Olson argues that with the disruption in these institutions and the overthrowing of the ruling regimes at the time, rent-seeking special interest groups composed of the oligarchy of people in power also disappear. This disruption of power may lead to a holistic market society where more individuals can participate in the overall economic growth.

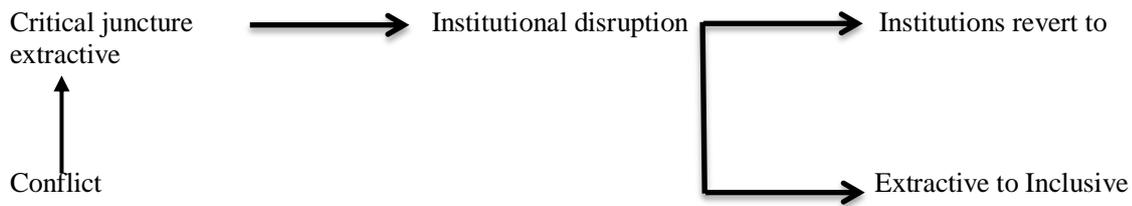
The previous argument, therefore, applies here. After political and economic change in emerging economies such as in Latin America, MENA region, and Africa, entrepreneurs can rise

and expand their common interests thanks to decreased ability to collude of larger organizations as a result of radical changes in institutional structures.

In a more recent argument, Acemoglu et al. (2012) argue that for any economic success, institutions must be sufficiently centralized to provide basic public services including justice, property rights enforcement and education (Acemoglu et al., 2012). They theorize that institutions are divided into extractive and inclusive and they argue that rich countries are rich due to inclusive economic and political institutions, while poor countries are poor due to extractive institutions (Figure 4.1 below). Inclusive institutions enable productive innovation leading to sustained economic growth and extractive institutions are these where a “small” oligarchic group of individuals exploit the rest of the population to extract resources (Acemoglu et al., 2012).

Historically radical institutional change has often taken place through conflict (revolutions, uprisings, and wars). In some (but not all) cases, extractive institutions are replaced by inclusive institutions in the affected countries. This process may lead not to incremental differential institutional drift but significant transformations in institutions. These notable transformations are called ‘critical junctures’ (and/or a crucial turning point in a country’s history); for example, the Glorious Revolution in England in 1688 which brought along much more inclusive institutions creating the conditions that led to the industrial revolution (Acemoglu et al., 2012). Yet revolutions may be endogenous in the institutional change model in the long term because they start from the dismay of the citizens of a nation from the current state of affairs. However, revolutions are not the only manner in which institutional change occurs. Not all significant change requires a revolution to take place; the discontinuity coming from accumulated gradual change may result from a specific set of political and social conditions that make reform based on collective action feasible (Fukuyama, 2011). Figure 4.1 below illustrates the institutional divergence process.

Figure 4.1 Critical Junctures



Based on the above introduction, I bring in micro aspects to the analysis and set to examine the relationships between the personal characteristics and entrepreneurial business start-up activity in Algeria, Egypt and Tunisia countries amidst *radical political change* in the region. I then explore how these personal characteristics may inspire the decisions to start business ventures in the three countries after the Arab Spring as compared to before. Personal resources and individual social networks may substitute for the systems to enforce formal regulatory institutions not being in place (Estrin and Mickiewicz, 2012). Thus potential entrepreneurs may develop a strong social network and are encouraged to utilize their skills in starting a business venture through these connections rather than the official formal channels (Estrin and Mickiewicz, 2012).

In particular, in this chapter, I aim to examine the relationship between personal characteristics relevant to entrepreneurship such as self-efficacy, lack of fear of failure (De Clercq and Arenius, 2006, Minniti and Nardone, 2007, Stephan and Uhlaner, 2010), entrepreneurship-relevant social resources (social connections) (Minniti and Nardone, 2007), financial resources (business angels) and their impact on and entrepreneurial activity in Algeria, Egypt and Tunisia before and after the Arab Spring. Mainly, I set out to explore how these personal characteristics influence entrepreneurial start-ups and how they are influenced by the prevalence of changing political, social and economic formal institutions due to conflict.

As shown by Arenius and Minniti (2005), personal characteristics have an impact on the decision to start a business. That is, personal perceptions and attitudes about one's skills (self-efficacy), knowledge of other entrepreneurs and fear of failure are all critical factors in deciding to start a business (Arenius and Minniti, 2005, Arenius and De Clercq, 2005, Aidis et al., 2008, Estrin et al., 2012).

Following this, I explore and expand on the understanding of the effects of the above mentioned personal characteristics in an environment characterized by turmoil, instability and political change such as in the MENA region post Arab Spring. In particular, I investigate how and to what extent knowing other entrepreneurs through social connections impact decisions to start a business; and similarly if the belief in one's skills and abilities (self-efficacy), and fear of failure affects decisions to start a new business venture (Hopp and Stephan, 2012) in post conflict Algeria, Egypt and Tunisia impact decisions to start a businesses. (Hopp and Stephan, 2012).

Even though entrepreneurship is an occupational choice, it may be a choice out of necessity or one selected to capitalize on a business opportunity. When there are limited employment opportunities, then entrepreneurship may be the occupational route of choice in which case, imitation of business ideas and models may be borrowed (Hart and Mickiewicz, 2016). This in hand creates competition in the market but can also have a crowding out effect and push existing ventures out of the market. However, when the political, economic and social environments are changing in light of radical change induced by revolutions (e.g. Arab Spring revolutions), potential entrepreneurs may realize that business opportunities may ensue. Therefore, the environment becomes more attractive for entry because of the rising optimism following said radical change. Thus, this chapters aim to categorize potential entrepreneurship into those that see an opportunity for a business start-up in the near future. Additionally, entrepreneurship as an occupation choice can also mean that potential entrepreneurs may choose to start a business as a self-employment motivation. However, some may be looking into expanding and growing these businesses as well as creating jobs and aspiring at high growth rather than solely self-employment. Therefore, in this chapter I also categorize potential entrepreneurs into those that choose entrepreneurship motivated by self-employment and those that aspire for growth.

The contribution of this chapter lies in its exploration of the impact of individual characteristics in an environment characterized by evident and exogenously determined radical institutional change. Institutional change in this scenario acts as a determinant of differing levels

of entrepreneurship in countries affected by the change (i.e. the Arab Spring). The decision to start a business venture is a complex one and is dependent on high risk-taking and individual personal traits and/or characteristics within the economic context. Therefore, I hope this chapter will serve as a starting point for further empirical studies of entrepreneurship in the MENA region economies and other emerging markets. To aid my analysis, I summarize the contextual background of the three countries over the period prior and post the Arab Spring revolutions of 2010 in which I will be able to assess the institutional environment based on historical indices and explore whether the current frameworks have changed either hindering and/or supporting entrepreneurial activity.

The rest of the chapter is structured as follows: the next section examines the conflict context of the Arab Spring revolutions and ensuing change. Next, the theoretical framework and proposed hypotheses are discussed. The methodology, sampling, and estimation are discussed next. Finally, the results and discussion of findings sections follow respectively.

4.2 Context: The Arab Spring

“Despite the prevailing pessimism, it should be recognised that the situation of pluralism has improved. There are now many more political parties, social movements, young people, women, organizations etc. who have a voice in the process. They have adopted the rule that freedom implies their participation and their right to make demands; a formula they seem unwillingly to surrender. There is, therefore, an enormous sense of citizen appropriation, an empowerment of the masses..” (Mediterranean, 2013).

The Arab Spring has had deep political, social and economic implications in the Arab world when previously this region was considered one characterised by persistent authoritarianism for decades (Beck and Hüser, 2012). After countries in the Eastern Bloc completed their transition from Soviet-type economies to a freer market economy, many believed that this transition would be disastrous; however, entrepreneurs were able to assist in these transitional economies of Eastern and Central Europe by contributing substantially to new job creation, tackling a major problem facing Eastern Bloc economies during transition (Demirguc-Kunt et al., 2009, Ayyagari and Beck,

2003, Aidis et al., 2008). As mentioned earlier in this chapter, formal institutional frameworks in a country play a critical role in developing an abundant and successful environment for entrepreneurship development. In this regard, I argue that the institutional frameworks in Egypt, Algeria and Tunisia considered as pre-and post-Arab Spring, and affected by political, economic and social change, have an important influence on decisions to start a business but also a unique impact from country to country. The following paragraphs shed light on the impact of the Arab spring revolutions on the institutional fabric in the countries affected and the region by spill over effects.

The Arab Spring was a wave of revolutionary demonstrations, protest, riots and civil wars that took place in the Arab world and more specifically the MENA region. These protests erupted on December 18 of 2010 and have yet to stop in some countries (e.g. Syria, Egypt, and Yemen) at time of writing. They were fuelled by the discontent and frustration of the people in the region with the ruling regimes and governments following enormous income inequalities, human rights violations and the long-standing state of emergency applied in many of the region's countries. In addition, these revolutions were prompted by poverty, unemployment and the lack of economic opportunities for the region's countries increasing youth population (Malik and Awadallah, 2013). Furthermore, many of the youth in the Arab World have gradually become more educated leading to higher aspirations for their careers and futures. These aspirations have been severely dampened by the local government's unwillingness to reform economically and politically (Malik and Awadallah, 2013).

In many MENA region countries, the Arab Spring confronted the political power of the ruling regimes but it also dictated the political debate in other countries in the region not directly affected by the wave of revolutions. According to Beck and Hüser (2012), the Arab Spring was inevitable because of the considerable change in the demographic fabric of the Arab World. The population of the region grew from 128 million to 359 million inhabitants in the years between 1970 and 2010. Of this number, an estimated 40 percent live below the poverty line while almost

30 percent of the population is aged between 20 and 35 years (Beck and Hüser, 2012). Even though this generation of Arab youth is more educated and qualified than the generations before them, the unemployment rates for the individuals between the age of 15 and 24 was the highest in the world at 25.6 percent in 2003 (Beck and Hüser, 2012). Additionally, the labour markets in these countries offer limited opportunities for university graduates leading to the severe discontent and desperation amongst the educated.

It is imperative to note that in addition to the political/institutional changes that arise as a result of the Arab Spring, there are also divergent levels of macro economic indicators such as GDP per capita for Egypt, Algeria, and Tunisia in the periods before and after the Arab Spring. Graph 1 in the appendix from the World Bank's: World Development Indicators illustrates the changes in GDP per capita in Algeria and Egypt for several years in the period before and after the Arab Spring (from 2008 to 2012). As can be seen, in both Algeria and Egypt, GDP per capita increased after the Arab Spring revolutions noting a slight surge from 2011 and 2012 in Algeria while keeping a steady pace in Egypt. Due to continuous economic reforms applied by the Algerian government prior to unrest and upheaval, the economic environment developed allowing for opportunities and growth.

4.2.1. Political implications of the Arab Spring

The Arab Spring started on December 18, 2010 in Tunisia following Mohammed Bouazizi's self-immolation in protest of the autocratic treatment by the government of the people as well as corruption. As protests and demonstrations exploded in Tunisia, a chain reaction followed leading to governments being overthrown in four countries in the MENA region. These are:

- Tunisian president Zine El Abidine Bin Ali stepped down and fled to Saudi Arabia on January 14, 2011.
- President of Egypt Hosni Mubarak stepped down from power on February 11, 2011, after 18 consecutive days of protests ending a 30-year reign as head of government. Elected

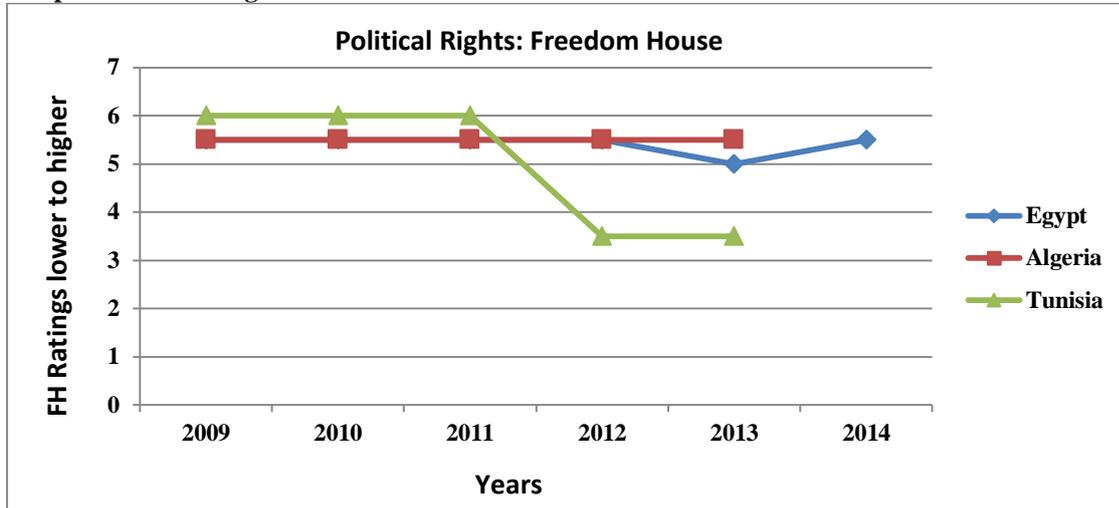
president Mohamed Mursi of Egypt was ousted by the military on July 3, 2012, just one year after being elected leading to ongoing violence and demonstrations as a result.

- Following a civil war, Libyan president Muammar Al Kadafi was overthrown on August 23, 2011, and killed on October 20, 2011, after 42 years in power.
- Ali Abdallah Salih, president of Yemen agreed to step down and initiate early elections on February 27, 2012.

On the one hand, the collapse of these autocratic regimes in Egypt, Libya, Yemen and Syria among others has not led to the establishment of democratic regimes which would bring about political and economic stability. Conversely, many countries involved in the Arab Spring have been experiencing political, economic and social instability. Overall, over the span of seven years since the eruptions of the revolutions, the affected countries did not reach a significant point of stability and the transition from autocratic rule to democratic rule is still in its infancy. Since the onset of these revolutions, sound and vigorous research has yet to surface and it is an opportunity to explore the status of entrepreneurial development as well as the effects of entrepreneurship determinants post conflict on these economies, with more general lessons on the impact of institutional disruption on entrepreneurship.

To illustrate political reforms in Algeria, Egypt, and Tunisia, I use the Freedom House rating which includes two measures, political rights and civil liberties: The graphs below illustrate these measures.

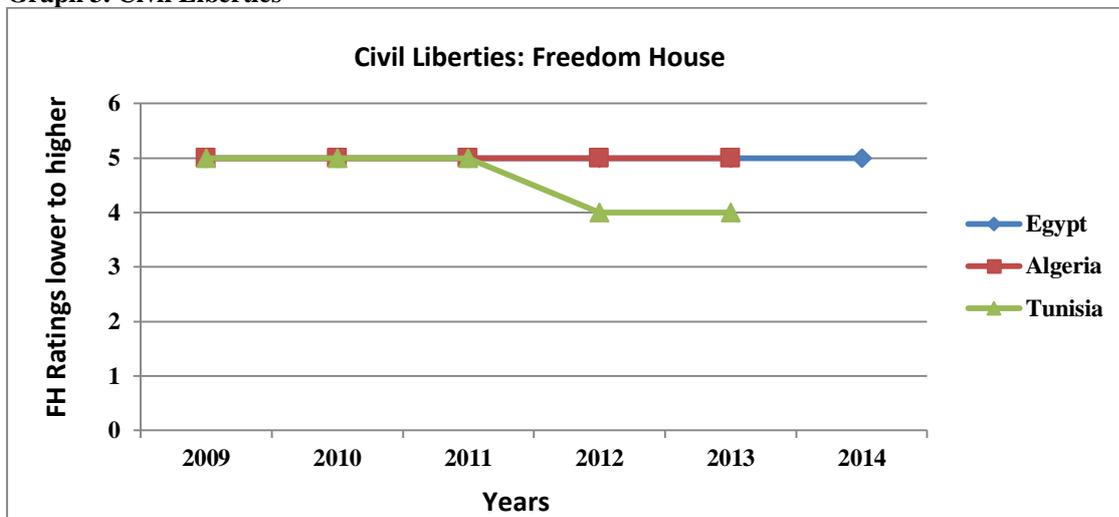
Graph 2. Political Rights



Note: the higher the FH ratings means the lower the political rights index: 0 = best political rights, 7 = worst political rights

Source: Freedom House: Freedom in the World Scores, 2014

Graph 3. Civil Liberties



Note: the higher the FH ratings means the lower the civil rights index: 0 = best civil rights, 7 = worst civil rights

Source: Freedom House: Freedom in the World Scores, 2014

In other countries like Algeria, Jordan, and Morocco, leaders have been pressured into decreeing political and economic reforms to try and pacify public anger and demonstrations. Table 29 and the country sections in the appendix summarizes the conflicts in the countries concerned for the purposes of this chapter.

The Arab Spring brought transformations to Egypt and Tunisia in a similar fashion, through mass protests. Demonstrations spread throughout both countries in addition to the collapse of the security forces and the refusal of the military to intervene steering the direction of the downfall of the regimes. Tunisia President Zine el Abidine Ben Ali fled to Saudi Arabia on January 14, 2011, and Egyptian President Hosni Mubarak resigned a month later, however, from that point onwards both countries led different paths of transition (Ottaway, 2013). This divergence illustrates the argument about the range of possible outcomes at a ‘critical juncture’, after a regime change (Acemoglu et al., 2012).

4.3 Literature Review and Theoretical Framework

4.3.1 Definition of Entrepreneurship

In the following section, I present, and define the key concepts taken into consideration in this chapter starting by firstly defining entrepreneurship.

There are two distinct categories or notions under which entrepreneurship is classified: the behavioural and the occupational notions. In the behavioural point of view, entrepreneurship can be defined as ‘the perceptions and creation of economic opportunities’ (Wennekers and Thurik, 1999). Thus, the emphasis, in this case, is on the managerial behaviours of the individual pursuing an entrepreneurial endeavour. The occupational category, on the other hand, defines the individual as an entrepreneur by their occupation type; in other words someone who works for their own accord (Gartner, 1985, Gartner, 1988, Hébert and Link, 1988). The occupational category concentrates on the differences between individuals owning and managing a business of their own and individuals in full-time employment. This chapter accentuates the occupational notion of entrepreneurship and distinguishes between those potential entrepreneurs that recognize a business opportunity in the future and those that do not see such opportunities, as well as those that are motivated by self-employment and those that aspire for growth thus also drawing from the behavioural notion.

One of the main aspects of the definition of entrepreneurship is illustrated by (Bygrave and Hofer, 1991); that entrepreneurs are people who recognize an opportunity and pursue this opportunity via entrepreneurial activities. This definition takes into consideration that entrepreneurship is about new venture/business creation. This chapter, therefore, highlights the start-up phase of entrepreneurship in the three chosen countries, described as the nascent phase/nascent entrepreneurship. Nascent entrepreneurship is the phase where an individual has decided to become an entrepreneur and taken significant steps to start a venture ending either with a successful creation of a business or the discontinuation of the venture altogether (Hopp and Stephan, 2012, Reynolds et al., 2005).

The focus of this chapter is on decisions to start a business and the effects of personal characteristics on taking these decisions shaped by changes in the business environment due to conflict. Some economists have proposed to look at determinants of the phenomena of entrepreneurship investigating the institutional environment including formal and informal institutions, and social capital (Aidis et al., 2008, Aidis et al., 2012, Estrin et al., 2012, Estrin et al., 2013). Some of these determinants are based on earlier work in the fields of institutions and entrepreneurship as well as political economy such as (Baumol, 1996, Baumol, 1993, Baumol, 2002b, Baumol, 1968), and (North, 1990, North, 1994, North, 1997) and Acemoglu and Johnson in (Acemoglu et al., 2005) and more recently Acemoglu and Robinson (Acemoglu et al., 2012). It is argued in some literature that the supply and quality of entrepreneurship is likely to be influenced by the institutional framework of a country (Henrekson, 2007, Hessels et al., 2008). The following section looks at the definition of institutions and how they are likely to affect entrepreneurship.

4.3.2 Institutions

Based on the work of Douglas North (North, 1990, North, 1994, North, 1997), institutions can be defined as the structures which provide rules, constraints, and incentives that act as tools of governance for exchanges and cooperation. In essence, institutions are considered the implicit or explicit “rules of the game” which frame behavior and are deeply embedded in the society, yet,

adaptable to change (Estrin et al., 2013). These institutions are often formal, such as rule of law and property rights, but also informal such as cultural norms, beliefs, and values (North, 1990, North, 1994, North, 1997). Informal institutions can complement formal institutions by increasing their effectiveness (Troilo, 2011).

While research about individual factors enabling or hampering entrepreneurship has increased significantly; in contrast, the research regarding the relationship between institutions and entrepreneurship is still emerging (Hopp and Stephan, 2012). Recent cross country research has produced important insights into formal institutions and their impact on entrepreneurial activity/behaviour (Aidis et al., 2008, Estrin et al., 2012, Bowen and De Clercq, 2008).

The focus of this chapter is on the impact of personal characteristics on entrepreneurial start-up decisions influenced by institutional change post the Arab Spring. I examine how cultural norms affect individual's perceptions about the skills and abilities they need for starting a business (self-efficacy) (Arenius and Minniti, 2005, Minniti, 2004). I also explore how knowledge of other entrepreneurs or in other words, social connections (Minniti, 2004, Minniti and Nardone, 2007, Baron, 2000), lack of fear of failure (Kihlstrom and Laffont, 1979) and finally if the individual was a business angel in the past, can have an impact on entrepreneurial start-ups pre and post institutional change.

I follow on from (Stephan and Uhlaner, 2010, Arenius and Minniti, 2005) studies and target the individual characteristics of social connections, self-efficacy, fear of failure and being a business angel in the past that influence entrepreneurial business start-ups. I investigate the effects of these factors on business start-up decisions by comparing between the three countries with the aim of identifying the extent of influence and capacity of such factors amidst political, economic and or social change post the Arab Spring. As already discussed, historically, the three countries have been under autocratic/military regimes for several decades but since 2010 and the eruption of the Arab Spring Revolutions, the region experienced major instability; more so in Egypt and Tunisia compared to Algeria where the older regimes of former president Husni Mubarak who

ruled from 1981 to 2011 and Ben Ali in Tunisia who was in power from 1987 to 2011 were dissolved. In turn, in Algeria, the effect of the Arab Spring Revolutions did not succumb to full removal of the ruling regime but rather led to the creation of several economic and political reforms led by Abdel Aziz Bouteflika as president, (for more details refer to context section above).

Recent research in economics has emphasized the occupational choice aspect of entrepreneurship and as a result, this research has identified demographic and economic factors such as age, education, income levels and work status as important drivers of this activity. Perceptual variables such as self-efficacy, social connections, fear of failure and being a business angel are considered personal characteristics because potential entrepreneurs rely extensively on the subjectivity and sometimes biased perceptions of these traits rather than objective outcomes of success and thus they may have a stronger effect on decisions to start a business venture than other human capital variables such as education level, work experience and demographics (Hopp and Stephan, 2012, Arenius and Minniti, 2005).

Arenius and Minniti (2005) have found that subjective perceptions about one's skills and abilities, fear of failure, knowledge of other entrepreneurs (social connections) are highly correlated with start-up decisions suggesting that starting a business is a multi-faceted process conditional on not just the economic environment but the personal characteristics of individuals. Therefore, I examine how these personal characteristics impact the decisions to start a business in light of the institutional change (political and economic) before and after the Arab Spring in the three countries. Internal conflicts such as the ones following the Arab Spring revolutions in the MENA region suggest that formal institutions were weakened and the rule of law, as well as formal authority, were undermined and replaced by informal elite structures such as paramilitary groups (Mickiewicz et al., 2014) thus warranting further investigation.

4.3.3 Political change and entrepreneurship

Mancur Olson argues that there is a distinction between (a) interest groups and/or oligarchs that have colluded over time within the elites of a society and seen as leading to effects unfriendly

to economic growth, and (b) encompassing coalitions, which are seen as potentially aiding with economic growth. He then argues that over time a stable democracy will tend to accrue more of these distributional coalitions, gradually hindering economic growth. Olson uses post World War II performance of Germany and Japan comparing these two countries to the UK, arguing that the overthrow of the ruling regimes at the time in Germany and Japan led to the collapse of oligarchs (distributional coalitions). With this collapse, however, the performance of Germany and Japan rapidly improved post WWII while the economic performance of the relatively stable UK post-WWII was relatively weak (Olson, 2008).

Olson (2008) predicts that over time societies that accumulate more and more of these coalition groups will naturally decline in terms of economic growth as the groups tend to avert economic resources away from overall economic growth enhancing activities to ones that are geared toward group gains (Heckelman, 2007). Nonetheless, Olson (2008) also illustrates that the process of breaking down the distributional coalitions is not only attached to instability, war and conflict but can also occur in a democratic stable environment such as in the case of the UK under Margret Thatcher where the country underwent significant political and economic transformation of privatization and marketization (Olson, 2008). The powers of distributional coalitions could be dissolved through peaceful democratic means as well, thus not only during times of conflict or via revolution. But these oligarchies can also be dissolved during instability times through coups and revolutions such as the Arab Spring. These coups are predicted to dissolve the influence of these coalition groups on economic resources and open avenues for economic growth. However, continuous instability can also lead to rent seeking activities, thus Olson suggests that the best time for growth should be when there is a recent revolution/up-rising and where long term stability is anticipated to follow (Heckelman, 2007, Olson, 2008).

Based on Olson's growth theory (Olson, 2008), the Arab Spring can be considered a form of political and economic changes in the MENA region that could lead to the dissolution of the oligarchies and to instability; however we still need to wait further to understand the results of these

revolutions. Nevertheless, regime change may have resulted in identifying entrepreneurial business opportunities in the aforementioned countries. I hypothesized that even if Egypt is currently unstable politically, socially and economically, the impact of breaking up oligarchic structure implies then the likelihood of business start-ups will increase in light of the political change. Likewise in Tunisia, the effects of political change will on balance be equally positive for entrepreneurship opportunities. However, I also posit that in Algeria which has not experienced significant political change, entrepreneurial business start-ups will increase due to the economic reforms implemented by the government, (for a review of these reforms please refer to context section above). As discussed by Acemoglu et al. (2012), critical junctures are crucial turning points that disrupt the existing political and economic equilibrium in one or many societies. In this chapter, the Arab Spring represents this critical juncture. The Algerian regime chose to implement economic reforms immediately after the uprisings took place in order to contain the ferocity and vigour of the demonstrations. I postulate that these economic changes will reveal business opportunities that will be realised by the Algerians, thus increasing entrepreneurial business start-ups.

Thus, potential entrepreneurs in Egypt, Tunisia and Algeria are believed to be more likely to start a business venture post the Arab Spring. Moreover, stemming from long reigns of autocratic regimes in the three countries, individuals in such environments tend to have less confidence levels in their capacities and abilities to start a business venture as they have passed through the hardships imposed by these regimes on the society. Some of the traits of the past autocratic ruling regimes imposed harsh limitations on learning, education, and interaction with the outside world to protect the regime. Let us consider Egypt as an example. Husni Mubarak's administration was in control of most institutional elements in the country including the media, education, health as well as security and intelligence agencies. Constitutional freedoms such as speech among others were severely constrained during this reign and so citizens had less motivation and less opportunity to express their needs (Kienle, 2012, Korany and El-Mahdi, 2012). With these measures in place,

societies are in the long run bound to feel under achieving and unmotivated as institutional support become scarce.

Based on the literature reviewed throughout this thesis, I produce a general understanding of entrepreneurial start-up decisions in the context of economies emerging from conflict and experiencing dynamic political changes. It is important to stylize the possible factors affecting entrepreneurship in more detail to understand the opportunities as well as constraints in this kind of environment especially in three countries with complex political, cultural and business environments. A comparative approach is used in this chapter to explore empirically the differences between Algeria, Egypt, and Tunisia in entrepreneurial start-up decisions. It is important to note the effects of the Arab Spring revolutions and the ensuing political change as well as other reforms it may have caused must be taken into consideration; thus, for the purposes of this chapter the analysis includes time differences depicting the political change that took place before and after the start of the Arab Spring Revolutions in 2010. Several arguments emerge and are built based on intuition initially and will later be tested using appropriate samples and data.

Before highlighting the factors and arguments that may impact entrepreneurial activity in post conflict environments, I look at a general view on business start-up rates in the three countries to investigate whether there are change trends taking place in the years following the revolutions in every country respectively. Therefore this chapter aims to examine entrepreneurship in the economies of regions coming out of conflict.

Post conflict environments require special attention as they can be a hub for opportunities once institutional, social and economic restructuring takes place but they can also easily revert back to violence and instability (Collier and Hoeffler, 2004). Although institutional change (political, economic and social) may positively impact entrepreneurship through enhancing the business environment and business opportunities, there is also a negative impact of uncertainty in the environment (Collier and Hoeffler, 2004, Collier, 2007). More specifically, regime change can bring about positive effects, however, as in the case of Egypt for instance, the results of the regime

change can be ambiguous and the political, social and economic environments are still unstable. Thus, change brings about conflicting influences; one is positive effects of institutional change breaking up old constraints and the other is uncertainty about the environment due to continued instability and/or relapse of conflict (Collier, 2007). However, positive effects of institutional change can outweigh negative consequences as time lapses and the change itself becomes stable over time. As economic agents familiarize themselves with the institutional change and its ensuing consequences a learning effect takes over and individuals adapt to the nature of the changes as well as seek opportunities.

There are two distinct categories or notions under which entrepreneurship is classified: the behavioural and the occupational notions. In the behavioural point of view, entrepreneurship can be defined as ‘the perceptions and creation of economic opportunities’ (Wennekers and Thurik, 1999). Thus, the emphasis, in this case, is on the managerial behaviours of the individual pursuing an entrepreneurial endeavour. The occupational category, on the other hand, defines the individual as an entrepreneur by their occupation type; in other words someone who works for their own accord (Gartner, 1985, Gartner, 1988, Hébert and Link, 1988). The occupational category concentrates on the differences between individuals owning and managing a business of their own and individuals in full-time employment. This chapter accentuates the occupational notion of entrepreneurship and distinguishes between those potential entrepreneurs that recognize a business opportunity in the future and those that do not see such opportunities, as well as those that are motivated by self-employment and those that aspire for growth thus also drawing from the behavioural notion.

High-growth aspiration entrepreneurship as contrasted with low-growth aspiration entrepreneurship merits investigation as it prompts the advancement of the job market as well as significant market expansion and overall economic growth. Innovation, high job growth, and market expansion are some of the potentially many activities of high-growth aspiration entrepreneurship that may lead to sustained growth (Troilo, 2011). Entrepreneurs can potentially

become high-growth aspiring entrepreneurs planning market expansion and diversification, innovation in products, services and solutions and or a combination of all these activities (Troilo, 2011).

As institutional change in the form of political, social and economic change takes place in the MENA region post the Arab Spring, high-growth aspiring entrepreneurs might realize many business opportunities. The quality of the institutional environment impacts entrepreneurial activities and the potential of high-growth aspiring ventures (Estrin et al., 2009). As mentioned in the context section, before political change, the MENA region was been defined by autocratic regimes which suppressed freedoms and had weak rule of law, and corrupt institutions. Due to cross-country heterogeneity in entrepreneurship, several strands of literature have investigated the significance of institutional settings for entrepreneurship (Estrin et al., 2009). Of these studies, investigation on the role of strong property rights has been argued to be an important foundation for entrepreneurial activity (Johnson et al., 2002, Aidis et al., 2009). Desai et al. (2003) suggested that entrepreneurship growth takes place in less corrupt countries and countries where strong property rights, as well as a strong rule of law, are implemented. The Arab Spring has overthrown several autocratic regimes including Egypt and Tunisia as well as influencing economic and political reforms in Algeria giving high-growth aspiring entrepreneurship an opportunity to increase in these countries. There are two linked facets to the above argument: the effect of instability leading on from conflict (the Arab Spring) and creation of a window of opportunities after this instability. However, these two forces can potentially be conflicting; uncertainty and undermining of property rights stemming from instability may increase in the short run but in the long run this effect may decrease as society adapts to the change in the environment and this in hand can positively affect expectations of people and restore confidence in the market environment. Therefore, I hypothesize the following:

H1: the likelihood of starting a business motivated by opportunity recognition will increase post political change and/or reform after the Arab Spring revolutions compared to pre-political change and/or reform.

H2: the likelihood of starting a business motivated by high growth aspirations will increase post political change and/or reform after the Arab Spring revolutions compared to pre-political change and/or reform.

The next section sheds light on the impact of personal characteristics of social connections, self-efficacy, fear of failure and being a business angel on entrepreneurial business start-ups considering institutional change (political and economic change) from which my hypotheses are formulated.

4.3.4 Political change and self-efficacy

According to several streams of research in diverse fields such as psychology, sociology, and more generally human behaviour sciences confidence in one's abilities or in other words perceptions about self-efficacy, play a significant role in decisions to start a business (Bandura and Locke, 2003, Baron, 2000). In order to start a business venture, the incumbent must have great belief in their skills and capabilities to withstand the pressures of needing to succeed and overcome challenges experienced in this crucial phase of entrepreneurship (Arenius and Minniti, 2005). In fragile environments characterized by recent political and economic changes such as in Algeria, Egypt and Tunisia, confidence in one's abilities and skills is vital to the progress of an entrepreneurial endeavour as it compensates for the weakness/lack of formal rules and property rights. The influence of self-efficacy in post conflict versus oligarchic environments is still under researched; therefore, this chapter targets this research gap considering a recent major political and economic change in the MENA region.

Taking the decision to start a business venture in a post-conflict environment requires a great deal of courage, focus, and self-motivation to resist the instability as well as the changing environments. As discussed above, conflicting influences can take place after institutional change

(Collier, 2007, Collier and Hoeffler, 2004). The impact of uncertainty can influence individuals to lessen the ambiguity of the environment with strong self-motivation, focus, and courage. Therefore it is important for an individual aiming to start a business venture to have positive belief in their skills and abilities to be able to start and sustain a successful business venture. Starting a business venture, but more specifically sustaining a successful business venture necessitates confidence in one's abilities and skills in order to face the dynamic challenges of such ventures (Hopp and Stephan, 2012).

As already discussed, in Egypt and Tunisia, a major political change took place in which both ruling regimes were overthrown and replaced with newly democratically elected governments. However, the situation in Egypt is of a different character as the democratically elected government was then also ousted via military coup thus the status remains unstable. In contrast, Algeria noted several limited political and economic reforms (review Context section above) but no political regime change.

In light of these political and economic changes, I hypothesize that positive perceptions about one's abilities and skills will lead to higher likelihood of an individual to start a business venture in light of instability and uncertainty post political change and economic reform environments. Accordingly, I formulate the following hypotheses:

H3: positive perceptions about self-efficacy has a stronger impact on the likelihood of starting up a business in post political change and/or reform environments compared to pre-political change and/or reform environments.

4.3.5 Political change and entrepreneurial social connections

The second factor I investigate is the impact of social connections on decisions to start a business. Research in the field of entrepreneurship has revealed that networks between individuals, enterprises and government officials or other stakeholders play a significant role in the advancement of businesses and their growth (Kets de Vries et al., 2004, Aidis et al., 2008). The positive impact of social connections can also be explained by the important function that role

models and being part of a social networks. Knowing other entrepreneurs can decrease uncertainty during instability and changing political and economic environments. Being part of these entrepreneurial networks also provides information for potential entrepreneurs, therefore, supporting them in the start-up process.

Social networks henceforth called social connections have been found to be important for attaining resources such as information and finance thus enriching an entrepreneurs' capacity and capabilities leading to more successful endeavours (Aldrich et al., 1987, Ardichvili et al., 2003, Hills et al., 1997). Aidis et al. (2008) show that social connections in China and Russia play a vital role in defining the success of an entrepreneurial endeavour versus its failure, and illuminate informal networks as a powerful means for successful entrepreneurship. Studies have also found evidence that supports the role of social connections in terms of their capacity to enhance business performance (Batjargal, 2003).

As illustrated in the context of the Arab Spring in the three countries Algeria, Egypt and Tunisia, full democratization is yet to take place but there are encouraging steps taken to introduce institutional reforms that enhance market-based economies. However, with the reform process still in its early stages, the role of social connections is likely to still be of crucial importance to potential entrepreneurs in deciding to start a business venture in all three countries.

As already discussed, Olson postulates that over time in stable countries with unchanged boundaries, distributional coalitions (interest groups, collusive organizations such as entrepreneurs) start to form and grow. As these groups grow, their influence will redirect economic resources from growth developing activities such as technological advancements and process improvements to destructive self-rent seeking activities; therefore hindering economic growth (Olson, 2008) and the argument can be easily extended to a negative impact on wider entrepreneurial activities amongst the population.

However, what Olson theorizes is that during turmoil times (war, uprisings, protests etc.) these coalitions and groups are broken down. Once peace is restored to a country in turmoil, then

growth picks up rapidly (Olson, 2008). Nevertheless, this will only occur if the period of instability is not prolonged and is followed by stability. More often than not, however, a period of uncertainty ensues post conflict/reform which means that having social connections to offer access to information, resources, insurance and knowledge becomes more important for business start-up decisions (Djankov et al., 2005, Djankov et al., 2006a, Lin, 2002) and needed as there is now less reliability to access these resources through appropriate channels. I hypothesize that positive social connections lead to a higher likelihood of an individual to start a business venture in light of instability and uncertainty in post political change and economic reform environments. Accordingly, I formulate the following hypotheses:

H4: Social connections have a stronger impact on the likelihood of starting up a business in post political change and/or reform environments compared to pre-political change and/or reform environments.

4.3.6 Political change and Fear of failure

Fear of failure is viewed by Arenius and Minniti (2005) as the perceived risk of experiencing failure and its consequences when engaging in entrepreneurship. I utilize this definition in this chapter. Furthermore, fear of failure can be argued to be context specific and thus displays a reflection of the impact of institutional change (political, social and economic). It has also been discussed that fear of failure plays an important role in individual's occupational and achievement aspirations including decisions to start a business venture (Welpel et al., 2012, Burnstein, 1963) Similar to the above hypothesis, the context I consider for this section is the institutional change that took place in Algeria, Tunisia and Egypt post the Arab Spring. As shown earlier, the MENA region suffers from autocratic regimes which suppressed freedoms and identified with weak property rights, rule of law and corrupt institutions. Nevertheless, more economic opportunities might transpire post the Arab Spring, however, these opportunities might still be risky and uncertain, therefore fear of failure in these instances matters more meaning that with the increase in fear of failure there will be less responsiveness to these potential opportunities

and vis versa. Because individuals typically feel more uncertainty post conflict, they are likely to respond with more fear of failure. Accordingly, I formulate the following hypothesis:

H5: Fear of failure will reduce entrepreneurial activity more post political change and/or reform environment compared to pre-political change and/or reform environments.

4.3.7 Political change and Business angels

Business angels add value to the economy and to potential entrepreneurs. In environments where the formal financial institutional framework is missing or is underdeveloped then business angels step in and present potential entrepreneurs with the appropriate financing and information required to start a business venture (Aidis et al., 2008, Batjargal, 2003). Thus, business angels have the opportunity to select and pin point certain projects that they may be interested in funding with the preference given to individuals whom they may have encountered or worked with in the past and to individuals who they have social connections with (Venkataraman, 1997). This in essence is an indirect investment in an entrepreneurial start-up. In light of this, potential entrepreneurs will be more likely to decide to start a business venture if they themselves were business angels in the past because they would have accumulated the experience from past endeavours as well as the investment capability (Mickiewicz, 2005, Aidis et al., 2012, Mason and Harrison, 2000a, Mason and Harrison, 2000b). Due to the weak and unstable institutional environment post conflict (Arab Spring), uncertainty can be an outcome. Business angels are endowed with more wealth, competence and experience in business start-ups and therefore are less likely to be concerned too much with the resulting uncertainty. They are more likely to be interested in identifying new opportunities and be more likely inclined to fund potential entrepreneurial ventures. In light of these arguments, I hypothesize the following:

H6: Having been a business angel in the past has a stronger impact on the likelihood of starting up a business in post political change and/or reform environments compared to pre-political change and/or reform environments.

4.4 Methodology

4.4.1 Data Sources

Building on the ideas above, the proposed data to test the hypotheses herein is the Global Entrepreneurship Monitor (GEM), which provides cross-sectional data on attitudes, perceptions, and rates of entrepreneurship in many countries over a period of years (Reynolds et al., 2005). The GEM dataset has been commonly accepted as a source of data to use for research on entrepreneurship (Freytag and Thurik, 2010, Bowen and De Clercq, 2008). Data are collected via surveys from a population representative sample of at least 2,000 individuals per country including entrepreneurs, non-entrepreneurs, and potential entrepreneurs. These samples are random and representative of the adult population between 18 and 64 years of age. GEM database uses a harmonized method to measure entrepreneurship (Reynolds et al., 2005). And so, the data measures different aspects of the entrepreneurship including types of entrepreneurs (opportunity vs necessity), entrepreneurial intentions and other characteristics of entrepreneurial activity (Bosma et al., 2012). I view entrepreneurs involved in business start-ups as those pursuing new, nascent start-up activity; further categorized as individuals between the ages of 18 and 64 who have taken steps towards creating a business venture in the past year (Acs et al., 2004).

4.4.2 Sample

I utilize GEM Adult Population Survey data for the following 5 years: 2008, 2009, 2010, 2011 and 2012. The data corresponds to the three countries Algeria, Egypt, and Tunisia. For Egypt, I use the available data which were for the years 2008, 2010 and 2012; Algeria I use data for 2009, 2011 and 2012 and finally for Tunisia I use data for 2010 and 2012. I omit 2009 data for Tunisia as there are many missing observations from several of the key variables. Additionally, all individual level control variables are taken directly from the GEM dataset. Table 17 below illustrates a timetable of the events of the Arab Spring for each of the three countries as per the years available.

Table 17. Timeline of events and data availability

Year	Egypt	Tunisia	Algeria
2008	+ (coincides with global financial crisis)		
2009			+
2010	+	+ (regime overthrown and change of constitution)	
Arab Spring: Dec 17, 2010			
2011	(regime overthrown, continued instability)		+ (limited political change, but economic reforms introduced)
2012	+	+	+
2013	President Mursi overthrown		

The final samples included a maximum of 5,252 observations/individuals in Egypt for the three years combined. In Algeria, the maximum sample size is 6,942 observations/individuals. Finally, in Tunisia, the sample size was significantly less due to omitting the year 2009. After further investigation of the GEM report and data for Tunisia, there was no explanation provided as to why the sample size was very low for Tunisia in 2009. Thus, I include 4,000 observations/individuals in the Tunisia sample. A total of 16,194 observations were included in the final sample. Table 30 in the Appendix shows a description of the variables chosen.

4.4.3 Dependent variable

The dependent variable is drawn from the GEM data and is *business start-ups*. Business start-ups correspond to those individuals who seek to start a business either on their own or in collaboration with partners and have yet to pay any wages or salaries for more than three months and thus are also called *nascent entrepreneurs* (Reynolds et al., 2005). GEM data survey asks a question to its respondents about whether they start a business either on their own or in collaboration with partners and have yet to pay any wages or salaries for more than three months and are given a yes or no option for an answer. Accordingly, the equations analyse the determinants of the probability of an individual to be involved in starting a business and test the differences/similarities between the three countries following a design by Aidis et al. (2008).

Because the data is cross sectional it is only possible to study if there is a relationship between business start-ups and perceptual variables and their interaction terms, and causality is not easily identified. As both the dependent variable and independent variables are taken from a cross sectional data set, endogeneity may arise as a problem (Efendic et al., 2014).

I also test models which use two categories of business start-ups. The chosen categories of business start-ups are (1) recognition of an opportunity and no opportunity start-ups as well as (2) high growth aspiration and low growth aspiration start-ups, adopted as differentiating criteria. In terms of the first categorization (recognition of an opportunity), I use this classification as a robustness measure. Even though entrepreneurship is an occupational choice, it may be a choice out of necessity or to capitalize on business opportunity. When there are limited employment opportunities, then entrepreneurship may be the occupational route of choice in which case, imitation of business ideas and models may be borrowed (Hart and Mickiewicz, 2016). This in hand creates competition in the market but can also have a crowding out effect and push existing ventures out of the market. As for opportunity motivated entrepreneurship, the environment is more attractive for entry because of perceived opportunities for novel business ideas.

Then I categorize business start-ups into a related typology of high growth aspiring versus low growth aspiring business start-ups. I use GEM classification of opportunity motivated entrepreneurs: those respondents who say they perceive potential business opportunities in the next 6 months and can capitalize on this opportunities to start a business venture. Likewise, I also use GEM classification of high growth and low growth aspirations. High growth aspiring entrepreneurial start-ups are those who have intentions to launch high-growth oriented projects, thus creating 10 or more jobs in the first 5 years (Reynolds et al., 2005).

4.4.4 Independent variables

As mentioned previously, the study analyses the determinants of the probability of an individual to be involved in starting a business against several individual level independent variables. The independent variables are as follows, business angel: if you were a business angel

in the past 3 years which proxies for past experience (Venkataraman, 1997, Aidis et al., 2008, Batjargal, 2003); social connections: if you know an entrepreneur(s) in the past 3 years and it measures whether an individual has social connections to an entrepreneur (Arenius and Minniti, 2005, Baron, 2000, Aldrich, 1999) which proxies for the important of role models in aiding potential entrepreneurs with entrepreneurial confidence; self-efficacy: if you believe you have the skills required to become an entrepreneur (Arenius and Minniti, 2005, Baron, 2000, Gartner, 1985) and finally fear of failure: if you stated that fear of failure would prevent you from starting a business venture (Arenius and Minniti, 2005, Kihlstrom and Laffont, 1979).

4.4.5 Other control variables

I control for the level of educational attainment, as previous research has found that individuals with higher educational attainment are more likely to gear their efforts towards starting a business venture. In addition, as illustrated in Estrin and Mickiewicz (2011b), being a male may affect the decision to start a business, and thus I include a dummy variable for gender.

4.4.6 Model Specification: logit regression

I test the above hypotheses by exploring business start-ups rates, the motivation of start-ups and quality of start-ups (recognition of an opportunity/high aspirations or low aspirations) across the sample post the Arab Spring versus the past. The independent variables include controls for gender and educational levels of the respondents. The main independent variables are perceptions about skill levels (self-efficacy), fear of failure, and social connections by knowing a current entrepreneur thus adding to networking capacity. Because the dependent variable *business start-ups with opportunity/business start-ups with high growth* is a categorical variable with 3 outcomes, I test the data for the first set of hypotheses (H1-H2) using multinomial logistic regression. For the remaining hypotheses (H3 – H6), I test the data using a logit regression because the dependent variable *business start-ups* is a 2 category variable. The main independent variables for H3-H6 are used in interactions and are perceptions about skill levels (self-efficacy), fear of

failure, and social connections by knowing a current entrepreneur thus adding to networking capacity.

A multinomial logistic regression measures the relationship between a multi-categorical dependent variable with more than two categories and with one or more independent variables. It is in many ways similar to an Ordinary Least Squares regression; however a multinomial logistic regression estimates the probability of an event occurring (Arenius and Minniti, 2005). Below are the multinomial logit models I use in my analysis:

$$\Pr(\text{Opportunity recognition entrepreneurship} = 1 \mid X_1, X_2, \dots, X_N) = F(B_0 + B_1X_1 + B_2X_2 + \dots + B_NX_N)$$

$$\Pr(\text{High aspiring entrepreneurship} = 1 \mid X_1, X_2, \dots, X_N) = F(B_0 + B_1X_1 + B_2X_2 + \dots + B_NX_N)$$

where X_1 = male, X_2 = age, X_3 = secondary educ, X_4 = FT/PT work, X_5 = self-efficacy, X_6 = fear of failure, X_7 = social connections, X_8 = business angels

In this chapter, this event is starting a business venture (also, distinguishing between the opportunity recognition and not recognizing an opportunity) versus not starting a business. I estimate two separate models for each of the two dependent variables (opportunity recognition entrepreneurship and high aspiring entrepreneurship). For the opportunity recognition entrepreneurship dependent variable, the categories of response are 2 = recognizes an opportunity, 1 = does not recognize an opportunity, and 0 = no entrepreneurial activity. As for high aspiring entrepreneurship, the categories are 2 = high aspiration, 1 = self-employment, and 0 = no entrepreneurial activity.

In H3-H6 I estimate models that test the likelihood of an individual starting a business venture by interacting the perceptual variables with the years in question to capture Arab Spring time differences. I test whether an individual's engagement in a business start-up is associated with the perceptions about required skills, fear of failure, social connections and being a business angel.

4.5 Summary of descriptive statistics and correlations

This section reports descriptive statistics of all study variables overall and by countries examining changes over time. Table 18 in the appendix gives a brief illustration of country differences. Tables 19 and 20 below illustrate these descriptive statistics. As can be seen from Table 19, the maximum total number of observations is 16,194 respondents. Nearly 14% of the individuals in the sample are in the process of starting a business. Business start-ups who are based on opportunity represented 8% of the total sample, while necessity motivated start-ups represent 6% of the whole sample. High growth aspiring and low growth aspiring start-ups represent 5% and 8% respectively. Social connections represent a large 43% of the sample. Unsurprisingly and due to the economies of the chosen countries (factor driven economies, Egypt, Algeria, and Tunisia) (Kelley et al., 2012), the percentage of respondents who were business angels in the past is approximately 7% of the whole sample.

Almost 50% of the sample believes they have the required skills to become entrepreneurs while 27% of the respondents believe fear of failure would deter them from starting a business. Male entrepreneurs represent only a marginally higher percentage than female entrepreneurs at 51%. And finally, the mean age of the population sample in all three countries is 36.3 years.

Table 20 illustrates the variation in business start-ups per country. Out of the total 14% of business start-ups in all three countries, the share of Egypt was 21%, Algeria was 14% and Tunisia was 4%. Business start-ups who are based on opportunity represented 12% in Egypt, 8% in Algeria and 3% in Tunisia while necessity motivated start-ups represent 9% in Egypt, 8% in Algeria and 1% in Tunisia. High growth aspiring start-ups represent 4% in Egypt, 8% in Algeria and 1.5% in Tunisia while low growth aspiring start-ups represent 17% in Egypt, 6% in Algeria and 2% in Tunisia. Social connections are present among 40% of entrepreneurs in Egypt, 52% in Algeria and 42% in Tunisia.

The correlations in Table 21 below suggest that individuals with higher self-efficacy, secondary education and those knowing an entrepreneur are more likely to be engaged in business

start-ups. Fear of failure is negatively correlated with business start-ups. Males have a slight advantage in entrepreneurial start-ups. Overall, all the independent variables indicate a significant association with entrepreneurial business start-ups in the directions hypothesized. Thus, these correlations may be the first indication of the positive impact of social connections, self-efficacy and being a business angel on business start-ups as well as an illustration of the negative impact of fear of failure on business start-ups. As literature suggests (Parker, 2009, Aidis et al., 2008), knowing an entrepreneur from the past i.e. utilizing social connections and building social capital has a positive effect on the likelihood of starting a business. Fear of failure does not seem to prevent entrepreneurial development as cultures in Egypt, Algeria and Tunisia are more forgiving and accepting of failure due to their collectivist composition and family oriented traditions (Hofstede et al., 1997). Finally as suggested by (Stephan and Uhlaner, 2010, Baron, 2000), confidence in one's skills and ability required to become a successful entrepreneur led to more likelihood for individuals to attempt starting a business and this is the case in the MENA region countries Egypt and Algeria.

Table 19. Descriptive Statistics, Aggregate Level

Variable	Observations	Frequency	Percentage	Std. Dev.
Business start-up	16,194	2,036	12.57	.3315501
Start-up Opport	16,194	1,177	7.27	.5516506
Start-up no opport	16,194	854	5.28	.5516506
Start-up High aspir	16,194	349	2.16	.41073
Start-up Self-emp	16,194	1,687	10.42	.41073
Social Connections	16,194	7,685	47.25	.4992562
Business Angel	16,194	995	6.12	.2396502
Self-efficacy	16,194	8,709	53.54	.4987598
Fear of failure	16,194	4,685	28.80	.4528563
Gender (male)	16,194	8,264	50.81	.4999505
Age	16,194	Mean: 37.5		30.02122

Table 20. Country Descriptive Statistics

<u>Egypt</u>				
Variable	Observations	Frequency	Percentage	
Business start-up	5,252	1,057	20.13	
Start-up Opport	5,252	610	11.62	
Start-up no opport	5,252	446	8.49	
Start-up High aspir	5,252	166	3.16	
Start-up Self-emp	5,252	891	16.96	
Social connections	5,252	2,109	40.02	
Business Angel	5,252	284	5.39	
Self-efficacy	5,252	3,043	57.74	
Fear of failure	5,252	1,797	34.10	
Gender (male)	5,252	2,700	51.23	
<u>Algeria</u>				
Variable	Observations	Frequency	Percentage	
Business start-up	6,942	833	12.00	
Start-up Opport	6,942	461	6.64	
Start-up no opport	6,942	368	5.30	
Start-up High aspir	6,942	149	2.15	
Start-up Self-emp	6,942	684	9.85	
Social connections	6,942	3,885	55.54	
Business Angel	6,942	554	7.92	
Self-efficacy	6,942	3,410	48.75	
Fear of failure	6,942	2,005	28.66	
Gender (male)	6,942	3,593	51.37	
Variable	Observations	Tunisia Frequency	Percentage	
Business start-up	4,000	146	3.65	
Start-up Opport	4,000	106	2.65	
Start-up no opport	4,000	40	1.00	
Start-up High aspir	4,000	34	0.85	
Start-up Self-emp	4,000	112	2.80	
Social connections	4,000	1,691	42.26	
Business Angel	4,000	157	3.92	
Self-efficacy	4,000	2,256	56.39	
Fear of failure	4,000	883	22.07	
Gender (male)	4,000	1,971	49.26	

Table 21. Correlation Matrix

Variables	1	2	3	4	5	6	7	8	9	10
Business start-up	1									
Start-up Opport	0.9484	1								
Start-up High aspir	0.9456	0.8989	1							
Gender	0.1242	0.1235	0.1165	1						
Age	-0.031	-0.0294	-0.0288	-0.0007	1					
Education	-0.0007	-0.0005	0.0051	0.0508	0.0015	1				
Self-efficacy	0.1787	0.19	0.1717	0.189	-0.0379	-0.0154	1			
Fear of failure	-0.005	-0.0127	-0.0069	-0.075	0.0012	-0.0048	-0.0281	1		
Social connections	0.1345	0.1371	0.1343	0.1514	-0.0362	0.0209	0.2003	0.0053	1	
Business angel	0.0808	0.0838	0.0757	0.0824	0.0051	-0.0017	0.0773	-0.0326	0.1248	1

Note: Correlations matrix is based on a sample of 16,194 observations. Business start-ups correlations.

4.6 Results

In the following section, I report the regression findings from my hypotheses testing for the three countries. I first discuss the set-up for H1 and H2 in Tables 22 and 23. The two dependent variables used are the categorical variables opportunity recognition/no recognition and high growth/self-employment entrepreneurship using the whole sample. In each table column 1 can be seen as a benchmark and columns 2-4 are used correspondingly to test each country effect separately. Tables 24-27 illustrate the multinomial logit regression results for Egypt, Tunisia, and Algeria focusing on more complex results related to personal characteristics, using 3 separate models, one for each country, but still utilising the whole sample. Tables 28 and 29 at the end of this section summarize the findings. Finally, Table 31 (in the Appendix) provides a summary of support for hypotheses.

The models in Table 22 tests the likelihood of an individual starting a business venture due to recognizing an opportunity, not recognizing one, or not starting a business venture (omitted benchmark). Table 23 focuses on high growth vs self-employment motivated entrepreneurship. The purpose of these tests is to find out whether that probability increased post the Arab Spring, for each country. First column could be seen as a benchmark, while the remaining models test the probability of an individual starting a business and the change over time by interacting year effects (pre and post the Arab Spring). For each case one country-before change effect is missing to enable a simple interpretation of that country post change effect compared with missing / benchmark. These models correspond to my first set of hypotheses H1 and H2. For H3-H6 I use logit regressions to test the probability of an individual starting a business as driven by Arab Spring interacted with the perceptual variables. All findings are reported using odds ratios to aid with interpretation and below I discuss all the results corresponding to these findings.

More specifically, for Tables 22 and 23, corresponding to H1 and H2, I have estimated models corresponding for each of the hypotheses. Models 2 – 4 in Table 22 and 5-8 in Table 23 correspond to the hypotheses which concern opportunity recognition/no opportunity recognition (H1) and high growth/low growth (H2) respectively. In models 2 and 6 in the tables I test how different are Tunisia;

models 3 and 7 are for Egypt, and 4 and 8 for Algeria (post change versus pre change each). The missing benchmark for these models is the variable representing pre-change situation in each country. All the coefficients corresponding to the hypotheses are highlighted in red font to allow for clearer presentation.

4.6.1 H1 – H2 Political change: Opportunity recognition and high growth entrepreneurship

Results for H1 are discussed. Model 1 in table 22 indicates significance of all variables corresponding to starting a business venture motivated by opportunity recognition except for the 2012 post change year dummy. Surprisingly, the odds ratio coefficients of the post change year dummy suggest that no recognition of opportunity entrepreneurial business start-ups motivated decreased post change; however, opportunity recognition start-ups coefficients are insignificant. Results from models 2 and 4 corresponding to Tunisia and Egypt respectively suggest that entrepreneurial start-ups motivated by opportunity recognition have increased post change after the Arab Spring revolutions. However, a different pattern appears for Algeria. The results for Algeria (model 2) suggest that both opportunity recognition and no opportunity recognition motivated start-ups decreased post reforms. This result is however unexpected. Therefore, H1 is partly supported for Egypt and Tunisia but I find no support for increase in entrepreneurial start-ups in Algeria post reforms.

Results for H2 are now discussed in models 5-8 found in table 23. Similar to H1, model 5 indicates significance of all variables corresponding to starting a business venture motivated by opportunity recognition except for the 2012 post change year dummy and fear of failure. However, this time, the 2012 post change year dummy is significant but suggests that both high growth and self-employment start-ups decreased post the Arab Spring. Results from models 6 suggest that self-employment motivated start-ups increased post change in Tunisia but high growth start-ups is insignificant post change. Akin to H1, Algeria results show in model 7 suggest that entrepreneurial start-ups decreased post reforms. However, model 8 for Egypt indicates that both self-employment and high growth motivated start-ups increased post change. Thus, H2 is also partly supported for Egypt but I find no support for Algeria and Tunisia. Tables 22 and 23 below show these results.

4.6.2 H3-H6 Political change: perceptual variables results

Tables 24-27 present the estimation results for H2-H5. Models 9 to 20 report all estimates including the yearly interactions with the perceptual variables illustrating changes in the impact of each perceptual variable over time. Post-estimation tests are available in the appendix under the headline (Post-estimation tests). All models control for age and gender and yield a negative/positive and significant coefficient for the impact of being younger and male respectively in that it increases the likelihood of participating in starting a business (Delmar and Davidsson, 2000). This is consistent with the literature which suggests that males participate more actively in entrepreneurship than their female counterparts and younger individuals also actively participate more in entrepreneurship than older individuals.

In models 9 to 11, I test the interaction of year dummies showing changes over time with the independent variable: self-efficacy in the three countries, models 12 to 14 estimate interaction of social connections, models 15 to 17 estimate interaction of fear of failure and finally models 18 to 20 test the interaction of business angels. Model 9 suggests that self-efficacy in Algeria post reform is insignificant. However models 10 and 11 for Tunisia and Egypt respectively are above one and significant for the impact of self-efficacy post change, ie. positive perceptions of self-efficacy increase the likelihood of starting a business in Tunisia and Egypt post the Arab Spring. These results so far are consistent with H1 and H2 particularly for Algeria. That implies that H3 is partially supported and self-efficacy perceptions have an impact on business start-ups in Tunisia and Egypt post the Arab Spring.

Models 12 is also insignificant for social connections post reforms in Algeria suggesting no impact. A similar result can be seen in model 13 for Tunisia. However, model 14 for Egypt is significant and above one suggesting positive impact of social connections on business start-ups post the Arab Spring. Therefore, H4 is also partially supported and social connections only have an impact on business start-ups in Egypt.

Models 16 and 17 for Tunisia and Egypt suggest a similar pattern to Algeria; individuals are more likely to engage in business start-ups post the Arab Spring when there is less fear of failure. Model 15 for Algeria is significant post reform and the odds ratio coefficient suggests that less fear of failure increases the likelihood of starting a business venture. Thus, H5 is supported.

Models 18 to 20 test the impact of being a business angel on entrepreneurial start-ups post the Arab Spring for H6. Models for Tunisia and Egypt are positive and below one suggesting that being a business angel decreases the likelihood of starting a business venture post the Arab Spring. Being a business in Algeria however is insignificant post reforms. These results signify that H6 is not supported. In fact, an opposite effect is suggested in Tunisia and Egypt.

Tables 24-27 correspond to H3-H6. I conducted separate significance post-estimation tests of the coefficients for each of the countries to learn the differences between pre and post change influence of personal characteristics on entrepreneurship activity in the respective countries. All tests except for models 13 and 19 suggest that there is a statistically significant interaction between that before and after change variables. Model 13 insignificant test results are not unexpected as the coefficients for the interaction are also insignificant as discussed above with regards to Tunisia and the proxy for social connections. Model 19 test is also insignificant; however, the hypothesis test was marginally significant.

Table 22: Opportunity vs No opportunity pre and post change

VARIABLES	(1)		(2)		(3)		(4)	
	No_oppo	oppo	No_oppo	oppo	No_oppo	oppo	No_oppo	oppo
Gender = Male	1.70*** (0.13)	1.73*** (0.12)	1.69*** (0.13)	1.72*** (0.12)	1.69*** (0.13)	1.72*** (0.12)	1.69*** (0.13)	1.72*** (0.12)
Age	0.99*** (0.00)	0.98*** (0.00)	0.99*** (0.00)	0.99*** (0.00)	0.99*** (0.00)	0.99*** (0.00)	0.99*** (0.00)	0.99*** (0.00)
Secondary education	0.93 (0.10)	1.12 (0.10)	0.91 (0.10)	1.11 (0.10)	0.91 (0.10)	1.11 (0.10)	0.91 (0.10)	1.11 (0.10)
Self-efficacy	1.74*** (0.14)	4.25*** (0.36)	1.83*** (0.15)	4.42*** (0.38)	1.83*** (0.15)	4.42*** (0.38)	1.83*** (0.15)	4.42*** (0.38)
Fear of failure	1.12 (0.09)	0.81** (0.06)	1.19* (0.09)	0.85* (0.06)	1.19* (0.09)	0.85* (0.06)	1.19* (0.09)	0.85* (0.06)
Social connections	1.56*** (0.12)	2.11*** (0.15)	1.72*** (0.13)	2.31*** (0.16)	1.72*** (0.13)	2.31*** (0.16)	1.72*** (0.13)	2.31*** (0.16)
Business angels	1.45** (0.18)	1.77*** (0.18)	1.57*** (0.20)	1.92*** (0.20)	1.57*** (0.20)	1.92*** (0.20)	1.57*** (0.20)	1.92*** (0.20)
Pre change Tunisia	0.14*** (0.02)	0.37*** (0.04)			0.06*** (0.01)	0.10*** (0.02)	0.08*** (0.02)	0.11*** (0.02)
Pre change Egypt	1.52*** (0.12)	2.25*** (0.17)	12.07*** (2.84)	8.91*** (1.79)	0.71*** (0.07)	0.85 (0.09)		
Pre change Algeria			17.01*** (4.03)	10.44*** (2.15)			1.41*** (0.14)	1.17 (0.13)
Post change (2012)	0.41*** (0.03)	1.04 (0.07)						
Post change Tunisia			1.11 (0.36)	3.01*** (0.67)	0.07*** (0.02)	0.29*** (0.04)	0.09*** (0.02)	0.34*** (0.05)
Post change Egypt			10.70*** (2.57)	16.22*** (3.25)	0.63*** (0.07)	1.55*** (0.17)	0.89 (0.09)	1.82*** (0.17)
Post change Algeria			2.67*** (0.65)	3.90*** (0.78)	0.16*** (0.02)	0.37*** (0.04)	0.22*** (0.02)	0.44*** (0.04)
Constant	0.07*** (0.01)	0.02*** (0.00)	0.01*** (0.00)	0.00*** (0.00)	0.10*** (0.01)	0.04*** (0.01)	0.07*** (0.01)	0.03*** (0.00)
Observations	16,189	16,189	16,189	16,189	16,189	16,189	16,189	16,189

Odds ratios *** p<0.001, ** p<0.01, * p<0.05, + p<0.10

Table 23: High aspirations vs Low aspirations pre and post change

VARIABLES	(5)		(6)		(7)		(8)	
	self_employment	job_for_others	self_employment	job_for_others	self_employment	job_for_others	self_employment	job_for_others
Gender = Male	1.74*** (0.10)	1.54*** (0.18)	1.74*** (0.10)	1.52*** (0.18)	1.74*** (0.10)	1.52*** (0.18)	1.74*** (0.10)	1.52*** (0.18)
Age	0.98*** (0.00)	0.99* (0.00)	0.98*** (0.00)	0.99* (0.00)	0.98*** (0.00)	0.99* (0.00)	0.98*** (0.00)	0.99* (0.00)
Secondary education	0.98 (0.08)	1.31+ (0.19)	0.97 (0.08)	1.28+ (0.19)	0.97 (0.08)	1.28+ (0.19)	0.97 (0.08)	1.28+ (0.19)
Self-efficacy	2.65*** (0.17)	3.13*** (0.43)	2.75*** (0.18)	3.44*** (0.48)	2.75*** (0.18)	3.44*** (0.48)	2.75*** (0.18)	3.44*** (0.48)
Fear of failure	0.94 (0.06)	0.86 (0.11)	0.99 (0.06)	0.95 (0.12)	0.99 (0.06)	0.95 (0.12)	0.99 (0.06)	0.95 (0.12)
Social connections	1.72*** (0.10)	2.41*** (0.30)	1.88*** (0.11)	2.88*** (0.37)	1.88*** (0.11)	2.88*** (0.37)	1.88*** (0.11)	2.88*** (0.37)
Business angels	1.66*** (0.15)	1.47* (0.27)	1.78*** (0.17)	1.73** (0.32)	1.78*** (0.17)	1.73** (0.32)	1.78*** (0.17)	1.73** (0.32)
Pre change Tunisia	0.24*** (0.03)	0.31*** (0.06)			0.07*** (0.01)	0.10*** (0.03)	0.07*** (0.01)	0.26*** (0.07)
Pre change Egypt	1.94*** (0.12)	1.60*** (0.21)	13.69*** (2.56)	3.86*** (1.06)	0.90 (0.08)	0.38*** (0.06)		
Pre change Algeria			15.18*** (2.90)	10.28*** (2.73)			1.11 (0.10)	2.66*** (0.44)
Post change (2012)	0.74*** (0.04)	0.51*** (0.06)						
Post change Tunisia			2.76*** (0.59)	1.20 (0.42)	0.18*** (0.02)	0.12*** (0.03)	0.20*** (0.03)	0.31*** (0.09)
Post change Egypt			16.60*** (3.14)	8.25*** (2.22)	1.09 (0.10)	0.80 (0.13)	1.21* (0.09)	2.14*** (0.35)
Post change Algeria			4.74*** (0.89)	0.83 (0.25)	0.31*** (0.03)	0.08*** (0.02)	0.35*** (0.03)	0.22*** (0.05)
Constant	0.07*** (0.01)	0.01*** (0.00)	0.01*** (0.00)	0.00*** (0.00)	0.10*** (0.01)	0.02*** (0.00)	0.09*** (0.01)	0.01*** (0.00)
Observations	16,194	16,194	16,194	16,194	16,194	16,194	16,194	16,194

Odds ratios *** p<0.001, ** p<0.01, * p<0.05, + p<0.10

Table 24. Logit results predicting effects of self-efficacy on entrepreneurial start-ups

VARIABLES	(9)	(10)	(11)
Gender = Male	1.71*** (0.09)	1.70*** (0.09)	1.72*** (0.09)
Age	0.99*** (0.00)	0.99*** (0.00)	0.99*** (0.00)
Secondary education	1.02 (0.07)	1.02 (0.07)	1.02 (0.07)
Self-efficacy	2.42*** (0.20)	2.42*** (0.20)	2.42*** (0.20)
Fear of failure	0.98 (0.06)	0.99 (0.06)	0.99 (0.06)
Social connections	2.02*** (0.11)	2.02*** (0.11)	2.01*** (0.11)
Business angels	1.78*** (0.16)	1.78*** (0.16)	1.78*** (0.16)
Self-efficacy post change Algeria	1.15 (0.16)		
Self-efficacy pre change Algeria	1.87*** (0.30)		
Self-efficacy post change Tunisia		1.31* (0.16)	
Self-efficacy pre change Tunisia		4.88** (2.53)	
Self-efficacy post change Egypt			2.06*** (0.32)
Self-efficacy pre change Egypt			0.99 (0.14)
Constant	0.14*** (0.02)	0.01*** (0.00)	0.01*** (0.00)
Observations	16,194	16,194	16,194
Test	0.0006	0.0014	0.000

Odds ratios *** p<0.001, ** p<0.01, * p<0.05, + p<0.10

Table 25. Logit results predicting effects of social connections on entrepreneurial start-ups

VARIABLES	(12)	(13)	(14)
Gender = Male	1.70*** (0.09)	1.70*** (0.09)	1.70*** (0.09)
Age	0.99*** (0.00)	0.99*** (0.00)	0.99*** (0.00)
Secondary education	1.02 (0.07)	1.02 (0.07)	1.02 (0.07)
Self-efficacy	2.85*** (0.17)	2.86*** (0.17)	2.85*** (0.17)
Fear of failure	0.98 (0.06)	0.98 (0.06)	0.98 (0.06)
Social connections	1.91*** (0.15)	1.91*** (0.15)	1.91*** (0.15)
Business angels	1.75*** (0.15)	1.77*** (0.16)	1.76*** (0.15)
Social connections post change Algeria	0.85 (0.10)		
Social connections pre change Algeria	1.94*** (0.32)		
Social connections post change Tunisia		1.17 (0.13)	
Social connections pre change Tunisia		0.80 (0.18)	
Social connections post change Egypt			1.47** (0.20)
Social connections pre change Egypt			0.87 (0.11)
Constant	0.13*** (0.01)	0.01*** (0.00)	0.10*** (0.01)
Observations	16,194	16,194	16,194
Test	0.0001	0.14	0.002

Odds ratios *** p<0.001, ** p<0.01, * p<0.05, + p<0.10

Table 26. Logit results predicting effects of fear of failure on entrepreneurial start-ups

VARIABLES	(15)	(16)	(17)
Gender = Male	1.71*** (0.09)	1.71*** (0.09)	1.71*** (0.09)
Age	0.99*** (0.00)	0.99*** (0.00)	0.99*** (0.00)
Secondary education	1.03 (0.08)	1.02 (0.07)	1.03 (0.08)
Self-efficacy	2.86*** (0.17)	2.83*** (0.17)	2.87*** (0.17)
Fear of failure	1.20* (0.10)	1.20* (0.10)	1.20* (0.10)
Social connections	2.02*** (0.11)	2.02*** (0.11)	2.02*** (0.11)
Business angels	1.77*** (0.15)	1.77*** (0.16)	1.76*** (0.15)
Fear of fail post change Algeria	0.78+ (0.10)		
Fear of fail pre change Algeria	0.60*** (0.09)		
Fear of fail post change Tunisia		0.72** (0.08)	
Fear of fail pre change Tunisia		0.31** (0.14)	
Fear of fail post change Egypt			0.57*** (0.08)
Fear of fail pre change Egypt			0.85 (0.12)
Constant	0.12*** (0.01)	0.01*** (0.00)	0.09*** (0.01)
Observations	16,194	16,194	16,194
Test	0.0015	0.0012	0.0003

Odds ratios *** p<0.001, ** p<0.01, * p<0.05, + p<0.10

Table 27. Logit results predicting effects of business angels on entrepreneurial start-ups

VARIABLES	(18)	(19)	(20)
Gender = Male	1.70*** (0.09)	1.70*** (0.09)	1.70*** (0.09)
Age	0.99*** (0.00)	0.99*** (0.00)	0.99*** (0.00)
Secondary education	1.02 (0.07)	1.02 (0.07)	1.02 (0.07)
Self-efficacy	2.84*** (0.17)	2.85*** (0.17)	2.84*** (0.17)
Fear of failure	0.98 (0.06)	0.98 (0.06)	0.98 (0.06)
Social connections	2.01*** (0.11)	2.01*** (0.11)	2.01*** (0.11)
Business angels	2.13*** (0.26)	2.13*** (0.26)	2.13*** (0.26)
Business angel post change Algeria	1.00 (0.23)		
Business angel pre change Algeria	0.55** (0.11)		
Business angel post change Tunisia		0.68* (0.12)	
Business angel pre change Tunisia		0.92 (0.43)	
Business angel post change Egypt			0.58** (0.12)
Business angel pre change Egypt			1.02 (0.26)
Constant	0.12*** (0.01)	0.01*** (0.00)	0.09*** (0.01)
Observations	16,194	16,194	16,194
Test	0.010	0.094	0.016

Odds ratios *** p<0.001, ** p<0.01, * p<0.05, + p<0.10

The tables below summarize the impact of self-efficacy, social connections, business angels and fear of failure on business start-ups.

Table 28. Pre and post change summary

Country	Algeria		Egypt		Tunisia	
	Post	Pre	Post	Pre	Post	Pre
Self-efficacy	N/A	√	√	N/A	√	√
Social connections	N/A	√	√	N/A	N/A	N/A
Fear of failure	√	√	√	N/A	√	√
Business angels	N/A	√*	√*	N/A	√*	N/A

Post and pre change: N/A = insignificant,

√ = significant and correct sign,

√* = significant and incorrect sign

Table 29. Opportunity recognition and high growth summary

Country	Algeria		Egypt		Tunisia	
	Post	Pre	Post	Pre	Post	Pre
Opportunity recognition	N/A	N/A	√	N/A	√	N/A
High growth	N/A	N/A	√	√	N/A	√

Post and pre change: N/A = insignificant,

√ = significant and correct sign

4.7 Discussion and Conclusion

Based on the Global Entrepreneurship Monitor (GEM) Adult Population Survey (APS) individual data samples for the years 2008 to 2012 for Algeria, Egypt and Tunisia, this chapter tests the impact of the motivation and quality of entrepreneurship (opportunity recognition/high growth) amidst institutional change on business start-ups. The chapter also examines the mechanisms by which personal characteristics such as social connections and positive self-efficacy influence the decisions to start a business venture in the aforementioned countries following institutional political, economic and social change ensuing post the Arab Spring compared with the earlier period. The study and testing procedure takes into consideration how these characteristics differ in their impact comparatively before and after the transition.

The hypotheses are tested via models where I measure interaction effects between independent and yearly dummy variables (business angels, self-efficacy, social connections and fear of failure). The results for Egypt suggest that political change after the Arab Spring ensued by the election of Dr. Mohamed Mursi as president in 2012 played an important role in increasing the likelihood of starting a business motivated by recognition of an opportunity and high growth aspirations. The findings for Egypt for example, suggest that social connections play an important role in high growth aspiring business start-up decisions post the transition. This finding also shows that the entrepreneurship environment post transition was more open to high-growth aspiring endeavours in a sense that individuals in the Egyptian sample may see potential in high aspiring business opportunities. This finding is in broad agreement with (Estrin et al., 2009), where the larger the growth aspiring endeavour is more dependent on stable and strong formal institutional environments which may have been the case in Egypt after the first revolution but before the second military coup.

These results are further supported by the findings which indicate that positive perceptions of self-efficacy played an important role in increasing the likelihood to start opportunity-motivated businesses post transition. According to Olson, distributional coalitions and/or the oligarchs which

form during long standing regimes such as in the case in Egypt during the military reign (Mubarak regime and military elite) had accumulated and colluded to advocate for personal interests which led to an unfriendly economic environment that hindered growth (Olson, 2008). Due to the fact that the political situation in Egypt is still volatile with the military regaining power once again, oligarchs that formed in the Mubarak reign are still in power and control of economic, political and social institutions in spite of the Arab Spring revolutions; however, due to the short-term incidence of change since the start of the revolution, social connections still played an important role in decisions to start a business after the Arab Spring.

The findings suggest that individuals in the Egyptian sample perceive the political, economic and social environments to be conducive to entrepreneurial opportunities and that there is a more optimistic outlook about the environment post the revolution and with election of Dr. Mohamed Mursi as president. This finding agrees with the literature about networks and social connections which emphasizes the importance of tapping into social networks to attain support, information and experience spill overs in pursuing business opportunities (Aidis et al., 2008, Arenius and Minniti, 2005, Morales-Gualdrón and Roig, 2005, Baron, 2000). However, further studies need to be conducted to confirm whether high aspiring entrepreneurship will grow once stability occurs in Egypt or whether informal institutional determinants such as culture impact on self-efficacy and social connections influence these endeavours more directly.

In the period after the transition, being a business angel was not impactful to business start-ups. According to (Verheul et al., 2010), individuals that have previous professional experience and or were business angels in the past are less likely to engage in business start-ups which applies to the case of Egypt as illustrated in the results section above. The results only suggest that business start-ups increased when the respondents indicated they have access to social connections (Aidis et al., 2008, Arenius and Minniti, 2005, Estrin et al., 2012, Estrin et al., 2013, Hopp and Stephan, 2012, Stephan and Uhlaner, 2010). This infers that past experience and personal reputation play an

important role in Egypt in general and ascertains the collectivist vs. individualist society argument (Hofstede et al., 1997, Pinillos and Reyes, 2011).

Results for Algeria point out to several conclusions. Perceptions about self-efficacy, being a business angel in the past and having social connections have no significant influence on decisions to start a business venture in Algeria post economic and political reforms. In the case of Algeria, there remains a stable regime that was put under pressure by relatively peaceful demonstrations to implement reformative agenda, which minimized the impact of a revolution that would have potentially toppled the Bouteflika regime. Even though the Arab Spring did not lead to a regime change in the country, it did, however, lead to increasing pressures for the government of Bouteflika to implement a reformative agenda. However, the findings are not consistent with Olson (2008); even though economic development is boosted in recently unstable environments where long term stability is anticipated, it may not always happen in a long-standing stable environment even if reforms take place. This suggests that because the Algerian regime remains in power and no official political change has occurred, the impact of a reformative agenda has not identified business opportunities and may have actually given the Algerians less aptitude to start business ventures.

Not surprisingly, the results also indicate that social connections do not play an important role in business start-up decisions post economic and political reforms. This is expected because the ruling regime has remained in power and no significant political change has taken place, however, this is also not in line with the literature which argues for the dependency on social connections and networks for acquiring funding, role model figures and as a substitute to the weak institutional frameworks exhibited in a developing country like Algeria (Aidis et al., 2008, Arenius and Minniti, 2005, Desai, 2009, Desai, 2011).

An interesting result is the one on the influence of fear of failure post reform on decisions to start a business. Research on entrepreneurial culture has shown that emotional support is key to the success of a business venture (Aldrich et al., 1987, Stephan and Uhlaner, 2010). It seems that

in Algeria after the Arab Spring, individuals were less affected by the fear of a failing business. Due to the collectivist culture and traditions (Hofstede et al., 1997) experienced in Algeria, family and friends support is important and thus if an individual were to fail in their business, they would find psychological and financial support from friends and family to get them through failure. It is important to note that these cultural traditions of support and collectivism do not simply dissolve along with the past regime but are rather socially embedded; however, the impact before the Arab Spring may have not been as significant, as society may have been suppressed by weak entrepreneurial support institutions thus discouraging business start-ups in the first place.

The case of Algeria seems to be strongest in lack of support for the respective hypotheses. Both high-growth aspiring and self-employment motivated entrepreneurship seems to have decreased slightly in 2012 (after economic and political reforms. In line with (Efendic et al., 2014), perceptions of entrepreneurship in Algeria may have changed among business people in the era post the economic and political reforms implemented by the Algerian government. In post-conflict environments, the formal institutional framework is usually weaker and is in the beginning stages of being rebuild leading to different people having a diverse range of experiences of which some may have found it conducive to high aspiring activities while others may see it as a hindrance (Efendic et al., 2014).

We now turn to results for Tunisia. As mentioned earlier in the chapter, Tunisia is where the Arab Spring revolts initially started leading former president Ben Ali to step down and move to exile in Saudi Arabia. Tunisia's government has been relatively stable since the departure of Ben Ali with free elections taking place for both the government cabinet and the president positions. Nonetheless, the findings show that social connections are not significant to business start-up decisions post the transition (review Table 25). This may indicate that with the dissolution of an ex-authoritarian regime and the installment of a democratic consensus regime, social connections are not as important post the political change. Formal institutions such as rule of law and property rights could have possibly been on the path of developing to accommodate society's needs

lessening dependence on social connections and other entrepreneurial business networks. This is in contrast with Algeria, and consistent with my expectations grounded in Olsonian theory. Interestingly, however, the findings in Tunisia also strongly suggest that the main outcomes of the institutional change that occurred post the Arab Spring in Tunisia give individuals in the Tunisian sample a positive outlook on the economic and political landscape in the country and this environment is seen as one of business opportunities but less so for high aspiration projects and more of a self-employment opportunity.

After the political change took place, self-employment seems to have increased. One explanation is that more widespread participation in entrepreneurship could be associated with more self-employment (additional entrepreneurs may be motivated by self-employment, to understand it better we would also need to look how the situation on the labour market evolved). The rise in self-employment motivated entrepreneurship after the fall of the Ben Ali regime may suggest that due to the dissolving of the oligarchs of the Ben Ali era, the general population are now starting to see prospects of starting their own businesses where an involvement with the oligarchs is not required. As the oligarchs dissolved and Tunisia faces a freer political and economic environment, the business environment gradually becomes friendlier and economic growth is enhanced. One limitation of this analysis is that the data available as of yet goes only as far as 2012.

Most of the signs and significance of the independent variables as well as controls are consistent with the literature, however, the regressions fit slightly better with the opportunity versus necessity business start-up decisions than with the high versus low aspiring entrepreneurship in the three countries. Thus, in general terms, the likelihood of an individual starting a business is improved by social connections, by having been a business angel in the past and by having positive perceptions about the skills required for running a business (self-efficacy). This is evident as high-growth aspiration decreased in the final year according to the tests when looking at the year 2012 due to continuous instability which led to further fragility of the formal institutional framework such as property rights, rule of law and business start-up procedures.

Social connections, self-efficacy, fear of failure and being a business angel in the past also reveal very small to no impact on high aspiration growth entrepreneurship in Egypt due to the continuous instability. Nevertheless, the effects of social connections, self-efficacy, and being a business angel are consistently indicating that they are important for encouraging both entrepreneurial entry and high-growth aspiring entrepreneurship (Aidis et al., 2008, Arenius and Minniti, 2005, Estrin et al., 2012, Aidis et al., 2009, Wennberg et al., 2013).

Findings in Tunisia displayed unexpected results when it came to high-growth aspirations and low-growth aspiration entrepreneurship.

Another explanation could be that the oligarchs during the Ben Ali regime held the tools and mechanisms to market entry which gave rise to individuals attempting to start high-growth aspiring businesses. Through utilization of networks with the oligarchs (Olson, 2008, Aidis et al., 2012, Aidis et al., 2009, Williamson, 2000) and bypassing the weak institutional framework (rule of law, property rights) during Ben Ali's government, individuals would resort to informal relations with business owners and people of power in the Ben Ali administration showing allegiance, giving them the opportunity to aspire for high growth businesses.

This chapter contributes to the existing literature by exploring how radical institutional change after conflict (revolutions, war, and uprisings) and personal characteristics interact with each other to influence entrepreneurial activity growth. Olson's theory of economic growth suggested that when a country experiences prolonged periods of stability, economic growth suffers. Thus, over time a stable democracy will tend to amass more and more rent-seeking special interest groups or elite oligarchs whose political power will gradually grow, causing the impediment of economic growth. This theoretical argument is in line with the main findings in this chapter and there is evidence that personal characteristics such as social connections, being a business angel and self-efficacy may have an important influence on entrepreneurial activity post transition and thus leading to a surge of growth.

These findings have some policy implications. First, there should be a greater focus in countries coming out of conflict on how to best leverage the benefits of social and business networks for stimulating growth through entrepreneurial activity. This is particularly important for entrepreneurs who will likely be facing an unstable economic, political and social environment after incidents of conflict and institutional change, and may be unable to reap the benefits of formal government programs. Second, to improve overall firm performance and economic growth, governments and entrepreneurs should work towards making their joint efforts more harmonizing, rather than substitutable. The substitution of formal institutional frameworks such as property rights for informal resources (e.g. social connections, business angels) means that when one or the other form of resources and assistance is absent or lacking, entrepreneurs use the second form of assistance to try to make up for the insufficiency. In order to overcome these deficiencies, government support should promote appropriate business start-up support networks and programs and vice versa.

The main limitation of this study is that we cannot be sure that the results can be generalized among all Arab Spring MENA region countries and other post conflict countries with different institutional arrangements and cultural contexts. In order to fully capture and understand the effects and impact of the Arab Spring on the MENA region's political, economic and social scope more data years are needed. Another limitation of this analysis is that the data available as of yet goes only as far as 2012.

4.8 Appendices



Source: World Bank: World Development Indicators, 2017

Table 29. Summary of conflicts in Algeria, Egypt, and Tunisia

Country	Population (2012)	Start date	End date	Outcome	Situation
Tunisia	10.78 million	December 18, 2010	Government was overthrown on 14 January 2011	Overthrow of Zine El Abidine Ben Ali; Ben Ali flees into exile in Saudi Arabia <ul style="list-style-type: none"> • Resignation of Prime Minister Ghannouchi • Dissolution of the political police • Dissolution of the RCD, the former ruling party of Tunisia and liquidation of its assets • Release of political prisoners • Elections to a Constituent Assembly on 23 October 2011 • 2013-2014 protests against the interim Islamist-led government. • Adoption of a new constitution 	Government overthrown, new government installed via elections on December 12, 2011, under human rights activist Moncef Marzouki as president. New Constitution of Tunisia adopted January 26, 2014.
Algeria	38.48 million	December 29, 2010	January 2012	The lifting of the 19-year state of emergency rule, economic reforms: <ul style="list-style-type: none"> • Increase in public spending by 27% annually. • Expansionary fiscal policy. • Growth in construction and public-works sector due increase in public spending. 	Major protests pressuring the government to lift a 19-year state of emergency rule as well as initiating economic and political reforms.
Egypt	80.72 million	January 25, 2011	The government was overthrown on Feb 11, 2011. Replacement government of Dr. Mohamed Mursi ousted by military on July 3, 2012, leading to ongoing violence in response to the coup	Hosni Mubarak steps down as president; later sentenced to life imprisonment. Muslim Brotherhood candidate Dr. Mohamed Mursi wins election as president. <ul style="list-style-type: none"> • Resignation of Prime Minister(s) Nazif and Shafik • Assumption of power by the Armed Forces • Suspension of the Constitution, dissolution of the parliament • Disbanding the State Security Investigations Service • Prosecution of Mubarak and his family and cabinet • Lifting of 31-year state of emergency rule • Democratic elections take place and Mohamed Mursi elected as president • Mohamed Mursi overthrown by military coup following demonstrations • Ongoing unrest and violence since the second coup in protest 	Government overthrown as well as replacement government also overthrown

Source: (Mediterranean, 2013)

Context

Egypt

The first major protests in Egypt took place on the 25th of January, 2011 bringing about tens of thousands of people to Tahrir Square in Cairo holding up slogans that called for freedom, human dignity, and bread. On the 10th of February, after almost 3 weeks of protests all throughout Egypt, former president Mubarak announced that he has lost authority of the government and immediately after, an announcement was made by the Supreme Council of the Armed Forces (SCAF) indicating that Mubarak has stepped down from the presidency; a new era in the history of Egypt was to follow (Dalacoura, 2012). At the time of writing, it is however debatable whether Egypt has been undertaking a constructive transition or whether it will go back to the authoritarian rule of the military command. Its prospects of fully transitioning into a democratic state are faced with several hurdles and seem less viable than the chances in neighboring Tunisia. Although there seems to be some change in some areas such as more freedom of speech (freer journalism, more private news agencies) and police accountability, this change seems to be limited due to the still very dominant position of the Egyptian army, more so after the controversial military coup against the democratically elected president Dr. Mohamed Mursi and the restoration of another military figure in General Abdelfatah Al Sisi as president.

In order to put the several phases of the Arab Spring in Egypt in perspective I use Acemoglu's periodization of four stages of the Arab Spring: the fall of Mubarak, the rule of the military, the rule of the Muslim Brotherhood Party in Dr Mohamed Mursi, the recovery of power by the military (Acemoglu, 2014). Acemoglu (2014) has identified that one year after the beginning of the military rule in Egypt there were fewer members of Mubarak's party on the boards of companies and more members detaching themselves from the party and instead building military connections (phase two of the revolution). In phase three, there was a small decrease in the number of military affiliated members but not much of an increase in Muslim Brotherhood party members in boards of firms. During phase three where the Muslim Brotherhood party was in power, there

seems to have been a decrease in profitability of older regime affiliated firms as well as military-affiliated firms accompanied by an increase in profitability for Islamist's firms and additionally a general increase in profitability of non-affiliated firms (Acemoglu, 2014).

The transition in Egypt has been marred with conflict as indicated in the previous paragraph but not resulting in any concrete or at least progressive future after four years since the revolution, at the time of writing this thesis. The sequence of events includes: a parliament elected but soon after disbanded, a constitution enacted but not accepted and a second coup by the military forces of Egypt against the democratically elected Muslim Brotherhood government. Street protests still remain a daily event by supporters of the secularists and supporters of the ousted Muslim Brotherhood (Mediterranean, 2013). Along with that, the promised freedoms of speech, institutional and economic reforms, as well as political developments, did not materialize due to continued instability and the firm hand of control of the military in the country (Ottaway, 2013). Nevertheless, an important reform activity that took place was that the 1971 Constitution was abolished in 2011 by the Supreme Council of the Armed Forces (SCAF) and a new constitution was enacted. Further promising reforms included the fact that citizens of Egypt were able to go to polls and vote in electoral processes which were probably the most transparent, fairest and freest in the modern history of the MENA region (Mediterranean, 2013). Despite what seems to be a change of large scale magnitude, there are still major representatives of the old regime that continue to exercise power and influence (Kienle, 2012).

Tunisia

Following the overthrowing of the Ben Ali regime and his exile to Saudi Arabia, several developments in the political environment of Tunisia created an encouraging political atmosphere and enabled the newly legalized moderate El Nahda Renaissance Party to win the elections to Constituent Assembly in October 2011. The assembly undertook the job of drafting a new constitution and appointment of a new government (Beck and Hüser, 2012). Historically, Tunisia compared to other Arab states, has had a relatively well endowed civil and political society structure

including a labour movement represented by a strong labour union organization, the Tunisian General Labour Union (Beck and Hüser, 2012). This encouraged a successful transition of Tunisia to a more democratic state due to the rich political, economic and social structures of the country (Beck and Hüser, 2012). This is evidenced by the number of civil society organizations in the country which increased from 2,000 to more than 9,000 between years 1998 and 2009 (Henry, 2011), many of which were very active and well organized. At the same time, the influence of the old regime had gradually subsided unlike the situation in Egypt. Progressively, members of the older regime were released from their duties in government due to large public pressure (Kienle, 2012). With the new constitution put in place, new members replacing the older regime affiliated ones emerged from the former opposition to Ben Ali as well as other following the introduction of new parties. With that in place, new legislations in the constitution were ratified with the sole purpose of excluding individuals who have over 10 years of tenure in leadership positions in the government, to allow for new and younger people to serve (Kienle, 2012).

In terms of global connectivity, Tunisians are considered more interconnected than the other Arab States because almost one-third of the Tunisia population uses the internet on a regular basis, serving “as a forum for the politically interested to discuss grievances about the political system” (Beck and Hüser, 2012). Many exiled political activists returned to Tunisia after the collapse of the Ben Ali regime leading to the creation of several political parties and unlocking of the political, economic and social domain in the country. After the October 2011 elections, the moderate Islamist party Al Nahda won 89 of 217 seats in the parliament making it the strongest party in the government. Many Tunisians voted for the party not because of their religious affiliations but rather perceiving it as a strong challenger to the French-speaking elite of the country (Beck and Hüser, 2012). With that in mind, the leaders of the party promptly collaborated with other non-religious parties to develop a moderate Islamic party that puts forth the voice of the Tunisian people.

Nevertheless, the transition to this new political system has not been an easy journey. Socioeconomic problems remained unaddressed while the economy recovered at a very slow rate. The writing of the new constitution has been a very slow process while tensions between secularists and Islamists remaining high; however recognizing each other's legitimacy (Mediterranean, 2013).

Algeria

In contrast to Egypt and Tunisia, the Algerian regime was able to withstand the revolutions and preserved its authoritarian government. Small protests took to the streets in January 2011 when protesters shouted slogans against the poor living conditions, corruption and repressive measures taken by the government over the years. Approximately 3,000 people participated in these mini demonstrations and thus, mobilization of people did not reach the standards amassed in Egypt and Tunisia.

According to (Beblawi, 1987), the rentier state approach can explain why the regime was not toppled. Rents are incomes which are considered unearned revenue. The oil producing countries of the world like Algeria can produce significant rents from their abundance in oil, in periods where prices remain high. Beblawi illustrates that authoritarian socio-economic systems that are based on a high incursion of rents have a strong tendency to remain relatively stable resisting revolutions due to their oil power. Due to its oil resources, the Algerian regime could maintain its authoritarian rule over the country. President Bouteflika responded to the mini demonstrations in 2011 with a "mixture of sticks and carrots: on the one hand massive repression and on the other hand limited political and financial concessions in the form of wage increases, a reduction in food prices, the dissolution of the state of emergency law in existence since 1992 and the announcement of political reforms" (Beck and Hüser, 2012). Additionally, the president undertook to introduce a series of amendments to the constitution to bolster democracy by establishing a constitution commission to oversee the drafting of amendments as well as present final recommendations back to the president to decide on the final version; however due to the absence of the president for health reasons since

April 2013 many of these reform processes have been put on hold, as at the time of writing (Mediterranean, 2013).

Table 30. Variable definitions and descriptive statistics

Variable	Definition	Variable Label	Measurement	Mean/SD
Business Start-up (Y_1 variable dependent variable 1)	1 = the respondent has been working on starting a new business in the past year, zero otherwise	Bstart == yes	Number of individuals starting in the process of starting a business from the country samples	.1367504 .3435907
Business Start-up for opportunity reasons (Y_1 variable dependent variable 1)	2 = the respondent perceives a business opportunity within the next 6 months, 1 = the respondent perceives no opportunity within the next 6 months 0 = respondent is not participating in entrepreneurship	Business start-ups opportunity vs. necessity	Number of individuals who perceive that there is a new business opportunity in the next 6 months	.2155863 .5716592
High growth aspirations vs. low growth aspirations (Y_2 variable dependent variable 2)	2 = the respondent have intentions to launch high-growth oriented projects (thus creating 10 or more jobs in the first 5 years), 1 = the respondent does not have intentions to launch high-growth oriented projects (thus creating 10 or more jobs in the first 5 years), 0 = respondent is not participating in entrepreneurship	High growth aspirations vs. low growth aspirations	Number of individuals who have intentions to launch high-growth oriented projects (thus creating 10 or more jobs in the first 5 years)	.1877595 .5045141
Self-efficacy (Skills) (X_1 or independent variable)	1 = respondent perceives themselves to have the required skills to be an entrepreneur, zero otherwise	Suskill== yes	Number of individuals who believe they have the skills required to start a business	.4949238 .4999845
Social connections (X_2 Variable)	1 = personally knows entrepreneur(s) in the past 2 years, zero otherwise	Knowentdummy == yes	Number of individuals who responded that they know an entrepreneur already	.426528 .4945826
Fear of Failure (X_3 Variable)	1 = fear of failure will prevent respondent from starting a business, zero otherwise	Fearfail == yes	Number of individuals who believe fear of failure does not prevent them from starting a business	.2707057 .4443335
Gender (X_4)	1 = male, zero otherwise	Sex	Gender of respondent	.5190924 .4996456
Business Angel (X_5)	1 = respondent has been a business angel in the past three years, zero otherwise	Bussangel == yes	Has the respondent been a business angel in the past or not	.066505 .2491679
Educational Attainment (X_6)	Different educational levels	Education level of respondent	What is the highest educational attainment of the respondent	.1834025 .3870041
Work Status (X_7)	Work status: full-time or part-time	Gemwork = full-time or part-time	What is the respondent's work status	.4234042 .4941084

Table 18. Country Differences

Variable	Egypt (2008)	Egypt (2010)	Egypt (2012)	Algeria (2009)	Algeria (2011)	Algeria (2012)	Tunisia (2010)	Tunisia (2012)
Business start-up (%)	22.38	19.39	20.79	21.60	18.94	8.03	2.45	4.85
Social connections (%)	38.58	47.60	31.63	50.55	46.25	57.54	51.02	33.50
Business Angel (%)	3.45	6.68	3.96	6.20	12.14	8.61	5.20	2.65
Self-efficacy (%)	50.19	59.62	55.66	41.35	55.68	51.71	51.87	60.90
Fear of failure (%)	21.81	34.63	33.51	21.15	21.15	31.67	25.04	19.10
Secondary education (%)	27.96	32.36	28.47	34.45	33.15	22.36	10.00	30.10
Work status (%)	47.46	43.91	35.75	42.90	42.72	39.06	44.68	39.50
Gender: Male (%)	52.01	51.43	51.02	50.40	58.74	51.75	49.28	49.25
Age	35	38	38	33	36	35	36	36
GDP per capita (US\$)	2,157	2,804	3,256	3,771	5,272	5,309	4,211	4,197

Source of GDP: World Bank Economic Indicators, 2014

Table 31. Summary of support for hypotheses

Hypotheses	Variables	Sign	Support
H1: The likelihood of starting a business motivated by opportunity recognition will increase post political change and/or reform after the Arab Spring revolutions compared to pre-political change and/or reform.	Year dummies	-	Partial support: Tunisia and Egypt
H2: the likelihood of starting a business motivated by high growth aspirations will increase post political change and/or reform after the Arab Spring revolutions compared to pre political change and/or reform.	Year dummies	-	Partial support: Egypt
H3: positive perceptions about self-efficacy has a stronger impact on the likelihood of starting up a business in post political change and/or reform environments compared to pre-political change and/or reform environments.	Year dummies	+	Partial support: Tunisia and Egypt
H4: Social connections have a stronger impact on the likelihood of starting up a business in post political change and/or reform environments compared to pre-political change and/or reform environments.	Year dummies	-	Partial support: Egypt
H5: Fear of failure will reduce entrepreneurial activity more post political change and/or reform environment compared to pre-political change and/or reform environments.	Year dummies	+	Yes
H6: Having been a business angel in the past has a stronger impact on the likelihood of starting up a business in post political change and/or reform environments compared to pre-political change and/or reform environments.	Year dummies	+ and -	No: opposite result

CHAPTER 5: CONCLUSIONS

5.1 CHAPTER SUMMARIES

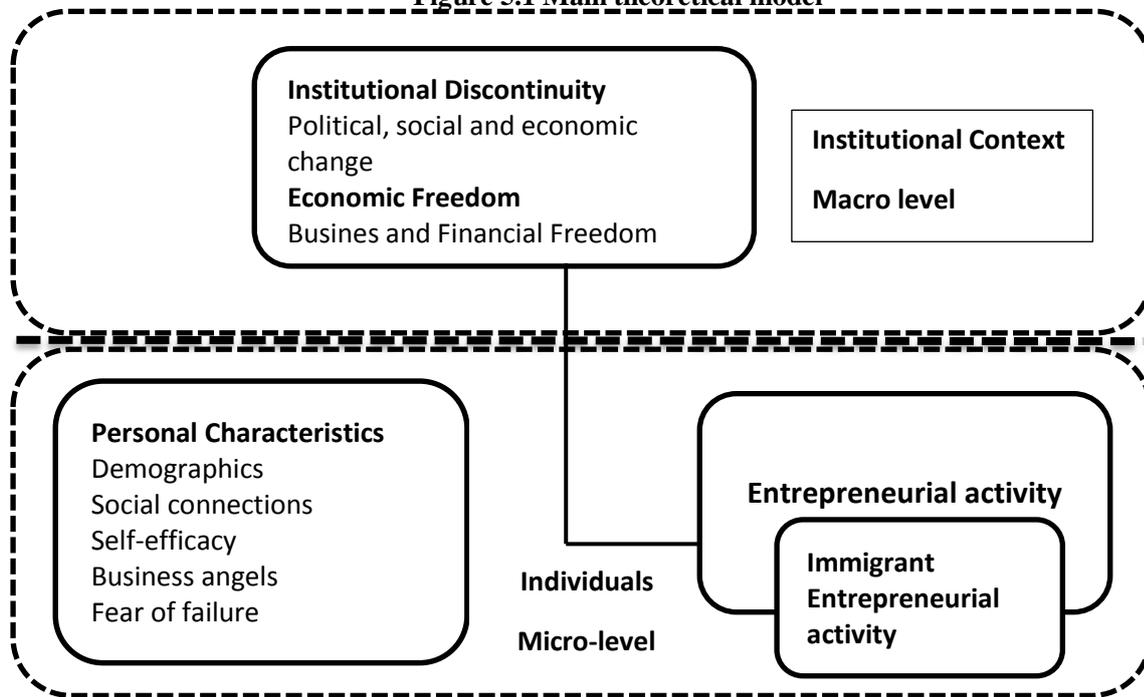
This final chapter provides a general discussion and conclusion that assimilates the findings from the three empirical chapters of this thesis about the influence of formal institutions and change on entrepreneurial activity. The chapter begins by providing an overall summary of the findings; then it is followed by a summary of the theoretical and practical implications. I conclude by presenting the strengths and limitations of this research and follow those by opportunities for future research.

The conceptual framework identified in this thesis has been informed and adapted as an extension of Coleman's "boat" social pathways model (Coleman, 1988, Coleman and Coleman, 1994). This framework (figure 8) presents the constructs identified in this thesis and their unique interactions as examined in the three empirical chapters (2, 3, and 4). It illustrates the variables used in this research and how they influence both the dependent variables but also how they may influence each other or interact as a holistic picture. Using this model, I propose micro, and macro level analysis of the interactions between institutions and entrepreneurship.

At the macro level, I analyse formal political institutional change and its interaction with entrepreneurial development whilst controlling for micro level personal characteristics (Chapter 2). In chapter 3, I examine the link between macro formal political institutions, economic freedom, and corruption and entrepreneurial behaviour of immigrants. Whilst in chapter 4, I analyse the integration of institutional change and opportunity recognition as well as high growth aspirations. Additionally I examine institutional change and the influence of micro level personal characteristics represented by self-efficacy, lack of fear of failure (De Clercq and Arenius, 2006, Minniti and Nardone, 2007, Stephan and Uhlaner, 2010), entrepreneurship-relevant social resources (social connections) (Minniti and Nardone, 2007), and financial resources (business angels) on entrepreneurship in three countries affected by the Arab Spring. Mainly, I set out to explore how these personal characteristics influence entrepreneurial start-ups and how this relationship is

influenced by changing political, social and economic formal institutions due to conflict. Figure 5.1 below illustrates the unique relationships examined in the thesis.

Figure 5.1 Main theoretical model



Based on (Coleman and Coleman, 1994)

Economic development literature has stressed that the importance of political institutions as a key barrier to economic growth and development of a nation (Dutta et al., 2013, Aisen and Veiga, 2006). Some of this literature suggests that more socio-political instability can potentially lead to lower investments, higher inflation and lack of appropriate financial development in financial institutions which in hand is negatively associated with economic growth (Dutta et al., 2013, Aisen and Veiga, 2006, Alesina and Perotti, 1996). Likewise, unstable and weak political institutions can sometimes lead to an increase in risk and uncertainty, inadequate enforcement of rule of law and weak protection of property rights (Dutta et al., 2013). On the other hand, stability in political institutions reduces the risk and uncertainty and decreases transaction costs permitting individuals to attain gains from exchanges in market transactions (Boettke and Coyne, 2003). Baumol (1990) emphasizes that the productivity of a country's entrepreneurial activity and processes depends highly on the quality of its institutions, of which political ones present an important type.

As defined earlier in the thesis, political institutions are institutional structures which allow for the establishing and standardization of access to economic opportunities, entrepreneurial rents and rule of law (Autio and Fu, 2015). Stability and a high quality political institutional environment offers a positive and conducive environment for entrepreneurs to thrive in. High quality political institutions are these characterized by comprehensive political representation without interference by governments, military, economic and or other self-interest groups, safeguarding individuals from being inhibited by monopolized control from powerful interest groups and affording inclusive access to economic opportunities (Puddington, 2013). However, research has found that insecurity coupled with lower economic growth rates arising from instability of institutions leads to weak formal enforcement of political rights and freedoms, therefore, deterring potential entrepreneurs from actively pursuing entrepreneurial activity in a host country (Aidis et al., 2008).

Some of the key concepts discussed in this this thesis are as follows. Short-term institutional change, (year on year) variations, are more frequent and gradual changes in institutional frameworks, which can accumulate to significant increases. These changes can help in understanding how some nations (but not others) build entrepreneurship over time and thereby providing for insightful policy outputs in support of entrepreneurship activity. Constitutional level institutions are higher order formal institutions that deal with aspects such as political freedom, political stability, freedom from corruption, democracy and autocracy. Personal characteristics of individuals related to potential entrepreneurship capabilities, motivations and intentions are also a key concept assessed, including self-efficacy, fear of failure, social connections and being a business angel. These key concepts are discussed in further details in the relevant empirical chapters 2, 3 and 4.

In the first empirical study in this thesis (chapter 2), I set out to examine the ways in which formal short-term political institutional change over time influences (at the macro level in the framework) entrepreneurial activity, controlling for the following personal characteristics of

entrepreneurs: self-efficacy and fear of failure, in a panel of countries. I draw my conclusions based on estimating panel regressions models using a combination of data sets and estimate several models using measures of political institutional change over time (democratization, political freedom, regulation/stability of property rights through executive constraints, political rights, freedom from corruption, political stability and political legitimacy), on the development of Total Early-Stage Entrepreneurial Activity (TEA) over a 14 year time frame. I postulate that political institutions (Aron, 2000, Autio and Fu, 2015) are essential in explaining the differing development of entrepreneurship between countries. The findings suggest that short-term changes in political institutions are essential in explaining the development of entrepreneurship activity. More importantly, positive change over time in political stability, freedom from corruption and political legitimacy seems to play the most significant role in explaining differences in the growth of TEA rates among countries. Therefore, I argue that positive changes in fundamental political institutions of political freedom and stability positively influences entrepreneurship development and subsequently provide policy makers with a better understanding of economic growth attributed to entrepreneurship development, reinforcing important links between practitioners, academics and policy makers.

In chapter 3, I present the second empirical study in the thesis. Here, I examine the relationship between political institutions at the macro level, freedom from corruption at the micro level and the prevalence of immigrant entrepreneurial start-ups. Political institutions are reflected by a system of politics and government, and the sets of rules, regulations, and norms that organize political activity. They explain aspects of political activity such as political legitimacy, political freedoms, stability and differences between government systems (democracies, autocracies). I utilize multilevel analysis using binary response logit models with random effects (Cox, 1958) to estimate the impact of the host macro (country) level political freedom, corruption, and economic freedom and controlling for the immigrant's individual characteristics. I collate the data five independent data sets: Global Entrepreneurship Monitor (GEM), Quality of Government (QoG),

Polity IV, World Bank and Freedom House. I develop several models that estimate the interaction between macro level political institutions (political freedom), economic freedom (business and financial freedom), and corruption with immigrant status to test changes in Total Early-Stage Entrepreneurial Activity (TEA) rates. What I find is strong support for the hypotheses tested confirming the positive relationship between strong political institutions, freedom from corruption and prevalence of immigrant entrepreneurial activity compared to nonimmigrants in host countries. The findings are central to policy makers in their attempts not only to integrate and assimilate immigrants into host country social environments but also to contribute to long term economic growth of a host country through targeted policies that aim to attract immigrant entrepreneurial efforts.

Chapter 4 in the thesis presents the third empirical study which looks at the effects of institutional change caused by the Arab Spring on entrepreneurial activity in Egypt and Tunisia compared to Algeria. This chapter accentuates the occupational notion of entrepreneurship and distinguishes between those potential entrepreneurs that recognize a business opportunity in the future and those that do not see such opportunities, as well as those that are motivated by self-employment and those that aspire for growth. In this study, I examine the influence of different facets of institutional change stemming from the Arab Spring on opportunity recognition and high growth aspiring entrepreneurial activity. I also study the influence of personal characteristics of self-efficacy, the lack of fear of failure, social connections and having been a business angel in the past, on decisions to start a business in Algeria, Egypt and Tunisia before and after the political/economic change resulting from the Arab Spring revolutions. The findings indicate that regime change in Egypt and Tunisia has affected entrepreneurial activity compared to only marginal effects in Algeria which only experienced political and economic reforms rather than regime change. The hypotheses Table 32 in the appendix summarizes all the hypotheses developed in this thesis in terms of support.

5.2 Key contributions

This thesis makes several important theoretical contributions to the entrepreneurship and institutions literature. It also has implications for policies to support entrepreneurship.

The thesis first introduces the effects of short-term institutional change on entrepreneurship. The dominant stance in literature is that institutional stability over long periods of time tends to change very slowly (North, 1990). This perspective, however, is possibly biased because institutional economics literature has focused on a relatively small but important group of high-income countries that have experienced institutional stability from the mid-twentieth century until the time of writing. Investigating the effects of short-term institutional changes on entrepreneurship provides an important complementary perspective to the aforementioned dominant stance.

Two contributions to comparative entrepreneurship research and institutional theory literature are introduced. First, a unique and dynamic perspective emphasizing the dynamic short-term change in both institutions and entrepreneurship is developed. Secondly, the thesis aids in understanding which changes in which institutions are most significant for entrepreneurship. The focus on short-term institutional change enriches and advances both institutional theory and comparative entrepreneurship research.

The novelty of these contributions is that more attention is focused on the short-term effects of institutional change rather than the dominant long term analysis angle discussed in institutional economics (e.g. North, 1990). The perspective introduced in this thesis proposes that institutions do not only change slowly, but they can also change over shorter time periods (Mickiewicz et al., 2017). Radical institutional changes in the form of constitutional changes that take place because of conflict, war, etc., may be variable but can also be unique and detectable in a year on year change unlike change in informal institutions. Therefore, an interesting question arises and it is: why do constitutional changes influence entrepreneurial activity, given their impact is usually indirect? An entrepreneur is likely to be faced with business regulations directly rather than constitutions; however, constitutions by nature define the boundaries of regulations, where for example, change

in political regime to democratization may affect expectations of how these regulations and business environments are perceived by the entrepreneurs (Mickiewicz et al., 2017). This short-term change perspective thus offers exciting new avenues for research as well as for policy makers interested to develop and grow entrepreneurship in their countries.

The second empirical chapter contributes to our knowledge of the influence of what types of host country institutions facilitate immigrant entrepreneurship. Immigration is increasing, currently due to the crises in the Middle East (e.g. Syria, Yemen, Iraq) but also due to growing resource pressures and crises in Africa. Research has shown that large waves of immigration can lead to aggregate social changes. For the individual, immigration means that they are suddenly faced with a different institutional framework. I provide first insights on what institutions facilitate immigrants to start a business, and hence make positive contributions to the host country economy (Wennekers and Thurik, 1999, Peri, 2012, Peroni et al., 2016). Past research on entrepreneurship has suggested that macro-level institutions are crucial in explaining cross-country differences in entrepreneurship; however, where the gap in this knowledge becomes apparent is that institutions can also influence immigrant entrepreneurial activity across countries. Specifically, I examined how political institutions, economic freedom, and corruption influence immigrant entrepreneurial activity compared to nonimmigrants in a host country environment. More specifically, I also aimed to gain insights on how the prevailing political and institutional uncertainty within the Western developed countries shapes immigration, entrepreneurship and economic growth in the host countries.

The main finding in this chapter suggests that immigrant entrepreneurs thrive in environments characterized by democratic and politically free institutions which in turn provide for a supporting mechanism in an unfamiliar cultural, economic and political setting that immigrants usually experience. ‘Democratic political institutions in contrast to autocratic ones allow for a representative political agenda in which property rights are universally protected and abuse of power is repressed and thus creating a better environment for entrepreneurship’ (Autio

and Fu, 2015). This produces important policy implications for both host and immigrant contributing countries. I summarized that some of these policy contributions link immigrant entrepreneur's skills and knowledge with business start-ups but also advocate for policies that attract highly skilled immigrants to promote innovation as a mechanism and stimulus for economic growth. Hosting countries can raise awareness about what is required to become an entrepreneur in their countries. For example, through the provision of publicly accessible information on eligibility requirements, the business start-up procedures and regulations, types of industry sectors, etc. This in hand is advantageous to host countries as entrepreneurial activity increases and most likely contributes to economic growth. Additionally, this can also open up role for private sector in the form of science parks and business incubators as they stimulate economic growth and development (Ratinho and Henriques, 2010).

The third empirical chapter focuses on three countries in the MENA region in which two have directly been affected by regime change due to the Arab Spring while one remains a strong hold of power with demonstrable economic and political reform. The Arab Spring Revolutions are considered to have created a change in the political and economic fabric in the MENA region. Thus, the main contributions of this chapter are identifying how opportunity recognition and high growth aspiring entrepreneurship is influenced by different types of institutional change through conflict.

This chapter also contributes to the existing literature by exploring how radical institutional change after conflict (revolutions, war, and uprisings) and personal characteristics interact with each other to influence entrepreneurial activity growth and how this impact can substitute local social structures when the institutional environment in place is weak. Olson's theory of economic growth suggested that when a country experiences prolonged periods of stability, economic growth suffers. Thus, over time a stable democracy will tend to amass more and more rent-seeking special interest groups or elite oligarchs whose political power will gradually grow, causing the impediment of economic growth. This theoretical argument is partly in line with the main findings in this chapter and there is evidence that personal characteristics such as social connections, being

a business angel and self-efficacy may have an important influence on entrepreneurial activity post transition and thus leading to a surge of growth. However, the most important contribution of this chapter is that the essence of institutional change is important at identifying how a country is influenced by said change. As seen in chapter 4, each of the studied countries had a unique experience which motivated how entrepreneurship was impacted.

The thesis draws attention to the importance not just in the level and quality of institutions but how entrepreneurship reacts to change in political institutions - be it through slowly evolving changes through reforms (chapter 2), more rapid change through revolution and crises (chapter 4) or through the individual changes in its institutional context through migration (chapter 3). Collectively these studies contribute to an overarching theme of institutions and entrepreneurship research with a particular focus on unique types of changes in these institutions and open up new avenues for future research.

5.3 Limitations of research

All three empirical chapters utilize a number of datasets of which the most important is the GEM data. GEM is a project introduced by a research consortium to provide data to aid in understanding the relationship between entrepreneurship and economic development across countries. GEM was launched in 1998 and has since provided globally comparable data across countries on several aspects of entrepreneurship including the attitudes, intentions, and motivations of entrepreneurs towards business start-ups. “The growing databases increasingly allow for in-depth academic research and this is mirrored by the rapidly increasing amount of GEM-based scientific publications in a wider range of academic journals” (Bosma, 2013).

Even though GEM provides the most comprehensive dataset for comparative entrepreneurship, one of the main limitations of this dataset is the lack of longitudinal data availability across countries and the orientation towards surveying of more developed countries than developing thus creating a discourse between levels of economic development as well as a possible selection bias. Therefore, these shortcomings have made it more challenging to construct

appropriate panel data models in the last two empirical chapters (Immigration and Arab Spring respectively). These drawbacks merit a great need for an interdisciplinary approach to the research, which may require the use of various measurement approaches including quantitative and qualitative data and other unique methods. Additionally, examining further research avenues using micro-level data about institutions to compare with macro level data can give deeper insights on the individual's encounters with formal institutions rather than the 'experts' view captured by macro level institutional variables.

Perceptual variables surveyed in GEM such as fear of failure, self-efficacy and social connections are also limited in their design elements. GEM questionnaires use dichotomous question types to extract information about such perceptual variables which may not capture the whole spectrum and breadth of the phenomena (eg. Self-efficacy is captured by asking the respondents whether they believe they have the skills required to start a business; what this question lacks however, is what are these skills, how are they defined and captured, etc.). Another important limitation is the measure of social connections. GEM defines social connections as whether an individual knows other entrepreneurs and is also dichotomous in nature. Therefore, the question lacks details as to what these potential connections with other entrepreneurs actually entail and how can these connections influence or impact a potential entrepreneur. The design in GEM does not allow for capturing these important nuances that can define how important a social connection is to the potential entrepreneur. Without more detail, we can not learn how knowing another entrepreneur and what capacity can they enhance self-efficacy for instance or provide access to resources and support etc (Baron, 2000, Aldrich, 1999, Minniti, 2004). However, we use the entrepreneurs' knowledge of other entrepreneurs as a proxy for social networks as knowing other entrepreneurs can provide a role model effect which can lead to an increase in skills, confidence and knowledge (Kwong et al., 2009). Furthermore, the data does not allow to establish a causal relationship, ie. I cannot determine whether for example self-efficacy is a driver of entrepreneurial activity or otherwise a result of this entrepreneurial endeavour (experience accumulated

throughout). Thus, even though these variables are the most appropriate and most utilized in literature, they still lack some depth associated due to the dichotomous nature of the questions. In terms of the migrant measure, GEM attempts to consolidate the question in the Adult Population Survey but again uses a dichotomous design where a respondent is asked whether or not they were born in the country they currently reside in. This measure has its limitations in that researchers do not have a complete picture of which country the immigrant came from or when this move happened (first generation vs. third generation immigrants).

Another main limitation to this thesis is related to the imperfect measures of institutions and the data design. Some of the main issues with the institutional variables discussed is that some of them may be highly correlated and therefore can potentially lead to challenges in making casual inferences. However, I attempted to conceptualize the institutional measures more thoroughly by examining the relationships between these measures and how they can relate to economic development and economic freedom. I believe, there is great scope for developing political institutional measures further and mitigating endogeneity issues, therefore becoming more appealing to researches but also allowing for advances in the interplay between political institutions and their relationship with entrepreneurship development. However, this entails that the academic world is interested and demands modifying current surveys and/or conducting new ones as well as employing new and innovative experiments.

5.4 Future research and policy directions

This thesis mainly investigates how and what formal institutions influence entrepreneurial activity in several countries. The research examines the macro level political, economic and social formal institutions. This leaves an abundance of ground to study an important part of institutions which are informal institutions in further rigour to contribute to the literature on these institutions and how they influence entrepreneurship. As immigration policies in developed countries face tougher scrutiny in light of important ‘critical junctures’ such as Brexit, protectionism measures associated with the new president of the United States, President Trump, the war on terrorism and

the continued instability in the MENA region, it is ever more imperative to understand the role of a country's institutions of economic growth driven by immigration through entrepreneurship (Wennekers et al., 1997, Wennekers and Thurik, 1999, Hunt and Gauthier-Loiselle, 2008, Peroni et al., 2016). Additionally, further research is necessary for (1) testing the generalizability of the interaction between formal political institutional change and entrepreneurship in developing country contexts and (2) understanding the mechanisms behind the use of personal characteristics as factors bridging the gap between formal institutions and entrepreneurship (e.g. social connections) in the context conflict/change (e.g. Arab Spring, Brexit, war, etc.). Moreover, to address the shortcomings of the lack of comparative studies between developed, developing and emerging economies, future research could benefit from expanding the sample size and controlling for regional and country economic stages. This can be complemented by considering additional variables and measures for formal assistance and network size to aid with identifying policy reform avenues for governments in both developed and developing countries.

Another important insight to consider in future research is the comparison between commercial and social entrepreneurs in both immigrants and natives in a host country in a longitudinal study format. This will aid in finding corresponding similarities and differences between social and commercial enterprises over the long term and how these are influenced by generations of immigration. Additionally, this kind of future research could help in uncovering the influence of institutional change on entrepreneurs' behaviour, motivation, and intentions with regards to the type business venture they seek.

An important policy implication of this research is that the research conducted about the institutional environment and how it changes will aid policy makers to reform the support programs available for entrepreneurs. With knowledge accumulated from this research about the influence of formal political institutions on entrepreneurial activity, policy makers can use this knowledge to strategize support policies accordingly to meet the gap in institutional weakness post conflict and change.

This thesis extends the possibilities of further quantitative research that examines entrepreneurial activity by providing deeper insights and the backbone into the many institutional factors, differences associated and ensuing influence on entrepreneurship. The thesis therefore sheds light onto the key institutional variables that influence both home nation and immigrant entrepreneurs providing the opportunity to reform support programs and initiatives to promote entrepreneurship to stimulate economic growth in a highly dynamic and evolving socioeconomic and political globalised world.

5.5 Appendices

Table 32. Hypotheses Summary

Hypothesis (Institutional Change Chapter)	Variables	Sign	Support
H1a: Countries characterized by increasingly politically free environments are likely to experience positive change in entrepreneurial activity rates.	Political freedom: Polity2	+	Yes
H1b: Countries characterised by increasing constraints on the executive are likely to experience positive change in entrepreneurial activity rates.	Executive Constraints	+	Yes
H1c: Countries which develop more democratic institutions over time are likely to experience positive change in entrepreneurial activity rates.	Democracy vs Autocracy	+	Yes
H1d: Countries with increased political stability over time are likely to experience positive change in entrepreneurial activity rates.	Political Stability	+	Yes
H2: Countries which exhibit a decrease in corruption over time are likely to experience positive change in entrepreneurial activity rates.	Freedom from corruption	-	Yes
H3: Countries with increased political legitimacy over time are likely to experience positive change in entrepreneurial activity rates.	Political legitimacy	-	Yes
Hypothesis (Immigration & Entrepreneurship Chapter)	Variables	Sign	Support
H1a: Strong political freedom in recipient economies positively influences immigrant entrepreneurial activity compared to home country entrepreneurs.	Political Freedom interacted with migrant	+	Yes
H1b: Democratic institutions in recipient economies positively influence immigrant entrepreneurial activity compared to home country entrepreneurs.	Democracy interacted with migrant	+	Yes
H1c: Greater political globalization in recipient economies positively influences immigrant entrepreneurial activity compared to home country entrepreneurs.	Political Globalization interacted with migrant	+	Yes
H1d: Parliamentary political systems in recipient economies positively influence immigrant entrepreneurial activity compared to home country entrepreneurs.	Political System interacted with migrant	+	Yes
H1e: High regime durability in recipient economies positively influences immigrant entrepreneurial activity compared to home country entrepreneurs.	Regime durability interacted with migrant	+	Marginal support
H2a: More freedom from corruption in recipient countries positively influences immigrant entrepreneurial activity compared to home country entrepreneurs.	Freedom from Corruption interacted with migrant	+	Yes
H2b: Stronger government effectiveness in recipient countries positively influences immigrant entrepreneurial activity compared to home country entrepreneurs.	Government Effectiveness interacted with migrant	+	Yes
H3a: Strong economic freedom in recipient economies positively influences immigrant entrepreneurial activity compared to home country entrepreneurs.	Business and Financial Freedom interacted with migrant	+	Yes
Hypotheses (Arab Spring Chapter)	Variables	Sign	Support
H1: the likelihood of starting a business motivated by opportunity recognition will increase post political change and/or reform after the Arab Spring revolutions compared to pre-political change and/or reform.	Year dummies	-	Partial support: Tunisia and Egypt
H2: the likelihood of starting a business motivated by high growth aspirations will increase post political change and/or reform after the Arab Spring revolutions compared to pre political change and/or reform.	Year dummies	-	Partial support: Egypt
H3: positive perceptions about self-efficacy has a stronger impact on the likelihood of starting up a business in post political change and/or reform environments compared to pre-political change and/or reform environments.	Year dummies	+	Partial support: Tunisia and Egypt
H4: Social connections have a stronger impact on the likelihood of starting up a business in post political change and/or reform environments compared to pre-political change and/or reform environments.	Year dummies	-	Partial support: Egypt
H5: Fear of failure will reduce entrepreneurial activity more post political change and/or reform environment compared to pre-political change and/or reform environments.	Year dummies	+	Yes

H6: Having been a business angel in the past has a stronger impact on the likelihood of starting up a business in post political change and/or reform environments compared to pre-political change and/or reform environments.	Year dummies	+ and -	No: opposite result
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Table 33. Thesis variables

Chapter 2	Measurement	Description	Details	Source
Total Early-stage Entrepreneurial Activity (TEA)	Measured as change over time (year on year change)	Change in % prevalence rate of individuals in the working age population who are actively involved in business start-ups, either in the phase of starting a new firm (nascent entrepreneurs) or in the phase spanning 42 months after the birth of the firm (owner- manager of new firms).	Change in % prevalence rate of individuals in the working age population who are actively involved in business start-ups, either in the phase of starting a new firm (nascent entrepreneurs) or in the phase spanning 42 months after the birth of the firm (owner- manager of new firms).	GEM
Political Rights/ Civil Liberties Indices (Political Freedom)	Measured as change over time (year on year change)	PR = Scores countries on a 7 to 1 ranking scale, with 1 representing the greatest of political freedom and 7 the smallest degree of political freedom (House, 2014a). CL = Scores countries on a 7 to 1 ranking scale, with 1 representing the greatest of civil liberties and 7 the smallest degree of civil liberties (House, 2014a).	Political rights enable people to participate freely in the political process: the right to vote freely for distinct alternatives in legitimate elections, compete for public office, join political parties and organizations, and elect representatives who have a decisive impact on public policies and are accountable to the electorate. Civil liberties: freedom of expression and belief, associational and organizational rights, rule of law, and personal autonomy without interference from the state.	Freedom House
Executive constraints index	Measured as change over time (year on year change)	Scores from 1 = “unlimited authority” to 7 = “executive parity”; the higher the value, the less arbitrariness (Marshall and Cole, 2008).	This variable refers to the extent of institutionalized constraints on the decision-making powers of chief executives, whether individuals or collectivities. Such limitations may be imposed by any “accountability groups”. It is therefore concerned with the checks and balances between the various parts of the decision-making process.	Polity IV
Polity2 Index (Democracy vs. Autocracy)	Measured as change over time (year on year change)	Combines scores of Autocracy and subtracting scores of Democracy with a resulting unified polity scale ranging from +10 (strongly democratic) to -10 (strongly autocratic) (Marshall and Cole, 2008).	Democracy has three essential, interdependent elements. (1) Presence of institutions and procedures through which citizens can express effective preferences about alternative policies and leaders. (2) Existence of institutionalized constraints on the exercise of power by the executive. (3) Guarantee of civil liberties to all	Polity IV

			<p>citizens in their daily lives and in acts of political participation.</p> <p>Autocracy is defined operationally as a set of political characteristics. (1) Restricting or suppressing competitive political participation. (2) Chief executives are chosen in a regularized process of selection within the political elite; once in office they exercise power with few institutional constraints. (3) High degree of control over social and economic activity.</p>	
Political Stability Index	Measured as change over time (year on year change)	Political stability: uses a scoring scales from -2.5 to 2.5, with higher scores corresponding to better outcomes; thus -2.5 is least politically stable and 2.5 most politically stable (Charron et al., 2010)	Measures perceptions of the likelihood that the government in power will be destabilized or overthrown by possible unconstitutional and/or violent means which may include domestic violence and terrorism.	Quality of Government Dataset
Freedom from corruption index	Measured as change over time (year on year change)	Freedom from corruption uses a 100 point scale; higher freedom from corruption score means less corruption; thus 1 = very corrupt government, 100 = very little corruption (Miller, 2015)	The score for this component is derived primarily from Transparency International's Corruption Perceptions Index (CPI) for 2011, which measures the level of corruption in over 183 countries. The higher the level of corruption, the lower the level of overall economic freedom and the lower a country's score.	Quality of Government Dataset
Political legitimacy index	Measured as change over time (year on year change)	Uses a scale from 0-3, with 0 = highest political legitimacy and 3 = least political legitimacy (Marshall and Cole, 2011)	Measurements include corruption or profiteering by ruling elites, resistance to transparency, level of democracy, illicit economy, and protests and demonstrations.	Polity IV
Robustness				
Control of corruption	Measured as change over time (year on year change)	It is measured using a scoring mechanism where scores range between -2.5 (worst outcomes) to 2.5 (best outcomes, hence, least corruption) (Charron et al., 2010).	Measures perceptions of corruption, conventionally defined as the exercise of public power for private gain. The particular aspect of corruption measured by the various sources differs somewhat, ranging from the frequency of "additional payments to get things done", to the effects of corruption on the business environment, to measuring "grand corruption" in the political arena or in the tendency of elite forms to engage in "state capture".	Quality of Government Dataset

Voice and accountability	Measured as change over time (year on year change)	Measured using a scoring system ranging between - 2.5 (worst outcomes) to 2.5 (best outcomes) (Charron et al., 2010).	Includes a number of indicators measuring various aspects of the political process, civil liberties and political rights. These indicators measure the extent to which citizens of a country are able to participate in the selection of governments. This category also includes indicators measuring the independence of the media, which serves an important role in monitoring those in authority and holding them accountable for their actions.	Quality of Government Dataset
Controls				
Self-efficacy	Measured as change over time (year on year change)	% of individuals who answer whether they believed they have the knowledge, skill, and experience required to start a new business.	% of individuals who answer whether they believed they have the knowledge, skill, and experience required to start a new business.	GEM
Fear of failure	Measured as change over time (year on year change)	% of individuals who answer whether fear of failure would stop them from starting a business or not.	% of individuals who answer whether fear of failure would stop them from starting a business or not.	GEM
High aspirations	Measured as change over time (year on year change)	% of individuals who answer whether they have high aspirations and expect to generate 10 or more jobs in first 5 years.	% of individuals who answer whether they have high aspirations and expect to generate 10 or more jobs in first 5 years.	GEM
Established business	Measured as change over time (year on year change)	% of owners/managers of established business		GEM
GDP per capita	Measured as change over time (year on year change)	GDP per capita in current \$US.	GDP per capita in current \$US.	World Bank Development Indicators
Chapter 3				
Total Early-stage Entrepreneurial Activity (TEA)	Measured in levels and not change, therefore raw scores are measured	The prevalence rate of individuals in the working age population who are actively involved in business start-ups, either in the phase of starting a new firm (nascent entrepreneurs) or in the phase spanning 42 months after the birth of the firm (owner- manager of new firms).	The prevalence rate of individuals in the working age population who are actively involved in business start-ups, either in the phase of starting a new firm (nascent entrepreneurs) or in the phase spanning 42 months after the birth of the firm (owner- manager of new firms).	GEM
Immigration status	Measured in levels and not change, therefore raw scores are measured	Coded (1 = migrant or 0 = native).	Individuals are asked whether they were born in the country they are living in currently or born elsewhere.	GEM
Polity2 Index (Democracy vs. Autocracy)	Measured in levels and not change, therefore raw	Combines scores of Autocracy and subtracting scores of Democracy with a resulting unified polity	Democracy has three essential, interdependent elements. (1) Presence of institutions and procedures	Polity IV

	scores are measured	scale ranging from +10 (strongly democratic) to -10 (strongly autocratic) (Marshall and Cole, 2008).	through which citizens can express effective preferences about alternative policies and leaders. (2) Existence of institutionalized constraints on the exercise of power by the executive. (3) Guarantee of civil liberties to all citizens in their daily lives and in acts of political participation. Autocracy is defined operationally as a set of political characteristics. (1) Restricting or suppressing competitive political participation. (2) Chief executives are chosen in a regularized process of selection within the political elite; once in office they exercise power with few institutional constraints. (3) High degree of control over social and economic activity.	
Political globalization	Measured in levels and not change, therefore raw scores are measured	Measured by the number of embassies and high commissions in a country, the number of international organizations of which the country is a member, the number of UN peace missions the country has participated in, and the number of international treaties that the country has signed since 1945.	Measured by the number of embassies and high commissions in a country, the number of international organizations of which the country is a member, the number of UN peace missions the country has participated in, and the number of international treaties that the country has signed since 1945.	Quality of Government Dataset
Political system	Measured in levels and not change, therefore raw scores are measured	Measured using: 0. Presidential 1. Assembly-elected President 2. Parliamentary	Systems with unelected executives get a 0. Systems with presidents who are elected directly or by an electoral college (whose only function is to elect the president), in cases where there is no prime minister, also receive a 0. In systems with both a prime minister and a president, we consider the following factors to categorize the system: a) Veto power: president can veto legislation and the parliament needs a supermajority to override the veto. b) Appoint prime minister: president can appoint and dismiss prime minister and / or other ministers. c) Dissolve parliament: president can dissolve parliament and call for new elections. d) Mentioning in sources: If the sources mention the president more often than	Quality of Government Dataset

			the PM then this serves as an additional indicator to call the system presidential. Countries in which the legislature elects the chief executive are parliamentary (2). If that assembly or group cannot easily recall the president (if they need a 2/3 vote to impeach, or must dissolve themselves while forcing them out) then the system gets a 1.	
Regime durability	Measured in levels and not change, therefore raw scores are measured	Number of years since the most recent regime change.	Represents the number of years since the most recent regime change and/or the end of transition period identified by the lack of political stability over time (Marshall et al., 2010).	Polity IV
Freedom from corruption index	Measured in levels and not change, therefore raw scores are measured	Freedom from corruption uses a 100 point scale; higher freedom from corruption score means less corruption; thus 1 = very corrupt government, 100 = very little corruption (Miller, 2015)	The score for this component is derived primarily from Transparency International's Corruption Perceptions Index (CPI) for 2011, which measures the level of corruption in over 183 countries. The higher the level of corruption, the lower the level of overall economic freedom and the lower a country's score.	Quality of Government Dataset
Government effectiveness	Measured in levels and not change, therefore raw scores are measured	Scores lie between -2.5 and 2.5, with higher scores corresponding to better outcomes.	Combines into a single grouping responses on the quality of public service provision, the quality of the bureaucracy, the competence of civil servants, the independence of the civil service from political pressures, and the credibility of the government's commitment to policies.	Quality of Government Dataset
Business Freedom (economic freedom)	Measured in levels and not change, therefore raw scores are measured	The business freedom score encompasses 10 components, all weighted equally and based on objective data from the World Bank's Doing Business study. It is graded from 0 to 100, where 100 represents the maximum degree of business freedom.	The business freedom score encompasses 10 components, all weighted equally and based on objective data from the World Bank's Doing Business study. It is graded from 0 to 100, where 100 represents the maximum degree of business freedom.	Quality of Government Dataset
Financial Freedom (economic freedom)	Measured in levels and not change, therefore raw scores are measured	The financial freedom factor measures the relative openness of each country's banking and financial system by determining: the extent of government regulation of financial services; the extent of state intervention in banks and other financial services; the difficulty of opening and operating financial services	The financial freedom factor measures the relative openness of each country's banking and financial system by determining: the extent of government regulation of financial services; the extent of state intervention in banks and other financial services; the difficulty of opening and operating financial services	Quality of Government Dataset

		firms (for both domestic and foreign individuals); and government influence on the allocation of credit. It is graded from 0 to 100, where 100 represents the maximum degree of financial freedom.	firms (for both domestic and foreign individuals); and government influence on the allocation of credit. It is graded from 0 to 100, where 100 represents the maximum degree of financial freedom.	
Robustness				
Imputed Polity2	Measured in levels and not change, therefore raw scores are measured	Scale ranges from 0-10 where 0 is least democratic and 10 most democratic.	The imputed version from QoG used has values for countries where Polity data is missing and it is constructed by regressing Polity on the average Freedom House measure (Charron et al., 2010). It is constructed by averaging the Freedom House measures of political rights and civil liberties and transforming them to a scale from 0-10 and transforming Polity into a similar scale.	Quality of Government Dataset
Corruption Perceptions Index	Measured in levels and not change, therefore raw scores are measured	The CPI Score relates to perceptions of the degree of corruption as seen by business people, risk analysts, and the general public and ranges between 10 (highly clean) and 0 (highly corrupt).	The CPI Score relates to perceptions of the degree of corruption as seen by business people, risk analysts, and the general public and ranges between 10 (highly clean) and 0 (highly corrupt).	Quality of Government Dataset
Political corruption	Measured in levels and not change, therefore raw scores are measured	The directionality of the Political Corruption index runs from less corrupt to more corrupt. The corruption index includes measures of six distinct types of corruption that cover both different areas and levels of the polity realm, distinguishing between executive, legislative and judicial corruption.	The directionality of the Political Corruption index runs from less corrupt to more corrupt. The corruption index includes measures of six distinct types of corruption that cover both different areas and levels of the polity realm, distinguishing between executive, legislative and judicial corruption.	Quality of Government Dataset
Control of Corruption	Measured in levels and not change, therefore raw scores are measured	All scores lie between -2.5 and 2.5, with higher scores corresponding to better outcomes.	All scores lie between -2.5 and 2.5, with higher scores corresponding to better outcomes.	Quality of Government Dataset
Controls				
Log Age	Measured in levels and not change, therefore raw scores are measured	Age of respondents to GEM survey between (18-64 years old) in logarithm form.	Age of respondents to GEM survey between (18-64 years old) in logarithm form.	GEM
Gender	Measured in levels and not change, therefore raw scores are measured	Gender of respondents male = 1, Female = 0.	Gender of respondents male = 1, Female = 0.	GEM
Education	Measured in levels and not	Educational Attainment: post-secondary.	Educational Attainment: post-secondary.	GEM

	change, therefore raw scores are measured			
Business start-ups	Measured in levels and not change, therefore raw scores are measured	% of individuals who answer whether they have been a business angel in the past. Coded 1 = Being a business angel in the past 3 years. 0 = no	Being a business angel in the past 3 years.	GEM
Work status	Measured in levels and not change, therefore raw scores are measured	Working status: in full-time/part-time work dummy	Working status: in full-time/part-time work dummy	GEM
Income level	Measured in levels and not change, therefore raw scores are measured	Income level: Middle-income level dummy	Income level: Middle-income level dummy	GEM
GDP per capita	Measured in levels and not change, therefore raw scores are measured	GDP per capita in current \$US.	GDP per capita in current \$US.	World Bank Development Indicators
Opportunity perceptions	Measured in levels and not change, therefore raw scores are measured	Coded 1 = Individuals that see an opportunity to start a business in the next 6 months. 0 = not	Coded 1 = Individuals that see an opportunity to start a business in the next 6 months. 0 = not	GEM
Self-efficacy	Measured in levels and not change, therefore raw scores are measured	% of individuals who answer whether they believed they have the knowledge, skill, and experience required to start a new business.	% of individuals who answer whether they believed they have the knowledge, skill, and experience required to start a new business.	GEM
Chapter 4				
Nascent entrepreneurs	Measured as change over time (year on year change)	% of individuals who seek to start a business either on their own or in collaboration with partners and have yet to pay any wages or salaries for more than three months. Coded 1 = yes, 0 = no	% of individuals who seek to start a business either on their own or in collaboration with partners and have yet to pay any wages or salaries for more than three months.	GEM
Opportunity/necessity	Measured as change over time (year on year change)	Coded 2 = the respondent perceives a business opportunity within the next 6 months, 1 = the respondent perceives no opportunity within the next 6 months 0 = not participating	Number of individuals who perceive that there is a new business opportunity in the next 6 months	GEM
High/low growth	Measured as change over time (year on year change)	Coded 2 = the respondent have intentions to launch high-growth oriented projects (creating 10 or more jobs in the first 5 years), 1 = the respondent does not have intentions to launch high growth	Number of individuals who have intentions to launch high growth oriented projects (thus creating 10 or more jobs in the first 5 years)	GEM

		projects, 0 = not participating		
Self-efficacy	Measured as change over time (year on year change)	% of individuals who answer whether they believed they have the knowledge, skill, and experience required to start a new business. Coded 1 = yes, 0 = no	% of individuals who answer whether they believed they have the knowledge, skill, and experience required to start a new business.	GEM
Social connections	Measured as change over time (year on year change)	% of individuals who answer whether they personally know an entrepreneur already. Coded 1 = yes, 0 = no	% of individuals who answer whether they personally know an entrepreneur already. Coded 1 = yes, 0 = no	GEM
Fear of failure	Measured as change over time (year on year change)	% of individuals who answer whether fear of failure would stop them from starting a business or not. Coded 1 = yes, 0 = no	% of individuals who answer whether fear of failure would stop them from starting a business or not.	GEM
Controls				
Education	Measured as change over time (year on year change)	Educational Attainment: post-secondary.	Educational Attainment: post-secondary.	GEM
Gender	Measured as change over time (year on year change)	Gender of respondents male = 1, Female = 0.	Gender of respondents male = 1, Female = 0.	GEM
Age	Measured as change over time (year on year change)	Age of respondents to GEM survey between (18-64 years old).	Age of respondents to GEM survey between (18-64 years old).	GEM
Work status	Measured as change over time (year on year change)	Working status: in full-time/part-time work dummy	Working status: in full-time/part-time work dummy	GEM

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