Entrepreneurship and environments: start-ups, growth aspirations, and exit

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Abstract

At the start of the twentieth century, Schumpeter (1908; 1912) postulated the basis for a potential revolution in economics by arguing that the entrepreneur acts as the underlying force of economic growth. Despite Schumpeter's contribution, the central role of entrepreneurship has only been systematically recognised in the literature in the past few years (Santarelli & Vivarelli, 2007). Santarelli and Vivarelli (2007) contended that the most common way to measure entrepreneurship was to focus on entrepreneurial start-up rates. Shane (2009) suggested that achieving job creation and economic growth from entrepreneurship is not a numbers game and entrepreneurship policy should encourage the formation of high quality, high growth companies. Furthermore, DeTienne (2010) stated that the entrepreneurial process does not end with the creation of a new business, but instead with entrepreneurial exit. Considering the crucial role of entrepreneurship, this thesis will look at these issues through three independent but interrelated studies:

The first study introduces and assesses a set of measures of the quality of government that has both theoretical and empirical importance. The results confirm that the quality of government demonstrates varying moderating effects on the relationship between institutions and entrepreneurial start-ups.

Drawing on the theory of planned behaviour and the entrepreneurial ecosystem approach, the second study looks at entrepreneurs' growth aspirations in China. The

results suggest that there is a positive relationship between attitude and growth aspirations and that people who perceive a greater sense of control over the outcomes of their actions are more likely to possess growth aspirations. The results also confirm the positive moderating effects of entrepreneurial ecosystems on the relationship between individual motivational aspects and growth aspirations.

The third study first assesses how individual cognitive aspects can contribute to distinctions in exit motives. Second, by adopting resource dependence theory, and institutional theory, this study argues that environmental dynamism and institutional ambiguity exert direct and indirect effects on entrepreneurial exit patterns in China.

Key words: Entrepreneurial start-ups, Growth aspirations, Entrepreneurial exit, Global Entrepreneurship Monitor

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List of Abbreviation

TPB	Theory of planned behavior
GEM	Global Entrepreneurship Monitor
QOG	Quality of Government
GEM NES	Global Entrepreneurship Monitor National
GEM APS	Global Entrepreneurship Monitor (GEM)
TEA	Total Entrepreneurial Activity
IP	Intellectual Property
S&T	Science and Technology
VC	Venture Capital
ATT	Attitude
SN	Subjective Norm
PBC	Perceived Behavior Control
VIF	Variance Inflation Factor
IF	Institutional Foundations
RF	Relational Foundations
EA	Entrepreneurial Agency
FI	Finance
HC	Human Capital
SU	Supports
LR	Likelihood Ratio
IOL	Institute of Law
CASS	Chinese Academy of Social Sciences
SES	Socioeconomic Status

Chapter 1. Introduction

1.1. Research Background

There is no commonly accepted and single definition of entrepreneurship in existing research (Mahoney & Michael, 2004; Thurik & Wennekers, 2004). Entrepreneurship is viewed as a specific occupation on the one hand and can be used to describe a wide definitions such as new business creation on the other (Reynolds et al., 2005).New businesses play a significant role and can function as engines of economic reform and structural change (De Clercq et al., 2010).This thesis adopts the wider definition of entrepreneurship and argues that understanding the underlying and contingent factors affecting the entrepreneurial process is of great importance to researchers and policy-makers alike.

The entire entrepreneurial process is performed by entrepreneurs, who were labelled by Schumpeter (1934) as those individuals who display “essential features”， who can be described by using adjectives like creative, growth-oriented , innovative, dynamic, flexible, and risk-taking. In particular, Schumpeter (1934) casted a great emphasis on the subjective features of the business founder, and argued that individual determinants act as “push factors” to entrepreneurship and can be related to both external aspects and business founders’ characteristics. However, an entrepreneur is not just a do-it-yourselfer and empirical macroeconomic evidence also emphasised the impact of the whole entrepreneurial process (Santarelli & Vivarelli,2007). According to Aidis & Estrin (2013), the dynamics of the

entrepreneurial process hinge on the incentive structure within an economy. Although environmental factors are often acknowledged as critical, much research remains unexplored. This becomes particularly evident when considering that the current literature has called for an enhanced integration of various levels and approaches with regard to the conditions under which businesses are established, developed, and terminated (Santarelli & Vivarelli, 2007). Box (2008) argued that how environmental factors facilitate and constrain entrepreneurship is a less investigated field and stressed the necessity for more micro-to-macro studies. The macro-environmental factors and the interplay between micro and macro aspects are also critical for the development of the entrepreneurial process (Aldrich & Marinez, 2001). It is critical to understand entrepreneurs' characteristics on the one hand, and the context where they operate on the other. Therefore, this research aims to answer the questions regarding what micro and macro level factors can contribute to entrepreneurial start-ups, growth aspirations, and exit through three independent but interrelated studies.

In spite of the growing attention paid to the significance of entrepreneurship in economic development, varying rates of entrepreneurial activities can still be observed across countries and the factors determining this heterogeneity cannot be fully explained (Hechavarria & Reynolds, 2009; Stenholm et al.,2013). Primary questions arising from the extant literature concern how the environmental context and factors relate to entrepreneurial activity (Urbano & Alvarez, 2014). The

preliminary evidence indicates that the answer lies partially in the country-specific institutional environment in which the entrepreneurs operate (Busenitz et al., 2000; Busenitz & Lau, 1996; Mueller & Thomas, 2000; Reynolds et al., 1999, 2000, 2001). Based on the analysis of institutional dimensions in the field of entrepreneurship, it appears that differences in country-specific institutions may give rise to different levels of entrepreneurial activity across countries. For instance, the early studies by Baumol (1990, 1993) demonstrated that, institutions generate the structure of the motivations that determine the choice of entrepreneurship as against other occupations. By introducing and validating a measure of the national institutional profile, Busenitz et al. (2000) identified that country-level institutional differences contribute to the variations in the levels of entrepreneurship. This research was later advanced by Spencer and Gomez (2004). Drawing on a national institutional profile, their results demonstrate that institutional profiles as well as economic variables act as distinct roles in facilitating entrepreneurial activity in a country. Although institutions are percieved as the driving forces of entrepreneurial activity, well-developed institutions may stop functioning properly due to institutional rigidity; or, in political scientist Fukuyama's (2014) words, institutions can "grow rigid and fail to adapt to new circumstances" (p.27). In spite of this, institutional rigidity can be mitigated by the quality of government which is strong in regard to the ability to legitimately enact and implement rules or necessarily deliver public resources (La Porta et al., 1999; Fukuyama 2014).As a result, the first study (chapter 2) investigates the underlying role of the quality of government in modifying the

relationship between institutions and entrepreneurial start-up rates. By adopting the framework of the quality of government constructed and developed by Fukuyama (2004), it is argued that the proposed effects of the institutional context differ depending on the quality of government arrangements (i.e. state capacity; rule of law; and accountability).

There is a widespread agreement that entrepreneurship is a critical factor to economic development and to the creation of employment and wealth (Autio, 2011). Apart from the rate of entrepreneurial activity, the "quality of entrepreneurship" should also matter (Tominic & Rebernik, 2007). This is consistent with the arguments made by Shane (2009) who suggested that getting job creation and economic growth from entrepreneurs is not merely a numbers game and that entrepreneurship policy should encourage the formation of high growth, high quality firms. High-aspiration entrepreneurial activity is defined as entrepreneurial start-ups that exhibit the aspiration of rapid growth in employment (Autio, 2011). Although high-growth business ventures contribute more to economic development than small ventures in general (Pages et al., 2003; Wong et al., 2005), due to the negative consequences of business growth anticipated by entrepreneurs, not all entrepreneurs aspire to grow their business (Storey, 1994). Following the theory of growth of Penrose (1959), scholars have explored the personal, motivational and behavioural factors that result in business growth (Tominc & Rebernik,2007) . Davidsson (1991) elaborated that entrepreneurial growth can be attributed to three individual factors, namely,

the availability of opportunities to business owners, entrepreneurs' motivation to pursue opportunities, and entrepreneurs' ability to do so successfully. Kolvereid (1992) found that the achievement motive is positively associated with growth ambitions. Focusing on micro-level variables, Cassar (2006) identified a positive relationship between financial motives and growth ambition. At the macro level, national entrepreneurship policies are already moving the focus on seeking to enhance the quantity of entrepreneurs to increasing the quality of entrepreneurship (Fischer & Reuber, 2003; Smallbone et al., 2002). Estrin et al. (2013) argued that a policy that concentrates on enhancing entrepreneurship in general, rather than on firms with high growth potential, is likely to be inefficient in promoting employment. Autio (2011) contended that from the perspective of economic theories, entrepreneurs with the aspiration of high growth fit most with the profile of entrepreneurship and represent the group most likely to generate employment and attract the attention and interest of policy makers. Autio (2005, 2007) presented the patterns of high growth aspiration entrepreneurial activity across countries, the associations with the country-specific entrepreneurial environment, and the entrepreneurs' characteristics, but did not offer insights into the implications concerning the determinants. The influence of institutions on entrepreneurs' intentions to establish larger business ventures was investigated by Bowen and DeClercq (2008) but the micro-level factors are not included in their studies (Estrin et al.,2013). In the second study (chapter 3), based on the theory of planned behaviour (TPB) that provides more powers in predicting entrepreneurial intention

than personal traits or demographic factors (Autio et al., 2001; Krueger et al., 2000), a model of growth aspirations is developed. Furthermore, this study takes a critical step by incorporating an ecosystems approach into the model of growth aspirations and applying a multilevel research design to examine the mechanisms of entrepreneurial ecosystems required for facilitating entrepreneurial growth aspirations.

A large body of knowledge with regard to aspects of the entrepreneurial process has been developed by scholars. For instance, existing entrepreneurship studies have investigated start-up processes (Korunka et al., 2003), opportunity identification processes (Ardichvili et al., 2003), exploitation processes (Choi & Shepherd, 2004), financing processes (Shane & Cable, 2002), and team formation processes (Clarysse & Moray, 2004). In line with DeTienne, (2010), the entrepreneurial process does not end with business start-ups and growth, but instead with entrepreneurial exit. Entrepreneurial exit has a profound influence on economic growth. It can trigger a process of business recycling and give rise to economic benefits, referring to reinvestment of financial and knowledge resources into other companies, new business generation, enhanced local infrastructure, and community activity endowment (Mason & Harrison, 2006). Yet, exit processes remain relatively unexplored. The level of analysis in the extant literature concerning exit processes has primarily been performed at the industry or firm level (Bowman & Singh, 1993); however, recent call from DeTienne (2010) highlights the need to focus attention on

the entrepreneur or business founder in order to obtain nuanced understanding of how, when and why entrepreneurs make decisions about entrepreneurial exit. In addition, the entrepreneurial process is multi-faceted (Justo et al., 2015). Early studies mostly equated business survival with entrepreneurial success and assumed that exit was the outcome of poor performance (Boden & Nucci, 2000; Caves, 1998). Recent research has suggested that entrepreneurs can nevertheless withdraw from their business based on volitional decisions, that is, exit due to non-pecuniary reasons (DeTienne & Cardon, 2012; McGrath, 2006; Sarasvathy et al., 2013; Taylor, 1999).Given that entrepreneurs have distinct business motivations (Shane et al., 2003), intentions (Bird, 1988), cognitive perspectives (Mitchell et al., 2002), as well as choices (McGrath, 1999), an advanced understanding of entrepreneurs can provide insights into the entrepreneurial exit process. The entrepreneurship literature regarding the explanation of entrepreneurial exit has also focused on environmental factors and suggests that the entrepreneurial exit process is a context-dependent phenomenon (Wennberg et al., 2010). For example, Everett and Watson (1998) undertook a study involving 5,196 Australian retail and service start-ups between 1960 and 1999 and found that macro-economic variables including trading bank interest rates, business bankruptcies, consumer price index, employment, and retail sales are related to between 30 percent and 50 percent of small business exits, depending on the definition of entrepreneurial exit adopted. Stam et al. (2010) examined the effects of environment factors on entrepreneurial exit intentions. They identified that the indicators of perceived constraints in the

environment are highly related to giving up entrepreneurial intentions and efforts, leading to business closure. Hence, the third study (chapter 4) takes an important step towards a more nuanced understanding of entrepreneurial exit routes by adopting a more fine-grained conceptualization of exit motives and incorporating multi-levels of analyses into the theory of entrepreneurial exit.

1.2. Research Motivations

Scholars have recently been focusing growing attention on the variation in entrepreneurial activity across countries and the reasons behind this phenomenon (Anderson et al., 2012; Audretsch ,2012; Lee et al. 2011; Mueller & Thomas 2000; Nielsen& Lassen 2012; Renko et al., 2012; Shane & Kolvereid 1995). Given that the institutional environment defines entrepreneurial opportunities (Karlsson & Acs, 2002; Stenholm et al., 2013), an increasing number of studies are looking at how institutions influence the level of entrepreneurship (Bruton et al., 2010). According to the existing literature, two broad branches of institutional theory exist, with one principally deriving from sociology and organizational theory and the other being primarily based on political science and economics. The sociology and organizational theory branch contends that social norms, shared cultures, and schemas are the drivers of human cognition and behaviours (Ahlstrom & Bruton, 2002). Institutions are hence described as taken-for granted assumptions and less formally shared interaction sequences. By contrast, the political science perspective highlights the role of administratively capable governments in formulating and enforcing policies in

the process of reaping the benefits of national institutions in facilitating entrepreneurial behaviour. Nevertheless, much less attention has been paid to the quality of government that could mobilise and enable institutions to drive entrepreneurial activities. It thus calls for introducing the concept of quality of government from political science to comprehensively explain the conditions of the proposed relationship between institutions and entrepreneurial activity.

Although businesses with growth potential contribute more to job creation and economic growth (Friar & Meyer, 2003;Pages et al., 2003; Wong et al., 2005), not all entrepreneurs aspire to grow their business (Shane, 2009). Previous research has looked at how growth aspirations are affected by individual level and external factors including self-efficacy and opportunity perceptions (Tominc & Rebernik , 2007), household income and education (Autio & Acs, 2010), independence and wealth-creation (Hessels et al., 2008a; Hessels et al., 2008b; Edelman et al., 2010), personal networks (Estrin et al. 2013), and national institutions (Qian at el., 2013; Acs et al., 2014). Two research gaps can be identified from the literature. First, the investigation of individual-level factors has been narrowed down to certain aspects of personal motivation and has rarely grounded the arguments explicitly on psychological perspectives. Intention is defined by Ajzen (2011) as an individual's readiness to perform a given behavior. In the framework of TPB, entrepreneurial intention is a function of three constructs: an evaluation of behaviour (attitude); recognized social pressure in regard to behaviour and performance (subjective

norm); and the perceived difficulty or ease of exercising a behaviour (perceived behaviour control) (Ajzen, 1991). Second, prior research on external factors has primarily concentrated on national institutions and seldom taken the interaction between personal incentive factors and external factors into account. This limitation has been verified in recent studies that take a systems approach to entrepreneurship (Qian at el., 2013; Acs et al., 2014) and suggest that entrepreneurial behaviours are affected by more than institutional aspects in entrepreneurial ecosystems (Stam,2015). In line with Stam (2015), the concept of entrepreneurial ecosystem has just recently emerged. Although the concept of the entrepreneurial ecosystem has been constructed by a number of scholars in an ad hoc manner and there is no commonly shared definition, it is defined by Stam (2015) as "a set of interdependent actors and factors coordinated in such a way that they enable productive entrepreneurship"(p.1765). It not only views the significance of entrepreneurs as central actors, but also regards entrepreneurship as a result of the system. Entrepreneurs with growth potential are normally positioned to perceive the opportunities and constraints of the ecosystem, and to handle them in parallel with the feeders (such as infrastructure, service support, etc.) of the ecosystem. To address these gaps, TPB and the ecosystem approach are applied in order to collectively explain entrepreneurs' growth aspirations.

Based on the work by DeTienne (2010), an entrepreneurial perspective is developed suggesting that the entrepreneurial process does not complete with venture

creation, but rather with entrepreneurial exit. Although entrepreneurial exit has been suggested to have a significant impact on the entrepreneur, the company, business market and economies, it remains an unexplored and underspecified phenomenon. According to Strotmann (2007), a number of prior studies in the entrepreneurship literature have used entrepreneurial exit to approximate the 'failure' of a business, while it becomes more apparent from the practitioner-oriented literature that exit from entrepreneurship and business failure are not entirely interchangeable (Knott & Posen, 2005).It is argued that the high business failure rate in the literature might be partially derived from a misinterpretation of positive exit decisions as business failures (Wennberg et al., 2010). Therefore, it expects a strongly expanding notion in the practitioner-oriented literature which highlights the difference of entrepreneurial exit motivations. Moreover, given that viewing entrepreneurial exit solely as business failure offers a single-eyed and biased perspective, once such an assumption is released, a framework for realizing how exit routes can be attributed by different level of factors is needed (Wennberg et al., 2010). Therefore, a research gap can be identified in the literature on how business owners make decisions to exit, craft exit strategies, and select the options for exit based on a multilevel design.

1.3. Research Questions and Research Objectives

1.3.1. Research Questions

Based on the research gaps that need to be addressed in entrepreneurial start-ups, growth aspirations, and exit, each study responds to specific research questions:

Study 1: How can a country harness its institutions for unleashing the potential of entrepreneurship? How each aspects of the quality of government (i.e. State, rule of law, and accountability) can modify the impact of institutions in driving the development of entrepreneurial start-ups?

Study 2: How does a joint function of motivational factors influence entrepreneurial growth aspirations? How do entrepreneurship ecosystems interact with personal motivation to affect entrepreneurial growth aspirations?

Study 3: How are individual cognitive factors related to the exit decision of entrepreneurs? How do environmental dynamism and institutional ambiguities contribute to the differences in exit patters? How do environmental dynamism and institutional ambiguities moderate the relationship between individual cognition and entrepreneurial exit decisions respectively?

1.3.2. Study Objectives

The objectives of this research are to contribute to the field of entrepreneurship by building integrated models to explain entrepreneurial phenomena in different stages of the entrepreneurial process. In particular, there is no single study on the interaction effects of dimensions of the quality of government on institution-entrepreneurship, and therefore the first study introduces and unravels the complementary role of administratively capable governments in establishing policies and enforcing them in the process of reaping the benefits of institutions for the development of entrepreneurship. Furthermore, in applying the concept of the quality of government defined by Fukuyama (2014), the aim is to obtain a much broader view of the moderating effects on the institution-entrepreneurship relationship in comparison to prior research by taking three aspects of the quality of government into account.

As firms grow, the business owners increasingly establish psychological attachments. One of the purposes of the second study is to allow for simultaneous considerations of these psychological factors by constructing a model of motivation-driven growth aspirations based on TPB. This study also aims to present specific insights into which ecosystems promote the effects of psychological factors on entrepreneurs' growth aspirations and which might constrain the relationships. More specifically, in order to answer the call for more research on entrepreneurial ecosystems (Acs et al. 2017) and the adoption of a multilevel research design (Autio & Acs 2010), the second

study combines TPB with the entrepreneurial ecosystem approach to consider the direct and indirect effects of entrepreneurial motivational factors on growth aspirations. Additionally, China is a transition economy and shares many institutional features with its counterparts. There is nevertheless a dearth of studies on growth aspiration in Chinese context. This paper is constructed to respond to Autio & Acs' (2010) call for future research to pay greater attention to the context within which growth aspirations and behaviours are observed and conceptualize entrepreneurial systems from a transition economic perspective in China.

Regarding entrepreneurial exit collectively as business failure and voluntary decisions, the third paper aims to construct and validate a coherent framework of entrepreneurial exit routes with a combination of different levels of analysis. Moreover, this study advances the entrepreneurial exit literature on the basis of more fine-grained conceptualization of the exit motivations that underlie two distinct exit types. It responds to early entrepreneurial exit studies that called for a clear delineation of entrepreneurial exit and also suggests that the rates of business failure has been overstated in prior studies. While the level of analysis in the existing exit literature is fundamentally performed at the industry or firm level (Bowman & Singh, 1993), this study concentrates upon the entrepreneur for the purpose of understanding why, when and how entrepreneurial exit can be made by business founders. Entrepreneurial exit might be a personal/career choice or a liquidity event that enables an entrepreneur to make use of and participate in other opportunities;

however, the implications of business exit move well beyond the individuals (DeTienne, 2010). This study is therefore contextualized in China in which environmental dynamism and institutional ambiguity are accounted for in order to respond to the call that entrepreneurial exit is a context-dependent as well as multi-level phenomenon.

1.4. Research Agenda

1.4.1. Data

These three empirical studies are tested principally using the Global Entrepreneurship Monitor (GEM) database. The GEM is a research programme focusing on entrepreneurship (Reynolds et al, 2005). Although it is generally acknowledged that entrepreneurship acts as the central force that shapes and drives the changes in the economic landscape (Acs et al., 1999; Baumol, 1968), the understanding of the mechanisms of entrepreneurship is incomplete largely due to a lack of harmonized datasets on entrepreneurship across regions or countries (Reynolds et al, 2005). The GEM research programme, which was initiated in 1998, offers the needed fundamental information and knowledge by assembling related harmonized data. It is collected on an annual basis and its purpose is to guide investigation on the central role of entrepreneurship in economic development, strengthen the understanding of differences in country-level entrepreneurship, and promote the development of policies to promote entrepreneurial activity (Reynolds et al, 2005). The GEM dataset conceptualises entrepreneurship as “any attempt at

new firm or new business creation, or the expansion of an existing business, by an individual, a team of individuals, or an established business" (p.20) (Bosma et al., 2012). The surveys of GEM dataset are performed using a geographically stratified sampling procedure to locate respondents and households between age 18 and 64 for face-to-face interviews. The GEM collects micro survey data in surveyed countries/regions on an annual basis to generate harmonized cross-national datasets. This characteristic allows the study to take both micro and macro perspectives by gathering individual- and country-level (or regional-level) data on the prevalence, determinants, and consequences of entrepreneurial activities. Therefore, the country-level (or regional-level) attributes can be applied to enable the exploration of upper level effects per se and cross-level interactions between country-level (or reginal-level) attributes and individual-level characteristics, such as, entrepreneurial attitudes, aspirations, and activities using a multi-level analytical design.

The GEM database is an academically reliable and well-recognized database that has been applying to the field of entrepreneurship from its inception (Amorós & Bosma,2014; Bosma et al.,2012; Estrin et al., 2013; Grilo & Thurik , 2008; Justo et al.,2015; Mai & Gan, 2007; Urbano & Alvarez, 2014). It possesses different strengths that enable it to be especially suited to research in the area of entrepreneurship. First, it is currently the most related dataset on entrepreneurial activity across the globe that can promote cross-national comparisons regarding entrepreneurship, examine the role of entrepreneurship in economic development, identify the factors

that contribute to the variance in entrepreneurial activities across countries, and enable the formation of the policies that can be more effective in driving entrepreneurship (Urbano & Alvarez, 2014). Second, according to Acs et al. (2008), whereas every country gathers official data on entrepreneurial activities, the majority of such registry sources are non-comparable across nations due to the differences in defining when an establishment enters a file and when it leaves. By contrast, the strength of using the GEM project is its adoption of uniform and consistent definitions and data collection across nations for global comparisons (Acs et al., 2008). Third, it places an emphasis on the phases combining the start of a new business, and the stage directly after the start. These phases are collectively defined as the early-stage entrepreneurial activity (TEA) in which nascent entrepreneurs are the individuals engaged in setting up a business (first three months) , and new business owners involved in operating businesses up to 3.5 years old. When business ventures reach more than 3.5 years old, they are labelled as established businesses (Reynolds et al., 2005). The limitation of applying GEM dataset should be acknowledged. Since Global/China GEM databases are adopted across the three studies, it might be considered that these studies are driven by the availability of data. To eliminate any concern and misunderstanding, it is necessary to highlight that each study focuses on and points to a specific phase of the entire entrepreneurial process.

Two instruments have been constructed in the GEM's methodology to measure key

elements of entrepreneurial activity. The Adult Population Survey (APS) provides direct examinations of the participation of the adult population in new firm creation. Specifically, the survey's procedure requires individuals aged between 18 and 64 years old from different countries/regions and provides information regarding individuals' attitudes towards entrepreneurial activity and entrepreneurial aspirations. The second instrument is the National Expert Survey (NES); it offers insights into the entrepreneurial framework conditions that represent distinct aspects of the regional/national context. It is anticipated that different countries/regions will have different entrepreneurial framework conditions or in other words, the "rules of the game" (Bosma et al., 2012), which in turn influence the inputs and outputs of entrepreneurship. Nine entrepreneurial framework conditions (EFCs) are defined in the GEM research programme and these can be seen in Appendix A.

1.4.2. Methodology

Multilevel analysis approaches are applied in the following studies. Although multilevel analysis often involves individuals nested within clusters, it is applicable to a wide range of conditions, referring to micro units nested within macro units.

Running a multilevel analysis has numerous advantages over running a pooling regression model in this thesis. First, it diminishes the probability of Type I error[1]

[1] A type I error is defined as the incorrect rejection of the null hypothesis. A type I error can lead to the conclusion that a proposed relationship or effect exists when it does not in fact.

that would emerge without acknowledging he existence of a higher level (country- or regional- level in this thesis), and avoids regarding variables as if they are observed at the individual level. Second, multilevel regressions take the non-independence of observations within the same group (countries or regions) into account. Individuals from the same group share common information that differs from individuals in other groups. The intra-class correlation provides such information by describing how strongly units in the same group resemble each other. Third, according to Peterson et al. (2012), a multilevel approach gives rise to an improvement over the option of data aggregation. They argue that the way of dealing with such a problem in pooling regression is to aggregate variables at the lower level to the higher level. It nevertheless has an apparent limitation. Aggregation eliminates lower level variance and loses the opportunity to account for lower level confounding observations. For this thesis, the GEM dataset (Global or China GEM) adopts a multi-stage design, with countries/regions sampled first, followed by individuals. The design generates a hierarchical clustered structure of individuals at the first level within groups (countries or regions) at a higher level. The research hypotheses suggest that when the variables means at the lower level are affected by higher level variables, intra-class correlation can be performed to detect if the level 1 variables significantly differ between the level 2 groups (Hanges & Dickson, 2004). Moreover, because the research objectives and questions require that effects of higher level variables be controlled, varying intercept or varying intercept and slope models can be properly performed to handle such research problems (Peterson et al.,2012).

Multilevel approaches allow us to look at the effect of group characteristics on individual level outcomes (Roux, 2002). In particular, group level variables that are constructed by aggregating the individual-level characteristics within each group are incorporated together with individual level covariates. They also bring the assessment of the effects of individual and group level predictors on the outcomes in parallel (contextual effects). Different from a pooling regression, the multilevel approach enables the coefficients to vary randomly across groups[2]. Since the following studies adopt data that involves micro units within groups, multilevel analyses are applied in order to draw inferences concerning the causes of inter-individual variation as well as inter-group variation. A simple multilevel model can be demonstrated as a multi-stage system of equations:

$$\mathrm{Y}_{IJ} = \beta_{oj}+\beta_{1j}x_{ij} + \varepsilon_{ij} \qquad \varepsilon_{ij} \sim \mathrm{N}(0,\delta_{\varepsilon}^2)$$

$$\beta_{oj} = \gamma_0+\gamma_1\mathrm{z}_j+\xi_{0j} \qquad \xi_{0j} \sim \mathrm{N}(0,\delta_{\xi}^2);\ \mathrm{Cov}(\xi_{0j},\varepsilon_{ij})=0$$

$$\beta_{1j} = \gamma_1+\gamma_2\mathrm{z}_j+\xi_{1j} \qquad \xi_{0j} \sim \mathrm{N}(0,\delta_{\xi}^2);\ \mathrm{Cov}(\xi_{0j},\varepsilon_{ij})=0$$

Where individual level errors are assumed to follow iid. with zero mean and variance of δ^2. Likewise, the error term at the second level is also assumed to be normally distributed. In addition, these two are independent from each other. The same regressors are generally used in all groups, but regression coefficients can vary from

[2] Assuming no covariates, random effects estimates can be obtained as:

$$\hat{\xi}_{0j} \approx(\frac{n_j}{\delta_{\varepsilon}^2}\bar{y}_j + \frac{1}{\delta_{\xi}^2}\bar{y}_{all}) /(\frac{n_j}{\delta_{\varepsilon}^2} + \frac{1}{\delta_{\xi}^2})$$

in which the $\bar{y}_j$ represents the unpooled estimate for group j; $\bar{y}_{all}$ is the completed pooled estimate.

one group to another. z_j is a group level covariate that is applied to account for the variations at upper level.

The between group differences are not the values specifically estimated by the models. Instead, they can be summarized through a variance-covariance matrix consisting of variances of $\sigma_{\xi 1}^2 \; and \; \sigma_{\xi 2}^2$, and covariance $\delta_{\xi 1 \xi 2}$. The second level variance and covariance can be applied to group-specific forecasts by referring to posterior residuals, thus enabling us to make inferences. The variance partitioning coefficient ($\frac{\delta_\xi^2}{\delta_\xi^2+\delta_\varepsilon^2}$) is also of interest and is utilized in order to demonstrate the portion of variance generated by upper level covariates.

1.5. Chapter Summary

This introductory chapter provides readers an overview of these three studies. The introduction offers an insight into the overall purposes of the thesis by uncovering the research motivations and the contributions to the extant entrepreneurship literature It also clarifies the major data sources, and the methodology of each study.

Chapter 2. Harnessing the power of institutions for the unleashing of entrepreneurial potential: the moderating role of quality of government

Abstract

How can a country harness its institutions to unleash the potential of entrepreneurship? This paper looks at the underlying role of the quality of government in releasing the forces of institutions on individuals' engagement in entrepreneurial activities. Specifically, following Fukuyama(2004), this paper identifies three aspects of the quality of government, namely, state capacity, rule of law, and accountability and argues that these three aspects are critical in strengthening the impact of institutions in driving the development of entrepreneurship.Using data from the GEM surveys and the World Bank's Worldwide Governance Indicators, the analytical results confirm that the quality of government demonstrates varying moderating effects in the sense that the institution-entrepreneurship is stronger when stronger the quality of government is observed.

Keywords Entrepreneurial start-ups**,** Institutions, Quality of Government, Global Entrepreneurship Monitor

2.1 Introduction

An institutional environment defines entrepreneurial opportunities and therefore affects the degree of entrepreneurship (Karlsson & Acs, 2002; Stenholm et al., 2013). Although an increasing number of studies have looked at how institutions influence the level of entrepreneurship (Bruton et al., 2010), prior research has mainly focused on the impacts of institutional factors such as economic freedom (McMullen et al., 2008; Sobel, 2008), regulative institutions (Kshetri & Dholakia, 2011), corruption (Aidis, Estrin & Michiewicz, 2008; Aparicio et al., 2015; Estrin et al., 2013; Gohmann, 2010), social norms (Meek, et al., 2010); national culture and social institutions (Cullen et al., 2013), formal and informal institutions (Estrin et al., 2013; Manolova et al.,2008; Stenholm et al., 2013; Tonoyan et al., 2010; Urbano & Alvarez, 2014), and pro-market institutions (economic liberalization and governance levels) (Dau & Cuervo-Cazurra, 2014). Much less attention has been paid to the quality of government that could mobilise and enable institutions to drive entrepreneurial activities. This omission might have contributed to the inconsistent findings regarding the relationship between institutions and entrepreneurship (Stenholm et al., 2013; Urbano & Alvarez, 2014).

Political scientist Fukuyama (2013) pointed out the unexpected lack of attention paid to the administrative government that accumulates and applies power in spite of a growing interest in studying institutions that limit or check power. The same argument concerning institutions can be made from an entrepreneurship

perspective. Although some studies have investigated some issues relevant to the quality of government (for example, rule of law, and corruption) in an *ad hoc* manner, the contingent role of the quality of government has seldom received attention in entrepreneurship research. Thai and Turkina's (2014) research is an exception. They empirically examined the underlying mediating effect of the governance quality (a similar concept to the quality of government) on the relationship between resource availability and entrepreneurial behaviour, but the governance quality was defined as a part of, rather than independent of, institutions. The omission of the administrative government, in research on the proposed effects of institutions on entrepreneurship is unhelpful. Indeed, well-developed institutions may stop functioning properly due to institutional rigidity. Or, in Fukuyama's (2014) words, institutions can "grow rigid and fail to adapt to new circumstances" (p.27). In spite of this, institutional failure can be compensated by a government that is strong in terms of its ability to legitimately enact and implement rules or deliver public resources; possessing effective legal frameworks; and being accountable to the demands and needs of citizens (La Porta et al., 1999; Fukuyama 2013,2014). Research evidence from political science reveals that economic development is not necessarily hindered by a lack of entrepreneurship, human resources or physical capital but poor quality government institutions that exercise and enforce policies and laws (Kaufmann et al., 2010; Rothstein & Teorell, 2008). Although insightful, the extant entrepreneurship research has fallen short of assessing the effective government mechanisms to unleash the forces of institutions in facilitating

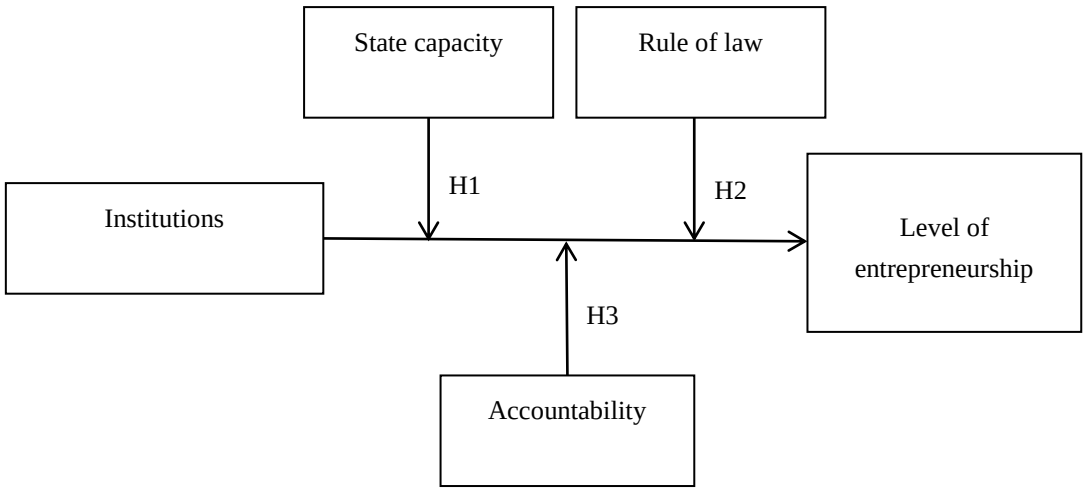
entrepreneurial development.

To address this gap, this paper works on how countries can effectively harness the power of institutions through the quality of government to release the potential of entrepreneurship. Based on the literature on the quality of government in political science, this paper argues that the realization of the potential of entrepreneurship at the country level hinges on the quality of government. More specifically, although the national rate of venture creation can be enhanced by institutions, whether or not the country can successfully capitalize on these opportunities is contingent upon factors such as (1) whether the state can formulate and enforce sound policies and regulations that permit and promote entrepreneurship, (2) whether the state can establish and develop rule systems to safeguard entrepreneurs' appropriation of newly-created value and (3) whether the state is accountable to the interest of the broader entrepreneurial society (Fukuyama,2014;Kaufmann et al., 2010).

Therefore, this study examines three aspects of the quality of government that modify the relationship between institutions and entrepreneurship. The focus is not on the specific nature of institutions per se, but on a country's capability to leverage institutions for entrepreneurial activities. The theoretical framework is presented in figure 1. The paper is structured as follows. In Section 2, the literature on the relationship between institutions and entrepreneurship is discussed prior to moving on to deliberate the proposed moderating effect of the quality of government. The

dataset, methodology and analytical approach used to assess the hypotheses are described in Section 3. Section 4 presents and discusses the model estimation results. The conclusion is given in Section 5.

Figure 1. The Theoretical Framework



2.2 Literature Review

Recently, variation in entrepreneurial start-ups across countries and the reasons behind this phenomenon have received increased attention (Anderson et al. 2012; Audretsch , 2012; Nielsen & Lassen ,2012; Renko et al., 2012). Prior research suggested that institutional economics offers a theoretical framework to better understand such a phenomenon (Urbano & Alvarez, 2014). Differences in national institutions might give rise to distinct levels of entrepreneurial activities. There is a large body of research that looks at the effects of institutional dimensions on entrepreneurial start-ups. The research by Busenitz et al. (2000) offered an insight and foundation into how national institutions contribute differently to levels and

types of entrepreneurship by incorporating and validating a measure of the national institutional profile for entrepreneurship. Likewise, drawing on the construct of a country institutional profile, Spencer and Gomez (2004) found that institutional dimensions as well as economic factors (e.g. GDP per capita) act a distinct role in facilitating national entrepreneurial activity. Stenholm et al. (2013) introduced a novel multidimensional measure and argued that the variance in the rate and type of country-level entrepreneurial activity can be caused by differences in institutional arrangements. Based on a sample of 254 business students from three emerging countries: Bulgaria, Hungary, and Latvia, Manolova et al. (2008) validated the instrument from Busenitz et al. (2000) by identifying three dimensions (regulatory, normative and cognitive) of institutional profiles, which reflects that traditions, idiosyncratic cultural norms and values, and institutional heritage in driving entrepreneurship. By collecting data from business students in South Korea and the United Arab Emirates to assess their favourability of institutions for entrepreneurship, Gupta et al. (2012) demonstrated that Busenitz et al.'s (2000) scale is a valid instrument for examining institutional profiles in regard to entrepreneurial activity. Drawing on institutional theories, De Clerq et al. (2010) found a positive relationship between associational activity and new business activity, and revealed that associational activity becomes more instrumental for entrepreneurs in the face of higher institutional burdens

Political scientist Fukuyama (2013) pointed out that the unexpected lack of attention

paid on the quality of government. The ignorance of the administrative government, in research on the institution-entrepreneurship relationship is unhelpful. In line with Fukuyama's (2014) construct of the quality of government, it is argued in this study that the quality of government acts as a central role in releasing the forces of institutional dimensions to drive entrepreneurship.

2.3. The Institutions-Entrepreneurship Relationship

Institutional arrangements can hinder social behaviour and in the meantime enable and empower social action. Similarly , apart from organisational resources, institutions can affect entrepreneurial behaviour, and in turn influence the levels of entrepreneurship and economic development (Ahlstrom & Bruton, 2001; Bruton et al., 2010). Consistent research findings have been identified in studies on institutions and entrepreneurship, revealing that, due to the differing institutional conditions, the levels of entrepreneurship vary considerably among countries (Stenholm et al., 2013; Urbano & Alvarez, 2014). Two broad branches of institutional theory exist, with one principally deriving from sociology and organizational theory and the other being primarily based on political science and economics (Ahlstrom & Bruton, 2001; DiMaggio & Powell, 1991). The sociology and organizational theory branch contends that social norms, shared cultures, and schemas are the drivers of human behaviours (Ahlstrom & Bruton, 2001). Institutions are hence described as taken-for granted assumptions and less formally shared interaction sequences. By contrast, the political science and economics branch argues that formal controls, rules and

procedures are the drivers of human behaviours (North, 1990, 2005). North (1990) thus stated that institutions can be formal (constitutions, regulations, contracts, etc.) or informal (attitudes, values, norms, or the culture of a society). Formal institutions involve incentives and constraints derived from government regulation of organizational and individual actions (Bruton et al., 2010; Scott, 1995, 2005). Informal institutions are more implicit, slowly evolving, socially constructed, and culturally transmitted. Scott (1995) constructs institutional forces into three categories by integrating these two branches, namely the regulative, normative and cultural-cognitive institutional dimensions.

The regulative dimension of institutional arrangements involves the process in which social actors (individuals and organisations) formulate rule systems or conform to rules in pursuing their self-interests (Scott, 1995). Coercion is used as the primary mechanism of control in regulative dimension (DiMaggio & Powell ,1983), whereas at the same time regulative dimension enables social actors and action, for instance, special powers, conferring licenses, and benefits to some types of actors (Scott, 1995). In the regulative dimension, the emphasis on formal written rules and unwritten codes of conduct implies that institutions impose constraints and at the same time empower entrepreneurs (Kshetri & Dholakia, 2011). There are different types of government programmes to facilitate the level of entrepreneurship (Gnyawali & Fogel, 1994). The beginner is to place attention on decreasing the entry barriers to new business creation, for instance the time taken to establish a firm, the

cost and number of the necessary licenses and permits, or the capital requirements of a new venture (Van Stel et al., 2007). Governmental regulation is normally recognised adversely by potential business owners (Djankov et al., 2002; Gnyawali & Fogel 1994), whose willingness to start a business may be discouraged if quite a few rules and procedures need to be followed. El-Namaki (1998) revealed higher entrepreneurial opportunities in economies with fewer entry barriers, less regulation, and free markets. Boettke and Coyne (2003) argued that in less developed nations in which the regulative arrangements are unstable, the opportunity cost for entrepreneurship might be enhanced largely due to the uncertainty associated with the regulatory framework.

Hypothesis 1: Regulative institutional pillar is positively associated with the rate of entrepreneurial activity.

The normative institutional dimension is conceptualized as the element of an institution that embodies the social norms, assumptions, beliefs, and values concerning human nature and human behaviour that are shared by individuals (Scott, 1995). When many laws are ambiguous or controversial and do not provide explicit prescriptions for conduct, normative rules are of importance because they introduce an evaluative, prescriptive, and obligatory dimension into social life (Suchman & Edelman, 1997). Thus, normative systems both enable and constrain social behaviour (Scott, 1995). The positive relationship between the attitudes, social

beliefs, and expectations of a social reference group with entrepreneurial intentions were identified by Krueger et al. (2000). Similar arguments can be found in the work of Casson (2003) who identified that the social desirability of entrepreneurship can be affected by the social norms and values as a career choice.Dickson and Weaver (2008) contended that despite the fact that a nation can affect entrepreneurial norms and create a favourable impression of business activity through the media and educational system, differences in entrepreneurial orientations are still very likely to be found in nations that are individualistically oriented in comparison with uncertainty-avoidant or collectivist cultures.

Hypothesis 2: Normative institutional pillar is positively associated with the rate of entrepreneurial activity.

The cultural-cognitive institution is a reflection of the cognitive structures, involving the shared conception that constitutes the nature of society frames and reality by which people understand information (Scott, 1995). Social players such as entrepreneurs might be spurred to action not only in the light of the objective conditions but also by the subjective interpretation of players. According to Busenitz et al. (2000), the cultural-cognitive pillar consists of individuals' skills and knowledge in a country associated with setting up and running a new firm. Subjective beliefs and perceptions of people place a remarkable influence on entrepreneurial activity (Arenius & Minniti, 2005) and opportunity exploration and exploitation (Shane,

2000). Therefore, individuals tend to engage in business start-ups if they have the releveant skills (Arenius & Minniti 2005; Davidsson & Honig 2003).

The cultural-cognitive rules emphasise the central role acted by the socially constructed common framework of meaning. Recent research findings have identified the variance of entrepreneurial cognitions across countries (De Carolis & Saparito, 2006; Mitchell et al., 2002) and regions (Mai & Gan, 2007).

Hypothesis 3: Cultural-cognitive institutional pillar is positively associated with the rate of entrepreneurial activity.

2.4. Institutions, Quality of Government and Entrepreneurial Start-ups

Although institutions are percieved to be the driving forces that are constructed to fulfil certain demands of socieities,regulate behaviour, and deal with economic conflicts, institutions can be underdeveloped on the one hand and can be sophsiticated and grow rigid and fail to adapt to new circumstances on the other (Fukuyama, 2014). In countries where the institutional conditions are weak, ‘state capacity’, ‘good governance’ or ‘quality of government’ is revealed as a critical mechanism for facilitating social and economic development (Acemoglu et al., 2001, 2002; Easterly & Levine, 2003; Rothstein & Teorell, 2008). Likewise, in nations with full-fledged institutions, the existence of dysfunctional government can constrain their ability to implement rules, exercise infrastructural power, and deliver necessary

public goods (Fukuyama, 2014).Moreover, even though the rule of law can be monitored and mutually implemented by the parties involved, the implementation mechanism relies on the state to behave in a neutral fashion in many circumstances (Scott, 1995). North (1990) pointed out that, given the role of the government as a rule maker, referee, and implementer, theories of institutions inevitably incorporate an assessment of the state in terms of the political structure of the society that constructs a framework of effective implementation. Fukuyama (2014) presented a number of examples implying that effective public institutions or effective governments form the basis of economic success. It is imperative to reach a balance between institutional conditions and the quality of government to ensure a well-functioning regime (Norris & Moon, 2005). Hence, it is critical to assess the role of the quality of government. Specifically, how the proposed relationship between institutions and entrepreneurship can differ depending on the quality of the government arrangements.

Good government can mean different things in different countries (Andrew, 2010). From an instrumental perspective, the quality of government is conceptualised as a government's ability to formulate and enforce rules, and to deliver goods and services, regardless of whether or not that government is democratic (Fukuyama, 2014). From a normative perspective, the quality of government is conceptualised as the institutional impartiality that exercise government authority (Rothstein & Teorell, 2008). This study adopts a broader and widely applied definition of quality of

government that refers to state capacity, the rule of law, and democratic accountability (Fukuyama, 2014; Kaufmann et al., 1999; Rothstein & Teorell, 2008).

State capacity

Weber (1930) defined the state as a centralized and hierarchical organization that places a monopoly on legitimate force over an identified territory. Two primary dimensions of state capacity have been identified by Rothstein and Teorell (2008), namely, the degree of successful policy enforcement (effectiveness) and the amount of government output delivered relative to input (efficiency). This is consistent with Fukuyama's (2014) belief who considered state capacity to the government's procedural function, the output function, and the degree of autonomy. Procedural function refers to a government's capacity to formulate and carry out policies; the output functions concern not what the government is, but instead the services it delivers; and the degree of autonomy refers to the function of the government. It is noted that it is the antithesis of state capacity when a government is dysfunctional, or when there is a high degree of corruption and other practices such as nepotism, clientelism, patronage, cronyism, discrimination, or the "capture" of administrative agencies by interest groups (Fukuyama, 2014; Rothstein & Teorell, 2008). Kurer (2005) argued that corruption refers to a holder of public office violating the impartiality principle for the purpose of achieving private gain. From an entrepreneurial view, state capacity reflects government presence, supportive policies for venture start-ups (Reynolds et al., 2005), and the ease for getting

licenses and permits (Djankov & Murrell, 2002). Veciana and Urbano's (2008) study demonstrated that administrative burdens and bureaucracy can negatively influence individuals' intentions to engage in entrepreneurial activity and in turn affect venture formation.

By viewing state capacity as the government's capability, the failure of institutions can be modified by the state that can plan, execute policies and enforce laws clearly and transparently; and deliver necessary public goods effectively .It is reasoned that if a set of elements of the state are underdeveloped or entirely absent, the quality of government can be labelled as weak. A weak state is consequently a political entity that lacks the state capacity to execute and enforce policies. Therefore, we anticipate that institutions, combined with a high state capacity, will lead to greater levels of entrepreneurial activity.

Hypothesis 4: State capacity positively moderates the relationship between institutional arrangements and the rate of entrepreneurial activity.

Rule of law

According to Kleinfeld (2006), the rule of law is generally conceptualised as law and order, contract implementation and property rights, and constitutional constraints on the executive power. In many respects, the rule of law in which the executive is hindered by the same laws, overlaps with the regulative arrangements of

institutions. They can both be treated as an indicator to measure the success of a society in constructing an environment where predictable and fair rules create the basis of social interactions, and more crucially, the extent to which property rights are safeguarded. However, differing from the regulative institutional dimension, the rule of law is depicted by Fukuyama (2014) as a set of behavioural rules, reflecting a wide consensus in the society that is binding on all social actors. It therefore embodies the principle of equality before the law by entailing a principle of fairness that similar cases are treated equally (Weingast, 1997).So, rule of law refers to the extent to which agents abide by and have confidence in the rules of society, containing perceptions of the effectiveness of the judiciary, the implementation of contracts, and the incidence of crime (Kaufmann et al., 1999). Meso et al. (2006) stated that the rule of law lies at the crux of country's development and shapes the foundation for economic and social interactions. Levie et al. (2011) argued that the effect of regulations on venture creation will be moderated by the degree to which the rule of law is respected in the country. Nyström (2008) pointed to a powerful link between legal structure, the security of property rights on the one hand and entrepreneurship on the other. Since law and legal frameworks regulate the procedures of policy enforcement, it follows that institutions, combined with effective legal frameworks, will generate higher levels of entrepreneurial activity.

Hypothesis 5: Rule of law positively moderates the relationship between institutional arrangements and the rate of entrepreneurial activity.

Accountability

Fukuyama (2014) defined accountability as a government's responsiveness to the interest of the society typically in the manifestation of procedural accountability, that is, fair multiparty and periodic free elections that enable citizens to select and discipline their rulers (Fukuyama, 2014). Kaufmann et al. (1999) contended that accountability refers to the individuals' political rights, their civil liberties, electoral participation, freedom of expression, and the independence of the media (Kaufmann et al., 1999). Quality of government is not the exclusive preserve of nations. Rather, it entails different players (e.g. citizens, commercial businesses, etc.) (Krishnan & Teo, 2012). Governments are expected and required to be accountable to the needs and requests of citizens when they are explicitly articulated. Accountability is critical to effective government because it legitimates the government to exercise power and trust in government leads to enhanced efficiency (Fukuyama, 2014).

National "Effective accountability" mechanisms have the potential to transform institutional systems by facilitating participatory decision-making in public policy, enhancing trust, and increasing service monitoring and delivery (Satish et al, 2012). Citizens' ability to express and exercise their views is important for institutions in delivering governance that increases democracy (Satish et al, 2012). If the national accountability mechanism is effective, the tendency of formal procedures to multiply will be checked, trust in society will be higher, transaction costs will be

lower, and government action will be quicker (Fukuyama, 2014). As a result, the effect of institutions on the level of entrepreneurial activity will be strengthened. Hence, it is postulated that institutional dimensions, when combined with an effective accountability mechanism, will lead to a higher level of entrepreneurship.

Hypothesis 6: Accountability positively moderates the relationship between institutional arrangements and the rate of entrepreneurial activity.

2.5. Methods

2.5.1. Sample and design

The hypotheses were tested by using binary logistic regression models since the objective was to assess how an individual's entrepreneurial engagement, a binary dependent variable that is assumed to follow a Bernoulli distribution, was affected by the institutional context as well as the quality of government. Since individuals (level 1) were nested within different countries (level 2), a multilevel design (hierarchical model) was applied. The data came from three publicly available and independent sources. The individual level data were obtained from the Global Entrepreneurship Monitor (GEM) Adult Population Survey. The data for country-level variables were taken from the GEM National Expert Survey, and the World Bank's Worldwide Governance Indicators. (Table in Appendix B details variable description).

Dependent variable

The variable total entrepreneurial activity (TEA) was adopted as the dependent variable that measures the rates of new venture creation (A flowchart regarding "TEA" assessment WAS provided in Appendix C). The GEM defines TEA as the (18–64 years old) adult population that is either actively engaged in starting a new firm (nascent entrepreneur) or that is the manager/owner of a firm that is less than 42 months old (young business owner). This data were summarised in Table 1.

Table 1. Countries in the sample, adult-population prevalence of nascent and young entrepreneurs

Country	% nascent or young entreps	Country	% nascent or young entreps
Russia	4.4%	Chile	19.6%
Greece	7.4%	Colombia	21.9%
Spain	5.4%	Malaysia	4.7%
Brazil	14.8%	Australia	9.1%
Finland	6.3%	Singapore	5.7%
Netherlands	6.9%	Thailand	15.6%
Slovakia	16.5%	Pakistan	9.8%
Ireland	7.0%	Iran	20.5%
Hungary	6.3%	Algeria	9.4%
South Africa	11.4%	Nigeria	10.5%
France	3.9%	Croatia	5.9%
United Kingdom	5.5%	Slovenia	3.4%
Sweden	5.7%	Bosnia and Herzegovina	7.2%
Norway	6.3%	Guatemala	20.6%
Poland	11.0%	Uruguay	14.5%
Germany	8.5%	Jamaica	14.3%
Peru	21.3%	Bangladesh	11.2%
Mexico	9.9%	Taiwan	11.3%
Argentina	16.5%	United Arab Emirates	10.6%

Independent variables

As indicated at the beginning, empirical studies on entrepreneurship to date have measured the institutional environment in many different ways. A consensus on the

valid scales is yet to be found. Following recent entrepreneurship research (Manolova et al., 2008; Stenholm et al., 2013; Urbano & Alvarez, 2014), Scott's (1995) framework of three institutional pillars was adopted in order to measure institutions.

Regulative institutional pillar. Consistent with Busenitz et al. (2000), the regulative pillar consist of regulations, laws, and government policies that offer support for business creation, reduce the risks associated with starting a new firm, and promote entrepreneurs' efforts to obtain resources. Therefore, in this research, the national regulative dimension was measured using three variables from GEM: political support, government policies, and coping with regulations.

Normative institutional pillar. The normative construct was operationalized by Spencer and Gomez (2004) with three variables from the GEM study that examine the respondents' perceptions of the status and respect given to entrepreneurs, their society's view on entrepreneurship as a career choice, , and the visibility of entrepreneurship in the media. The same measurements were subsequently used by Stenholm, Acs and Wuebker (2013) and Urbano and Alvarez (2014). This paper followed the same approach and used three variables to measure the normative arrangements, namely, career choice, social status and media attention.

Cultural-cognitive institutional pillar. Prior research has used three variables from the

GEM databased to measure the cultural-cognitive dimension of institutional arrangements at the individual level: entrepreneurs' skills, fear of failure and knowing entrepreneurs (e.g. Urbano & Alvarez, 2014), or opportunity perception, skills and knowing entrepreneurs (e.g. Stenholm, Acs and Wuebker, 2013). In this paper, by integrating all of such information, the cultural-cognitive dimension was measured by four variables from the GEM study: knowing entrepreneurs, skills, fear of failure, and opportunity perception.

Moderating variables

Quality of government. The literature on the quality of government identifies three key dimensions of governance (Besley & Persson, 2011; Fukuyama 2013): (1) state administrative capacity - the ability of government to formulate and implement policies; the credibility of the government's commitment to such policies (2) rule of law - reflects the extent to which agents abide by and have confidence in the rules of society, and in particular property rights, the enforceability of contracts, the police, and the courts, as well as the likelihood of violence and crime; and (3) accountability - the extent to which the state is accountable for its own actions ,the responsiveness of the state's institutions to its citizens, and the freedom of expression and association of its citizens. The World Bank's Worldwide Governance Indicators developed by Kaufmann, Kraay and Zoido-Lobaton (1999) for a cross section of countries have been widely used in the study of quality of government (for example, Adserà, et al., 2003; Fukuyama, 2014; Holmberg et al., 2009). In this study, we

followed the same approach and used the Government Effectiveness Index to measure state capacity, the Rule of Law Index to measure rule of law, and the Voice and Accountability Index to measure accountability. In order to reveal the reliability of the data regarding institutional arrangements and the quality of government, this study further conducted a diagnosis using Cronbach's alpha to reveal the reliability of the construct. The values of Cronbach's alpha of each construct of institutional dimensions and the quality of government (in Appendix A), ranging from 0.653 to 0.947, confirm generally good to very good internal consistency (Nunnally, 1978).

Control variables

To enhance the robustness of the research findings, this study controlled for a variety of other factors. Prior studies suggest that the entrepreneurship participation rates for females are significantly lower than for males (e.g. Arenius & Minniti 2005; Langowitz & Minniti 2007). This study thus controlled for gender (male = 1, female =2). Arenius and Minniti (2005) found that entrepreneurial engagement enhances with higher levels of educational attainment. This study thereby controlled for education level with a variable that was harmonized across all individuals, into a five-category variable: not receive any education, some secondary education, a secondary degree, post-secondary education, and a graduate degree. Based on the National Longitudinal Surveys, Dunn et al. (2000) noted that individuals from high-income households tend to place greater *ex ante* demands for the quality of entrepreneurial opportunities when deciding alternative occupational pursuits. We thereby controlled for household income.

2.5.2. Multilevel Logistic model

Since the dependent variable was binary nature, the effects of covariates on total entrepreneurial activity were analysed by binomial logistic models. Since the individual-level observations were combined with country-level measures, the data were analysed based on hierarchical modelling methods. In the multilevel methods, fixed effects deal with individual factors that exert impacts on the dependent variable. To estimate the influence of country-level characteristics (level 2) on an individual's likelihood of engaging entrepreneurial activity and capture the unobserved heterogeneity at the country-level, this study also applied random effects that include country-specific intercepts. This enabled the intercept to vary randomly across different countries and it also allowed more accurate testing of the cross-level interaction effects (Martinet et al., 2007).

2.6. Results

The sample description and correlation were presented in Table 2. Overall, a typical respondent has secondary education, and comes from a middle-level household income family. Since correlation table showed some variables to be highly correlated (above 0.5), we further tested the multicollinearity using a variance inflaction factor

Table 2. Correlation matrix

	Mean	Std.dev	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
Total entrepreneurial activity(1)	0.11	0.32	1.000																
Gender(2)	1.52	0.50	-0.097**	1.000															
Education(3)	1.94	1.13	0.015**	-0.033**	1.00														
Income(4)	2.20	0.70	0.076**	-0.085**	0.222**	1.00													
Political support(5)	2.74	0.57	-0.071**	-0.025**	0.109**	-0.018**	1.00												
Government policy(6)	2.12	0.41	0.010*	-0.065**	-0.070**	-0.008	0.597**	1.00											
Regulation dealing(7)	2.25	0.53	-0.061**	-0.019**	0.126**	-0.019**	0.640**	0.410**	1.00										
Career choice(8)	0.66	0.47	0.058**	-0.027**	-0.104**	-0.007	-0.122**	0.006	-0.063**	1.00									
Status and respect(9)	0.73	0.45	0.014**	-0.03	-0.045**	0.007	0.025**	0.041**	0.004	0.164**	1.00								
Media attention(10)	0.56	0.50	0.053**	-0.005	-0.009	0.029**	0.029**	0.046**	0.070**	0.132**	0.155**	1.00							
Knowing entrepreneurs(11)	0.37	0.48	0.198**	-0.106**	0.069**	0.112**	-0.020**	0.00	-0.045**	0.120**	0.003	0.057**	1.00						
Self-efficacy(12)	0.47	0.50	0.237**	-0.141**	0.076**	0.070**	-0.103**	-0.018**	-0.117**	0.061**	-0.011*	0.047**	0.255**	1.00					
Risk attitude(13)	0.59	0.49	0.057**	-0.028	-0.019**	0.016**	-0.071**	-0.040**	-0.018**	-0.002	-0.048**	-0.022**	0.013*	0.094**	1.00				
Opportunity perception(14)	0.36	0.48	0.157**	-0.066**	-0.001	0.071**	0.031**	0.083**	0.043**	0.093**	0.074**	0.126**	0.215**	0.187**	0.037**	1.00			
State capacity(15)	0.49	1.07	-0.104**	0.025**	0.207**	-0.043**	0.436**	-0.038***	0.673**	-0.147**	-0.015*	0.012*	-0.097**	-0.115**	-0.022**	-0.049**	1.00		
Rule of law(16)	0.46	1.01	-0.126**	0.033**	0.235**	-0.031**	0.459**	-0.089**	0.584**	-0.187**	-0.031**	-0.011*	-0.111**	-0.141**	-0.033**	-0.096**	0.660***	1.00	
Accountability(17)	0.43	0.87	-0.088**	0.063**	0.187**	-0.044**	0.185**	-0.324**	0.275**	-0.131**	-0.029**	-0.037**	-0.063**	-0.060**	-0.039**	-0.058**	0.486***	0.528***	1.00

Note: ** p<0.01;* p<0.05;

with a maximum VIF score of 2.65 (in Appendix D), indicating minimal concern for multicollinearity (Gujarati & Porter 2009).

The hierarchical logistic regression analyses were applied to test the hypotheses. The empirical results were presented in Table 4. The control variables of gender, education, and income level were first entered in a base model and the results were reported in Model 1. Next, the independent covariates containing the regulative, normative, and cultural-cognitive pillars of institutions were incorporated and the results were displayed in Model 2 to Model 5. The discrepancies between model 4 and the rest of the model are caused by the missing values in the measures of normative pillar. The analytical results consistently showed that the regulative pillar in terms of political support is significantly related to total entrepreneurial activity ($p<0.05$), that career choice and media attention in the normative institutional are positively related to entrepreneurship ($p<0.05$), and that four factors in the cultural-cognitive pillar also exert positive effects on total entrepreneurship activity at a significant level ($p<0.001$). Thus, the results have confirmed to a great extent a significant association between institutions and the level of entrepreneurial activity.

Table 3.Multilevel logistic regression analysis results

	Model 1		**Model 2**		**Model 3**		**Model 4**		**Model 5**	
	Odds ratio	**S.E.**	**Odds ratio**	**S.E.**	**Odds ratio**	**S.E.**	**Odds ratio**	**S.E.**	**Odds ratio**	**S.E.**
Fixed effects										
Control variables										
Gender	**0.553*** **	**(0.035)**	**0.552*** **	**(0.035)**	**0.552*** **	**(0.035)**	**0.670*** **	(0.036)	**0.671*** **	**(0.036)**
Education	**1.177*** **	**(0.017)**	**1.178*** **	**(0.017)**	**1.183*** **	**(0.017)**	**1.082*** **	(0.017)	**1.088*** **	**(0.017)**
Income	**1.264*** **	**(0.026)**	**1.265*** **	**(0.026)**	**1.267*** **	**(0.026)**	**1.165*** **	(0.027)	**1.166*** **	**(0.027)**
Regulative pillar										
Political support			**0.590***	**(0.255)**					**0.670***	(0.202)
Government policy			**1.752+**	**(0.297)**					1.452	(0.237)
Bureaucracy regulation			0.834	(0.242)					0.933	(0.192)
Normative pillar										
Career choice					**1.319*** **	**(0.041)**			**1.093***	**(0.041)**
Status and respect					0.943	(0.041)			0.980	(0.041)
Media attention					**1.164*** **	**(0.037)**			**1.088***	**(0.038)**
Cultural-cognitive pillar										
Knowing entrepreneurs							**2.197*** **	**(0.038)**	**2.170*** **	**(0.037)**
Self-efficacy							**3.486*** **	**(0.043)**	**3.469*** **	**(0.043)**
Risk attitude							**1.203*** **	**(0.038)**	**1.204*** **	**(0.038)**
Opportunity perception							**1.567*** **	**(0.038)**	**1.554*** **	**(0.037)**
Random effects and model fits										
Residual country-level variance	0.453		0.363		0.424		0.268		0.218	
Number of obs.	37,987		37,987		37,872		37,987		37,872	
Number of groups	38		38		38		38		38	
Log-likelihood	-12365.8		-12361.7		-12316.7		-11305.7		-11285.8	
AIC	24741.5		24739.5		24649.3		22629.4		22601.5	
BIC	24784.3		24807.8		24717.7		22706.3		22729.7	

Note: *** p<0.001 ; ** p<0.01;* p<0.05; + p<0.1

In models 6 to 8 (Table 4), a set of interaction terms was added in order to test the cross-level moderating effects of the quality of government on the relationship between institutions and entrepreneurship. Model 6 demonstrated that the interactions between national state capacity and cultural-cognitive dimensions are significantly related to entrepreneurial activity ($p<0.001$), whereas the moderating effects of state capacity on the relationship between the regulative dimension and entrepreneurship cannot be observed. Thus, the result partially support that cultural-cognitive institutions, when combined with stronger state capacity, can lead to higher levels of entrepreneurial activity in a country (Hypothesis 1). Likewise, the results have partially confirmed that rule of law strengthens the identified relationship between institutions and entrepreneurship because Model 7 reported that the interaction between rule of law and the cultural-cognitive dimension is both significantly and positively related to entrepreneurship (between $p<0.05$ and $p<0.001$). In terms of hypothesis 3, the interaction between accountability and three institutional pillars are related to total entrepreneurship activity mostly at a significant level ($p<0.001$) in Model 8, thereby confirming a substantial moderating effect of accountability.

Looking at the effects of the control variables, gender appeared to be a consistently significant factor in explaining the likelihood of being an entrepreneur. More specifically, women seem to be around 40% less likely to start their own business venture in odds ratio compared with men. This is consistent with prior empirical

Table 4. Multilevel logistic regression analysis results

		Model 6		Model 7		Model 8	
		Odds ratio	**S.E.**	**Odds ratio**	**S.E.**	**Odds ratio**	**S.E.**
Fixed effects							
Control variables							
Gender		**0.677*** **	**(0.036)**	**0.675*** **	**(0.036)**	**0.674*** **	**(0.036)**
Education		**1.088*** **	**(0.017)**	**1.089*** **	**(0.017)**	**1.088*** **	**(0.017)**
Income		**1.151*** **	**(0.027)**	**1.153*** **	**(0.027)**	**1.148*** **	**(0.027)**
Regulative pillar							
Political support		0.676	(0.266)	0.850	(0.256)	0.715	(0.240)
Government policy		1.120	(0.391)	0.922	(0.388)	1.147	(0.366)
Bureaucracy dealing		1.336	(0.322)	1.259	(0.312)	1.192	(0.235)
Normative pillar							
Career choice		**1.122** **	**(0.045)**	**1.124** **	**(0.045)**	**1.145** **	**(0.047)**
Status and respect		0.988	(0.044)	0.989	(0.043)	0.996**	(0.046)
Media attention		**1.120** **	**(0.039)**	**1.111** **	**(0.039)**	**1.134** **	**(0.040)**
Cultural-cognitive pillar							
Knowing entrepreneurs		**1.999*** **	**(0.039)**	**2.013*** **	**(0.038)**	**1.989*** **	**(0.040)**
Self-efficacy		**3.086*** **	**(0.044)**	**3.114*** **	**(0.044)**	**3.055*** **	**(0.045)**
Risk attitude		**1.162*** **	**(0.039)**	**1.175*** **	**(0.038)**	**1.128*** **	**(0.039)**
Opportunity perception		**1.543*** **	**(0.039)**	**1.557*** **	**(0.039)**	**1.558*** **	**(0.040)**
Interaction							
State capacity		**0.252** **	**(0.467)**				
Rule of law				**0.192*** **	**(0.491)**		
Accountability						**0.247** **	**(0.509)**
State capacity*Regulative pillar	State capacity*Political support	1.284	(0.202)				
	State capacity*Government policy	1.174	(0.236)				
	State capacity*Bureaucracy dealing	0.872	(0.223)				
State capacity*Normative pillar	State capacity*Career choice	0.956	(0.040)				
	State capacity*Status and respect	1.004	(0.041)				
	State capacity*Media attention	**0.878*** **	**(0.037)**				
State capacity*Cultural-cognitive pillar	State capacity*Knowing entrepreneurs	**1.290*** **	**(0.038)**				
	State capacity*Self-efficacy	**1.525*** **	**(0.044)**				
	State capacity*Risk attitude	**1.138*** **	**(0.038)**				
	State capacity*Opportunity perception	1.039	(0.037)				
Rule of law*Regulative pillar	Rule of law*Political support			1.106	(0.182)		
	Rule of law*Government policy			1.364	(0.239)		
	Rule of law*Bureaucracy dealing			0.976	(0.240)		
Rule of law*Normative pillar	Rule of law*Career choice			0.945	(0.042)		
	Rule of law*Status and respect			0.999	(0.042)		
	Rule of law*Media attention			**0.870*** **	**(0.038)**		
Rule of law*Cultural-cognitive pillar	Rule of law*Knowing entrepreneurs			**1.343*** **	**(0.039)**		
	Rule of law*Self-efficacy			**1.608*** **	**(0.045)**		
	Rule of law*Risk attitude			**1.105***	**(0.040)**		
	Rule of law*Opportunity perception			1.045	(0.038)		
Accountability*Regulative pillar	Accountability*Political support					1.162	(0.218)
	Accountability*Government policy					**1.527+**	**(0.253)**
	Accountability*Bureaucracy dealing					0.794	(0.240)
Accountability*Normative pillar	Accountability*Career choice					0.927	(0.048)
	Accountability*Status and respect					0.968	(0.051)
	Accountability*Media attention					**0.846*** **	**(0.043)**
Accountability*Cultural-cognitive pillar	Accountability*Knowing entrepreneurs					**1.295*** **	**(0.044)**
	Accountability*Self-efficacy					**1.627*** **	**(0.049)**
	Accountability*Risk attitude					**1.194*** **	**(0.044)**
	Accountability*Opportunity perception					1.067	(0.044)
Random effects and model fits							
Residual country-level variance		0.191		0.176		0.175	
Number of observations		37,865		37,865		37,865	
Number of groups		38		38		38	
Log-likelihood		-11182.1		-11165.1		-11177.0	
AIC		22416.3		22382.2		22405.9	
BIC		22638.4		22604.3		22628	

Note: *** p<0.001 ; ** p<0.01;* p<0.05; + p<0.1

Table 5 Multilevel logistic regression analysis results summary		
Variables	**Odds Ratio**	**Hypothesis Test**
Controls		
Gender	**0.553*** **	
Education	**1.177*** **	
Income	**1.264*** **	
Main Effects		
Political support	**0.590***	**H1 was not supported**
Government policy	**1.752+**	**H2 was supported**
Career choice	**1.319*** **	**H3 was supported**
Media attention	**1.164*** **	
Knowing entrepreneurs	**2.197*** **	
Self-efficacy	**3.486*** **	
Risk attitude	**1.203*** **	
Opportunity perception	**1.567*** **	
Interaction Effects		
State capacity*Knowing entrepreneurs	**1.290*** **	**H4 was supported**
State capacity*Self-efficacy	**1.525*** **	**H5 was supported**
State capacity*Risk attitude	**1.138*** **	**H6 was supported**
Rule of law*Knowing entrepreneurs	**1.343*** **	
Rule of law*Self-efficacy	**1.608*** **	
Rule of law*Risk attitude	**1.105***	
Accountability*Government policy	**1.527+**	
Accountability*Knowing entrepreneurs	**1.295*** **	
Accountability*Self-efficacy	**1.627*** **	
Accountability*Risk attitude	**1.194*** **	

evidence (Arenius & Minniti 2005; Langowitz and Minniti 2007). Furthermore,individuals' education and income level were found to have a positive relationship with entrepreneurship. In particular, when individuals' education was enhanced by one degree, on average, there was a 12.1 % increase in the odds of starting a business. Similarly, an individual with a higher household income can improve the odds of becoming an entrepreneur by a factor of 1.264 (26.4%) according to the results in Model 1.

Finally, this study conducted a post hoc analysis to provide additional insights. It performed a cluster analysis to separate the dataset into two country categories using only the index of quality of government as a measure. The cluster analysis was performed using the standard k-means method, with the quality of government index as the input variables, and the number of clusters equal to 2. It thus provided a data driven methodology for grouping the countries, instead of imposing ad-hoc cut off points to define the groups. The clustering analysis results were shown in Appendix E. Then, logistic regressions were run separately for each category. Table 6 reported the empirical results. Some interesting effects for both the individual- and country-level variables could be observed. First, from weak to high quality government groups, there were substantial increases in the effects of cultural-cognitive dimensions on engaging entrepreneurial activity. These patterns are consistent with the positive moderating effects of government quality on the association between the cultural-cognitive dimensions and entrepreneurship. Second, “government policy” has a positive and significant effect on the probability of individuals becoming entrepreneurs in the countries with strong quality of government whereas such an impact was not found in countries with weak quality of government. This suggests that only in the government systems that are strong in exercising infrastructural power, formulating sound policies, and enforcing respect of citizens, the better the legal environment is developed, the higher level of entrepreneurial activity can be obtained. Third, in countries where the government system is ineffective, “career choice” and “media attention” can enhance the

entrepreneurial engagement in odds by 16.4% and 22.1% respectively. Therefore, the normative dimension plays a stronger role in the weak group and this can partially justify the negative moderating effects of government quality on normative dimensions. Fourth, once again, gender, education and income level were found to have significant effect on individuals' propensity to engage in entrepreneurship in countries with strong and weak quality of government.

Table 6. Multilevel logistic regression analysis results after clustering analysis

	Weak quality of government group		**Strong quality of government group**	
	Odds ratio	**S.E.**	**Odds ratio**	**S.E.**
Fixed effects				
Control variables				
Gender	**0.670*** **	**(0.045)**	**0.686*** **	**(0.060)**
Education	**1.073*** **	**(0.021)**	**1.116*** **	**(0.031)**
Income	**1.127*** **	**(0.035)**	**1.195*** **	**(0.044)**
Regulative dimension				
Political support	0.608	(0.358)	0.861	(0.241)
Government policy	0.976	(0.544)	**2.158***	**(0.347)**
Bureaucracy dealing	1.276	(0.389)	1.034	(0.255)
Normative dimension				
Career choice	**1.147***	**(0.057)**	1.072	(0.062)
Status and respect	1.001	(0.053)	0.980	(0.064)
Media attention	**1.221*** **	**(0.049)**	0.912	(0.062)
Cultural-cognitive dimension				
Knowing entrepreneurs	**1.787*** **	(0.048)	**2.886*** **	**(0.062)**
Self-efficacy	**2.545*** **	(0.053)	**5.629*** **	**(0.075)**
Risk attitude	**1.088+**	(0.048)	**1.380*** **	**(0.064)**
Opportunity perception	**1.543*** **	(0.048)	**1.605*** **	**(0.062)**
Number of observations	19,963		17,902	
Number of groups	20		18	

Note:*** p<0.001 ; ** p<0.01;* p<0.05; + p<0.1

2.7. Discussion and Conclusions

This study contributes to the entrepreneurship literature. First, it highlights the importance of administratively capable governments in formulating policies and carrying them out in the process of obtaining the benefits of institutions in the development of entrepreneurship. To the best of our knowledge, this is the first study to introduce the concept of quality of government from the political science perspective in order to comprehensively assess the mechanisms for releasing the

forces of institutions. In addition, through applying the concept of the quality of government defined by Fukuyama (2014), this study considers three aspects of the quality of government allowing a much broader view of the institution-entrepreneurship relationship compared to prior studies. The findings have confirmed that different aspects of the quality of government have divergent implications for the relationship between institutions and entrepreneurship. This adds a sense of complexity to the existing entrepreneurship research that is concerned with the institutions-entrepreneurship relationship and brings new empirical insights into the effects of institutions on entrepreneurial activity in countries with governments of varying quality. Last, by adopting a theoretical lens that incorporates the joint effects of quality of government, national institutions and entrepreneurship, we contend that if countries are to seek the best from the business environment and grow their entrepreneurial activity, they need to develop fully-fledged governments in terms of state capacity, rule of law and accountability.

The research findings should be considered along with its limitations. First, this study is cross-sectional in nature. In order to fully capture the dynamic interaction effects of the quality of government on the relationship between institutions and entrepreneurial activity, a longitudinal study is needed. More specifically, different nations might require different institutional structures at different stages (Holmberg et al., 2009). The quality of government might be considered differently due to the complexities of institutional arrangements at different points in time. This

fundamentally important question could not be addressed in our study (due to the cross-sectional nature of the dataset) but deserves further investigation in the future. Second, the quality of government is measured from the World Bank's Worldwide Governance Indicators. Although this approach has been well-justified (Krishnan & Teo, 2012), one criticism of this database is that the data are primarily driven by perceptions and hence lack objectivity (Holmberg et al., 2009). Although perceptions can arguably reflect the subjective norms of a society and thus be influential in regard to entrepreneurial intention and behaviour, the methodological limitation should still be acknowledged. Research in future might consider take alternative measurements of quality of government. Third, this study focuses on the interaction effects of quality of government at the country level but does not consider variations in institutions and the quality of government at the regional level. Prior studies have suggested that entrepreneurship is a local phenomenon (Stam, 2015) and that the quality of regional institutions and administrative governments matters (Mai & Gan, 2007). Future research might further investigate the conceptual model proposed in this study at the regional level in specific national contexts to enrich our understanding of this issue.

To conclude, this study investigates the role of quality of government in harnessing the power of institutions to release entrepreneurial potential. Specifically, following the framework constructed by Fukuyama (2014), it is argued that quality of government factors such as state capacity, rule of law, and accountability are critical

in unleashing the forces of institutions to drive the development of entrepreneurship. The findings reveal that if countries are to bring the best out of institutional arrangements, they need to develop administratively capable governments that are capable of getting things done.

Chapter 3. Motivation and growth aspirations of entrepreneurs in China: the moderating effects of regional entrepreneurial ecosystems

Abstract This study combines the theory of planned behaviour and the entrepreneurial ecosystem approach to develop a model of entrepreneurial growth aspirations. Based on a representative sample of Chinese nascent entrepreneurs and a multilevel research design, the analytical results suggest that there is a positive relationship between entrepreneurs' attitude and growth aspirations and those individuals who perceive a greater sense of control over the outcomes of their actions are more likely to possess growth aspirations. The results also highlight the positive moderating effects of the entrepreneurial ecosystems on attitude and perceived behavioural control, suggesting that stronger entrepreneurial ecosystems strengthen the positive impact of motivational factors on growth aspirations.

Keywords Entrepreneurial growth aspirations**,** Theory of planned behavior, Entrepreneurial ecosystem, Global Entrepreneurship Monitor

3.1. Introduction

There is a widespread agreement that entrepreneurship is a key to economic growth and the creation of employment and wealth (Autio, 2011). Nonetheless, not all entrepreneurs tend to grow businesses (Shane, 2009). Recent literature demonstrates that growth in terms of employment creation is derived from only a

small cohort of entrepreneurs with ambitions (Shane, 2009; Mason & Brown 2013; Stam 2015).Heterogeneities in entrepreneurial growth behaviours can be attributed to both personal motivation and external aspects. Whereas the relationship between individual's motivation and intention to be an entrepreneur has been well-addressed (Schlaegel & Koenig 2014), the factors determining growth aspirations, or entrepreneurial growth intention, remain relatively underdeveloped (Autio & Acs, 2010). Therefore, a central question in the field of entrepreneurship is then: what inspires some entrepreneurs and not others to grow their business?

From the view of psychological theories, there is a solid theoretical reason to believe that entrepreneurial growth aspirations are indeed influenced by personal motivation. Prior research has investigated the effects of individual level factors on entrepreneurial growth aspirations, such as opportunity perceptions and individual self-efficacy (Tominc & Rebernik ,2007), household income and educational level (Autio & Acs 2010), individual networks (Estrin et al., 2013), and wealth-creation and independence (Hessels et al., 2008a; Hessels et al., 2008b; Edelman et al., 2010).In view of human actions as the result of external influences, previous research has also focused on the direct impact of country level factors, like social security (Hessels et al., 2008a), cultural support (Tominc & Rebernik, 2007), intellectual property protection (Autio & Acs 2010), and institutions (Troilo ,2011; Estrin et al., 2013).

Although these previous studies have made important contributions to the

understanding of the decisive factors in regard to growth aspirations, they have limitations. First, while certain aspects of personal motivating factors have been investigated, the arguments are seldom clearly grounded on psychological theories. Among psychological theories, the theory of planned behaviour (TPB) has been successful in predicting intention as a combined function of behaviour, norm and control beliefs (Azjen , 1991). It might lead to a more nuanced understanding of the effects of motivational factors on entrepreneurial growth aspirations based on the simultaneous considerations of three motivational aspects regarding intention. Therefore, this paper takes a significant step by developing a model of growth aspirations on the basis of TPB.

Second, prior research on external factors has primarily concentrated on national institutions. Recent studies have applied a systems approach to entrepreneurship (Acs et al., 2014;Qian at el., 2013) and suggested that entrepreneurial behaviours are affected by more than institutional aspects in entrepreneurial ecosystems (Stam, 2015). Such systems indicate the possible direct or indirect influence of external factors (Autio & Acs , 2010). Prior research does not account for variables other than institutions and seldom considers the interactions between individual motivational aspects and external factors. Recent research has called for attention to be focused on entrepreneurial ecosystems (Acs et al., 2017) and the application of a multilevel design (Autio & Acs, 2010). This study takes an important step by including ecosystems in the model of growth aspirations and performing a multilevel design to

assess the moderating effect of entrepreneurial ecosystems.

In addition, entrepreneurial growth aspirations are context-dependent. From planned economic systems to market economic systems, transition economies are characterised by the underdevelopment of institutions (North, 1990). The institutional features in transition economies lead to unique incentive systems that affect entrepreneurs' intentions and behaviours (Baumol, 1996). China, as a transition economy, shares a multitude of institutional characteristics with its counterparts. There is nevertheless a dearth of research on growth aspirations in the context of China. This paper responds to Autio & Acs' (2010) call for future studies to focus greater attention on the context in which growth aspirations and behaviours are observed and contextualise the conceptualization of entrepreneurial systems from a transition economy perspective.

Therefore, this paper tends to address two questions: How does a set of motivational factors jointly affect entrepreneurial growth aspirations? How do entrepreneurial ecosystems interplay with individual motivational aspects to influence entrepreneurial growth aspirations?

This study is constructed as follows. First, it presents the theoretical model and hypotheses regarding the relative impacts of beliefs on growth aspirations and the interactions of entrepreneurial ecosystems with such beliefs in explaining growth

aspirations. Second, it elaborates on the research methodology, the data collection and sample. Third, it analyses the data and presents the results. Lastly, it concentrates the results and the research implications for both researchers and practitioners.

3.2. Literature Review

There are a multitude of studies on entrepreneurial intentions that investigates a broad range of antecedents to the formation of entrepreneurial intentions, which has been defined as individual's desire to own a business or start a business (Bae et al. 2014; Liñán & Fayolle, 2015).More recently, studies on entrepreneurial growth aspirations have attracted increasing attention , which has coincided with an growing interest in understanding the quality of entrepreneurship and the drivers of high-growth ventures. Autio and Acs (2010) defined entrepreneurial growth aspirations as one's intention to grow one's own business. The literature in this field is expanding fast and three major research streams can be identified: the individual factors related to growth aspirations, the environmental factors related to growth aspirations, and the relationship between growth aspirations and growth behaviour.

Research has found a number of personal level factors influencing entrepreneurial growth aspirations. Using two years (years of 2005 and 2006) Global Entrepreneurship Monitor (GEM) data, Hessels et al. (2008a; 2008b) found that

individuals motivated principally by wealth-building to become self-employed tended to be growth oriented. Nonetheless, entrepreneurs primarily motivated by independence did not have a strong focus on growing their business. Using the GEM data for Turkey, Karadeniz and Ozcam (2010) found that the individual characteristics of the early-stage entrepreneurs such as education, household income and, gender, in addition to the current size of their ventures and motivation are significantly related to growth aspirations. In a study on the drivers of entrepreneurial aspirations of Dutch early-stage entrepreneurs based on GEM data for the years 2002-2007, Verheul and Van Mil (2011) argued that entrepreneurial self-efficacy and fear of failure are influential factors for growth aspirations. Furthermore, starting a venture because of recognising and exploiting a business opportunity (as opposed to starting a business out of necessity) is a primary driver of growth ambitions. By contrast, in Tominc and Rebernik's (2007) research, they identified that self-efficacy concerning entrepreneurial experience, knowledge and skills, is not crucial for the growth aspirations of Slovenian early stage entrepreneurs.

The antecedents of growth aspirations on the environmental level have identified a number of factors. By focusing on the effect of a national level of social security on the prevalence of entrepreneurial aspirations, Hessels et al. (2008b) found that social security negatively influences a country's supply of ambitious entrepreneurship. Based on GEM data from 53 countries, Autio and Acs (2010) built a hierarchal model that explicates the impact of a national intellectual property (IP) protection regime

on a person's human and financial capital on entrepreneurial growth aspirations. They stated that national-level moderation effects are weaker than the direct impacts of individual-level variables of entrepreneurial growth aspirations. In other words, the individual remains the central agent in terms of entrepreneurial endeavours although contextual effects such as the IP protection regime cannot be overlooked. Troilo (2011) investigated the effect of legal institutions on growth aspirations and identified significant impacts of contracting institutions and property rights institutions on high growth aspiration. The research revealed that the number of procedures and days to start a venture and the number of procedures to enforce a contract are negatively related to different types of growth aspiring entrepreneurship. Estrin et al. (2013) contended that greater government activity, weaker property rights and higher degrees of corruption considerably constrain entrepreneurs' aspirations to increase employment. They also demonstrated that the negative effects of these institutional deficiencies can be mitigated by local social networks. In the research on growth aspirations in Slovenia, Tominc and Rebernik (2007) argued that higher cultural support for entrepreneurial motivation and an alertness to unexploited opportunities can be triggers for the growth aspirations of Slovenian early stage entrepreneurs.

The relationship between growth aspirations and growth behaviour remains considerably under-explored. Wiklund and Shepherd's (2003) research is an exception. They looked at entrepreneurs' growth aspirations and the level of growth

actually achieved and empirically assessed the model by a longitudinal dataset of small businesses. They argued that in small businesses, entrepreneurs' aspirations to growth ventures are positively associated with actual growth. In addition, they found that entrepreneurs' experience and education, and environmental dynamism can strengthen the effect of individual's growth aspirations on the realization of growth.

Aspiring to grow a business is a human decision process associated with cognitive self-regulation. In line with Azjen's (1991) theory of planned behaviour, this study contends that entrepreneurial growth aspirations are collectively affected and explained by three motivational aspects, namely the degree to which entrepreneurs have favourable or unfavourable assessments of the actions that contribute to business growth (attitude towards the behaviour), recognised social pressure to grow or not to grow the venture (subjective norm), and the degree of difficulty they perceive in terms of increasing the business (perceived behavioural control). It is also argued in this study that motivation and entrepreneurial ecosystems interact to influence growth aspirations.

3. 3. The Theory of Planned Behaviour and Growth Aspirations

The theory of planned behaviour is a psychological theory in which three psychological dimensions are constructed (i.e., attitude towards behaviour, subjective norm, and perceived behavioural control) to jointly explain and forecast intention and behaviour. (Azjen, 1991; Locke,1991； Olson & Zana, 1993). According

to the scope of this study, it focuses on the intention component of TPB. As the central role to TPB, intentions are indications of how hard individuals are willing to try and the degree of effort they intend to place in order to engage in a behaviour (Azjen 1991). TPB forecasts that the strong an individual have the intention to perform a behaviour, the more likely individual should perform the behaviour. TPB is a validated and well-established pure psychological theory and can be applied in various contexts. In research on entrepreneurial intention, TPB is one of the two most extensively tested theories that demonstrate strong explanatory power[3] (Schlaegel & Koenig 2014). Entrepreneurial growth is a deliberate planning intentional behaviour. Therefore, TPB offers a well-articulated theoretical framework for forecasting and explaining growth aspirations.

3.3.1. Attitude and Growth Aspirations

Penrose (1959) placed an emphasis on the importance of individual decision-making and motivation in the organizational growth process. She stated that business growth will be achieved only if the entrepreneur realises the productive opportunities and is motivated to pursue them. Consistent with TPB, we conceptualize an entrepreneur's attitude towards business growth as the degree to which he or she has a predisposition towards business growth (Ajzen, 1991). In particular, an entrepreneur forms positive attitudes towards growing their business when they associate it with desirable outcomes and shape unfavorable attitudes

[3] The other model is the entrepreneurial event model (EEM, Shapero & Sokol 1982).

towards growing the business when they recognise that business growth will have mostly undesirable consequences (Ajzen,1991).

Entrepreneurs develop attitudes and attach subjective values to the consequences of their behaviours under unclear circumstances. When entrepreneurs are unable to identify the range of options confronting them or the outcomes of those options, they cannot calculate an optimum within a given set of constraints. Hence, the construct of attitude towards business growth is a judgmental decision-making process (Casson,1982). The judgmental decision is affected by the entrepreneur's framing and interpretation of opportunities (Casson, 1982) , and attitudes toward risks (Burnstein, 1963). For example, a number of studies have revealed that entrepreneurs with relatively low risk tolerance have less ambitions to develop their firm (e.g. Autio , 2005; Arenius & Minniti, 2005; Verheul & van Mil , 2011). Therefore, we posit the following hypothesis:

Hypothesis 1 An entrepreneur's attitude towards growth is positively associated with growth aspirations.

3.3.2. Subjective Norm

In line with TPB, subjective norms are recognised pressures to growth a business (Ajzen, 1991). For entrepreneurs, normative pressure can originate from concerns regarding the likelihood that critical referent individuals or groups will approve or

disapprove of growing their business venture. Business growth has a sophisticated relationship with risk (Shane, 2003). Growth nevertheless implies venturing into the unknown. Most business owners tend not to increase their business because they frame growth in such a way that the belief is generated that the pressure associated is too great to be manageable or too high to be desirable. If such an interpretation and framing of growth prevails in the local entrepreneurial system, individuals will unconsciously buy into such a subjective norm and become less likely to aspire to grow business. Normative beliefs are weighted by the strength of the motivation to comply with them. This is particularly the case by contextualising in China in which its culture places essential value on the importance of conformist behaviour, collective behaviour, and referent group loyalty (Holt 1997). Therefore,

Hypothesis 2 An entrepreneur's subjective norm related to growth is negatively associated with growth aspirations.

3.3.3. Perceived Behavioural Control

Perceived behaviour control is an important determinant of intention and describes the perceived ease of performing behaviour (Ajzen, 1991). Perceived behavioral control involves the degree to which an entrepreneur feels confident in growing a business. Confidence is gained by the development of cognitive, social, linguistic, and physical skills and the acquisition of such skills reinforces perceptions of control and contributes to higher growth aspirations (Gist, 1987; Herron & Sapienza 1992). Autio

(2005) discovered that high-expectation nascent and young entrepreneurs have more confidence in their entrepreneurial skills than entrepreneurs with low-expectations. Perceived behavioural control is also defined by the recognized power as manifested in human capital to promote the performance of behaviour (Ajzen 1991). The more human capital the entrepreneur believes he or she possesses, the greater the perceived control over the behaviour. The extant literature often treats education as a proxy for human capital and an engine of ambition to grow ventures. Bates (1990) contended that education reflects a core aspect of entrepreneurial human capital. In line with Bruderl et al. (1992), the competencies and skills developed by formal education not only improves an entrepreneur's ability to perceive shifting opportunities , but also endow the entrepreneur with an aura of legitimacy, allowing them to mobilise the resources needed to facilitate entrepreneurial firm growth. Furthermore, perceived control beliefs refers to the presence or absence of requisite resources (Ajzen,1988,1991). The more resource people believe they possess, the greater their perceived control over the behaviour and action (Ajzen, 1991). According to Covin and Slevin (1991), business growth is contingent upon the type and amount of resources available to , or controlled by it. As a major barrier to entrepreneurial activity, a lack of access to personal wealth hinders the scale of entrepreneurial activity. When assessing growth aspirations in particular, Cassar (2006) has demonstrated that financial resource is a strong predictor of growth aspirations. Hence,

Hypothesis 3 An entrepreneur's perceived behavior control is positively associated with growth aspirations.

3.4. The Moderating Effects of Entrepreneurial Ecosystems

Whereas motivation is a determining factor of entrepreneurial growth aspirations, entrepreneurs' attitude towards business growth , subjective norm and perceived behavioural control might vary in entrepreneurial ecosystems since the institutional deficiencies and resource abundance in the environment can differ. Consistent with Stam (2015), entrepreneurial ecosystems can be defined as ' a set of interdependent actors and factors coordinated in such a way that they enable productive entrepreneurship' (p.1765). The conceptualisation of entrepreneurial ecosystems in this study is informed by the systems approach to entrepreneurship (Acs et al. 2014;Qian et al., 2013). Based on this approach, this study identifies four pillars of entrepreneurial ecosystems (Brown & Mason 2017; Isenberg 2010;Neck et al. 2004; Stam 2015;), including (1) institutional foundations (e.g., rules of law, regulatory institutions), (2) relational foundations (networks and interdependence), (3) entrepreneurial agency (entrepreneurs as change agents and leaders), and (4) enabling foundations (venture-friendly physical infrastructure, knowledge base, and support services/intermediaries). Relational foundations, entrepreneurial agency, and enabling foundations in entrepreneurial ecosystems, can be viewed as a pool of resources in the environment. Better environmental conditions in such aspects imply a greater degree of resource abundance (Dess & Beard, 1984). It can be argued that

aspiring to grow will make more sense in an entrepreneurial ecosystem in which the institutions are less deficient and resources are more abundant. In contrast, such aspiration does not align well with an entrepreneurial ecosystem that institutions are underdeveloped and unpredictable and resources are difficult to obtain. Hence, the institutional void literature and resource dependence theory are applied in order to deliberate the arguments. Mair and Marti (2009) defined institutional voids as "situations where institutional arrangements that support markets are weak, absent, or fail to accomplish the role expected of them" (p.419). In line with Mair and Marti (2009), three typical types of institutional voids can be identified in China, namely, (1) institutional voids that impede market functioning, (2) institutional voids that inhibit market development, and (3) institutional voids that hinder market participation (Liu ,2011; Puffer et al., 2010).

Regional imbalance and decentralization in reforms and economic development in China imply that regions differ substantially in institutional environments (Wang et al., 2017), meaning that entrepreneurs encounter institutional voids differently across regions. Opportunities are contingent on the institutional environment in which entrepreneurs operate their businesses (Baker et al., 2005). According to the theory of institutional voids, stronger institutional foundations where institutional voids are less permeated might demonstrate markets that function more efficiently, hence decreasing transaction costs (North, 1990); stronger institutional foundations also facilitate market development, thereby enabling more opportunities for

entrepreneurs (Spence, 1973). Furthermore, stronger institutional foundations might reduce environmental uncertainty (Coase, 1960; Troilo, 2011), therefore enhancing entrepreneurs' attitudes that actions on growth will result in desirable consequences. In line with TPB, entrepreneurs might perceive that growth outcomes are less dependent on their behaviour or more beyond their control in environments that are less predictable due to institutional voids (Azjen 1991), and thus business growth is less of an opportunity and incurs higher risks. On the other hand, entrepreneurs might anticipate fewer impediments or obstacles to business growth and consequently perceive less pressure and a higher degree of control in institutional environments that are deficient in terms of market functioning, market development and market participation (Puffer et al., 2010). By combining the TPB aspects with the institutional voids, it can be argued that institutional voids negatively moderate the effects of entrepreneurs' motivational factors on growth aspirations. In particular, Chinese entrepreneurs in regions with strong institutional foundations will display more favourable behavioural attitudes towards , less perceived pressure and greater control beliefs in, the consequences of entrepreneurial growth and will be more likely to view growth as a positive action.

Entrepreneurs have distinct levels of dependence on external resources. Fast growing firms appear to make more use of external resources than their rivals (Jarillo, 1989). According to resource dependence theory (Boyd, 1990), growth aspiring entrepreneurs have a greater degree of dependence on the environment and a

higher need for external resources. Entrepreneurial ecosystems can differ in the degree of resource abundance, referring to relational capital, entrepreneurial capital, human capital, financial capital, infrastructure, and support agencies. Growth will be viewed as a more desirable action in entrepreneurial ecosystems that have a high intensity of collaboration (Stam, 2015) and a high density of social networks (Puffer et al., 2010). Strong relational foundations as such increase entrepreneurs' access to novel ideas for the discovery of opportunities (Greve & Salaff ,2003), give rise to more available opportunities due to knowledge spillover (Qian et al., 2013; Guo et al., 2016), enhance entrepreneurs' confidence in their ability to grow business, and strengthen their sense of behavioural control (Trianids ,1977). Therefore, an entrepreneurial ecosystem with good collaborations and social networks leads to conditions under which growth aspiring entrepreneurs are more likely to access the resources required for exploiting growth opportunities.

Similarly, regions will become breeding grounds for entrepreneurship when a critical mass of entrepreneurial agents in the regions acts as a source of inspiration and role models as well as a source of leadership for nurturing and mentoring new entrepreneurs (Isenberg, 2010; Acs et al., 2014). Greater ease of growing a business can be perceived by entrepreneurs in such environments. Likewise, entrepreneurial ecosystems with stronger enabling foundations will present more opportunities due to the availability of new knowledge (Qian et al., 2013) and make the pursuit of entrepreneurial growth more feasible and profitable, thereby fostering more

behavioural beliefs (Acs et al., 2014). Entrepreneurs should be more likely to possess entrepreneurial growth aspirations in such environments in which the entrepreneurs recognise greater ease of exploiting growth opportunities and a greater likelihood of growth success. Taking these arguments together, we postulate

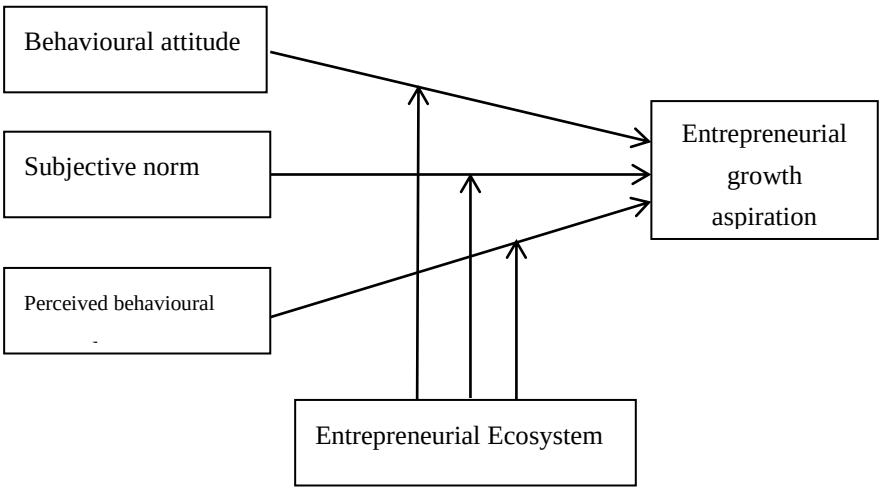
Hypothesis 4a Entrepreneurial ecosystems positively moderate the relationship between attitude and growth aspiration.

Hypothesis 4b Entrepreneurial ecosystems negatively moderate the relationship between subjective norm and growth aspiration.

Hypothesis 4c Entrepreneurial ecosystems positively moderate the relationship between perceived behavioural control and growth aspiration.

Our theoretical model is illustrated in Figure 2.

Figure 2 Theoretical Framework



3.5. Method

3.5.1 Sample and Design

The data were obtained from the annual Global Entrepreneurship Monitor (GEM) China surveys over the period 2009 to 2013. Given that cities participated in the survey could change each year, altogether 28 provinces were selected. The surveys were performed using a geographically stratified sampling procedure to locate respondents and households between age 18 and 64 for face-to-face interviews (for sampling procedure details, see Bosma et al., 2012).

The theoretical model was tested using a multilevel design in which individuals (Level 1) are nested within provinces (Level 2). It pooled five years of the China GEM data for 2009-2013 to form a database of 18,291 observations of early-stage entrepreneurs. A map of China that shows the regions covered in this study has been inserted in Appendix F. The unweighted distribution of the sample was presented in

Table 7. The provincial-level data in terms of GDP per capita, population density, and entrepreneurial ecosystem measures were collected from a variety of well-recognised sources. A detailed description of the variables and data sources was reported in Appendix G.

Table 7. Provinces in the sample,adult-population prevalence of nascent and young entrepreneurs(unweighted)

province	Obs	%nascent or young entreps	province	Obs	%nascent or young entreps
BEIJING	1,257	8.59%	NEIMENGGU	161	12.42%
HEBEI	686	25.36%	GUANGXI	544	18.57%
SHANGHAI	1395	8.46%	CHONGQING	494	22.47%
JIANGSU	291	35.40%	SICHUAN	1,773	16.98%
ZHEJIANG	782	21.23%	GUIZHOU	541	15.34%
FUJIAN	143	14.69%	YUNNAN	446	23.09%
SHANDONG	723	16.74%	SHANXI	466	26.18%
GUANGDONG	1,061	20.64%	GANSU	235	21.28%
SHANXI	725	13.52%	QINGHAI	134	21.64%
ANHUI	891	13.80%	NINGXIA	113	16.81%
JIANGXI	1,016	31.00%	XINJIANG	149	12.08%
HENAN	768	20.18%	LIAONING	509	19.45%
HUBEI	1,048	15.17%	JILIN	287	10.80%
HUNAN	956	10.15%	HEILONGJIANG	699	8.15%
			Total	**18,293**	**17.86%**

Dependent variable

Growth aspirations. Consistent with the extant literature (Autio & Acs, 2010; Estrin et al., 2013; Tominc & Rebernik, 2007), growth aspirations were measured by early stage entrepreneur's anticipation of an improvement in new jobs numbers. It was a binary dependent variable equivalent with "1" indicating if the entrepreneur aspires to generate 20 new jobs or more in the next five years and "0" if otherwise.

Independent variables

$Attitude$. Jaime and Oswaldo (2011) argued that entrepreneurs who believe that there will be good entrepreneurial opportunities in the area in which they live tend to have higher expectations of the success of start-ups, thereby reflecting positive attitude toward entrepreneurship. On the other hand, entrepreneurs who can be prevented from starting a venture by risks tend to be less interested in entrepreneurial activity and thus do not represent a positive attitude towards entrepreneurial activities. Therefore, we adopted opportunity perceptions, opportunity motive and risk attitude to measure attitude. These measures were taken from the GEM surveys. The perceptions of opportunity were measured by questioning respondents regarding whether there will be good opportunities for entrepreneurial start-ups in the place where they live in the next six months. Opportunity motive was captured with the statement that asks the respondents to indicate whether the individuals are engaged in business start-ups to take advantage of business opportunities or because there are no better choices for work. This was given a variable that is equal to 3 if the entrepreneur indicates an opportunity motive or 2 if the entrepreneur indicates a necessity motive, or 1 if otherwise. Risk attitude was measured by asking the respondents whether the fear of failure can prevent them from creating a business.

Subjective $norm$. Subjective norm with regard to entrepreneurship involves an entrepreneur's recognition of the social pressure to conduct or not to conduct an

entrepreneurial activity (Ajzen, 1991; Jaime & Oswaldo ,2011). Thus, subjective norm was measured by two indicators of social influences: respect for and status of entrepreneurial success, and media attention on entrepreneurial success. Respect and status were measured by asking if starting a new venture is associated with a high level of status and respect in the respondent's country. The statement regarding whether individuals see stories about successful new ventures in the public media (yes = 1, no = 0) was applied to measure media attention.

Perceived behavioral control. According to Ajzen (1991), perceived behavioural control involves a sense of self-efficacy or the ability to conduct entrepreneurial activity (i.e. the perceived ease or difficulty of conducting the entrepreneurial activity); recognised power manifested in human capital; and financial resources. In this study, perceived behavioural control was measured by education attainment, self-efficacy, and household income. These measures were taken from the GEM surveys. The individuals were asked to indicate the highest educational level they achieved. Their responses were categorized into "primary or below", "secondary", "post-secondary'', and "graduate experience". Following previous studies we measured self-efficacy using a dichotomous self-reported measure (Arenius & Minniti, 2005). Respondents were asked whether they have the skills, knowledge, and experience to establish a new venture. Respondents were also required to indicate their household income levels, which were classified into the lower, middle and upper third of the income distribution.

Entrepreneurial ecosystem. The moderating variables of entrepreneurial ecosystems were institutional foundations, relational foundations, entrepreneurial agency, and enabling foundations (human capital, access to finance, and support for entrepreneurship).

Institutional foundations. According to Mair and Marti's (2009) categorisation of institutional voids, this study adopted items from the National Economic Research Institute's (NERI) marketization index (Wang et al. 2017) to measure the extent to which institutional arrangements that support markets are absent, weak, or fail to accomplish the expected role (for a detailed description of the index, see Fan & Wang,2004; Li et al., 2009). Of which, two indicators were adopted to measure market functioning: a) the extent to which governments were less interventional in businesses and b) the extent to which business-friendly legal and regulatory environments (including intellectual property protection) have developed; two indicators were adopted to measure market development: a) the extent to which product markets have developed and b) the extent to which factor markets have developed; one indicator was adopted to measure market participation, namely the extent to which markets played a role in resource allocation. The NERI index has been used by many researchers (e.g., Firth et al.,2009; Li et al.,2009;Wang et al.,2008) to measure the degree of institutional development in China. Higher scores suggest higher institutional development and less severe institutional voids.

Relational foundations. Three items were used as proxies for measures of the scope of social networks and intensity of interactions in this study. First, the entrepreneur's totality of social networks and interactions was measured based on the social network question ("Have you received advice from any of the following?") from GEM surveys. In addition, two indicators were utilized to reflect interactions between industry and HEIs, referring to subcontracted R&D to external research institutions as % of firms' R&D spending, and science park-based firms' outsourced R&D spending. Higher scores for the index imply stronger relational foundations in the entrepreneurial ecosystems in regions.

Entrepreneurial agency. Existing studies on burgeoning entrepreneurial ecosystems place emphases on three distinct characteristics of potential agency, containing a critical mass of entrepreneurial firms (Brown & Mason, 2017), a number of fast-growth firms (Acs et al., 2017), and entrepreneurs acting as role models and change agents (Isenberg ,2010). These three indicators are used as proxies for the potency of entrepreneurial agency. First, the NERI's index of the development of non-state owned enterprises was used as a proxy for the entrepreneurship development in regions (Wang et al. 2017). A higher score indicates a greater critical mass of entrepreneurial firms in a region. Second, we used the number of high-growth firms listed in the Shenzhen Stock Exchange ChiNext Board per ten thousand as a proxy for the availability of fast-growth firms. Third, the number of nominees from the national young entrepreneurs was adopted as the proxy for

entrepreneurial leadership.

Enabling foundations. The enabling foundations were measured using three indices namely human capital, access to finance, and support for entrepreneurship.

(1) Human capital

Following the extant research, human capital was captured by educational attainment (Troilo, 2011; Qian et al., 2013). Since a disproportionate percentage of high-growth start-ups are in technical fields, science, technology, engineering, and maths (STEM), education appears to be related to the supply of technically skilled people in support of entrepreneurial activity (Chatterji et al., 2014). The number of students in STEM degree programmes per ten thousand was utilized to reflect the availability of skills in the regions. Additionally, regional entrepreneurial ecosystems in emerging economies such as China comprise a considerable number of engineers and scientists, or students who have studied or trained in OECD nations, and have been back to their native countries to open a new business or work for a domestic firm (Liu et al., 2010; Kenney et al. 2013). Such returnees bring back new knowledge and create positive spillover effects on the technological capability of domestic firms in China, thereby increasing the quality of local human capital (Liu et al., 2010). The number of returnees in high-tech parks per ten thousand was used as another proxy for the regional quality of human capital.

(2) Finance.

Three indicators were adopted to capture the availability of financial resources in a region. First, two indicators (VC managed fund per capita and number of business angels per ten thousand of the population in the region) were used as proxies for equity finance. Second, R&D spending as % of regional product output was applied to imply the availability of research funding.

(3) Supports.

Supportive conditions in a region include the capability for knowledge creation (Qian et al., 2013), the quality of physical infrastructure (Audretsch et al., 2015) and the availability of enterprise support services (Mason & Brown , 2013). Following the literature (Zhou & Leydesdorff , 2006; Qian et al., 2013), three indicators were taken to capture the capability for knowledge creation: a) the number of scientific papers publications in domestic journals per capita, b) the number of scientific papers publications in international journals per capita, and c) the number of patents granted per capita. Consistent with Audretsch et al. (2015), three indicators were used to capture the quality of physical infrastructure in regions a) the penetration rate of the internet, b) the mileage of optical cable, and c) the mileage of motorways. Ultimately, we adopted five factors to reflect a region's enterprise support services: a) the number of national level S&T incubators per capita, b) the number of national level demonstration venture parks per capita, c) the number of national level demonstration SME services per capita, d) the number of maker spaces per capita,

and e) the number of VC investment intermediaries per capita.

In line with prior research on growth aspirations (e.g. Autio & Acs 2010; Troilo 2011; Estrin et al. 2013) , we controlled for age, gender, features of firms (innovativeness and export intensity), regional GDP per capita and population density. Moreover, four dummies were constructed to capture industry , namely extractive industry, transforming industry, business services and consumer-oriented industry. Extractive industry was taken as the reference category in the analyses.

An exploratory factor analysis (EFA) was conducted to reveal the underlying structure and the distinctiveness of the latent motivation factors and entrepreneurial ecosystems. Using EFA, we eliminated the poorly performing items in the measures of behavioural attitude (fear of failure), perceived behavioural control (self-efficacy), and human capital (educational attainment). The values of Cronbach's alpha of each construct of motivation and entrepreneurial ecosystems, ranging from 0.712 to 0.972, confirming good internal consistency (Nunnally ,1978). Consistent with the procedure outlined by Fornell and Larcker (1981), the discriminant validity was further assessed. We compared the latent variable correlations and the square root of the average variance of each construct. As the value of the diagonal elements of each latent variable was greater than the absolute value of latent variable correlations, the results showed good discriminant validity, suggesting the latent constructs are independent as well as reliable. The EFA results were summarised in

Table 8 to Table 11.

Table 8..Exploratory factor analysis of the items of TPB

	Attitude	Subjective norm	Perceived behavior control
Attitude			
Att1	0.894		
Att2	0.887		
Subjective norm			
Nor1		0.914	
Nor2		0.910	
Perceived behavior control			
Pbc1			0.887
Pbc2			0.883

KMO 0.82, Bartlett's pb<.001

Table 9. Exploratory factor analysis of the items constructing the ecosystems

	Institution foundations	Relational foundations	Entrepreneurial agency	Finance	Human capital	Support
Institution foundations						
ins1	0.821					
ins2	0.844					
ins3	0.733					
ins4	0.860					
ins5	0.795					
Relational foundations						
net1		0.995				
net2		0.995				
net3		0.987				
Entrepreneurial agency						
cul1			0.635			
cul2			0.942			
cul3			0.962			
Finance						
fin1				0.938		
fin2				0.969		
fin3				0.939		
Human capital						
hu1					0.977	
hu2					0.986	
Support						
su1						0.858
su2						0.929
su3						0.924

KMO 0.68, Bartlett's pb<.001

Table 10. Latent variable reliability and validity assessment of TPB measures

Latent variable	Cronbach's alpha	Composite reliability	Latent variable correlations(off-diagonal) versus the square root of average variance explained(diagonal, *italic*)		
			Attitude	Subjective norm	PBC
Attitude	0.744	0.884	*0.940*		
Subjective norm	0.803	0.908	0.009	*0.911*	
Perceived behavior control	0.712	0.878	0.154	0.030	*0.884*

Table 11. Latent variable reliability and validity assessment of ecosystem measures

Latent variable	Cronbach's alpha	Composite reliability	Latent variable correlations(off-diagonal) versus the square root of average variance explained(diagonal, *italic*)					
			Institution foundations	Relational foundations	Entrepreneurial agency	Finance	Human capital	Support
Institution foundations	0.856	0.906	*0.811*					
Relational foundations	0.972	0.995	0.308	*0.992*				
Entrepreneurial agency	0.817	0.891	0.227	0.088	*0.859*			
Finance	0.944	0.964	0.039	0.332	0.012	*0.948*		
Human capital	0.966	0.981	0.397	0.238	0.082	0.004	*0.981*	
Support	0.885	0.931	0.367	-0.137	0.349	-0.011	0.018	*0.904*

.

3.5.2 Multilevel Logistic Model

Given the binary nature of growth aspirations, a binary logit model was applied to test each hypothesis. Since individual-level observations were combined with provincial-level measures, we adopted hierarchical modeling approaches. In the hierarchical methods, fixed effects cope with individual factors that exert impacts on the dependent variable. In order to estimate the effects of provincial-level characteristics on an individual's likelihood of aspiring for growth, this research takes account for random effects that embody unobserved province-specific intercepts and slopes. This enables the intercepts and slopes of the provincial-level covariates

to vary and allows a more precise assessment of cross-level moderation effects (Martin et al., 2007). The model specification is:

$$\ln\left[\frac{\pi_{ij}}{1-\pi_{ij}}\right]=\beta_{0j}+\beta_{1j}\mathrm{ATT}_{ij}+\beta_{2j}\mathrm{SNO}_{ij}+\beta_{3j}\mathrm{PBC}_{ij}+\sum_{k=22}^{K}\beta_k\text{Individual Controls}+\mathrm{e}_{ij}$$

$$\beta_{0j}=\beta_0+\beta_4\mathrm{IF}_j+\beta_5\mathrm{RF}_j+\beta_6\mathrm{EA}_j+\beta_7\mathrm{FI}_j+\beta_8\mathrm{HC}_j+\beta_9\mathrm{SU}_j$$
$$+\beta_{10}\,\mathrm{GDP}_j+\beta_{11}\,\mathrm{PD}_j+\sum_{n=12}^{N}\beta_k\,\text{Provincial level means}+\mathrm{u}_{0j}$$

$$\beta_{1j}=\beta_1+\beta_{16}\mathrm{IF}_j+\beta_{17}\mathrm{RF}+\beta_{18}\mathrm{EA}_j+\beta_{19}\mathrm{FI}_j+\beta_{20}\mathrm{HC}_j+\beta_{21}\mathrm{SU}_j+\mathrm{u}_{1j}$$

$$\beta_{2j}=\beta_2+\mathrm{u}_{2j}$$

$$\beta_{3j}=\beta_3+\beta_{22}\mathrm{IF}+\beta_{23}\mathrm{RF}_j+\beta_{24}\mathrm{EA}+\beta_{25}\mathrm{FI}_j+\beta_{26}\mathrm{HC}_j+\beta_{27}\mathrm{SU}_j+\mathrm{u}_{3j}$$

Where π_{ij} is the probability that respondent i in province j is an aspiring entrepreneur. β_{1j}, β_{2j}, etc are coefficients for major covariates and control variables. Measures of ecosystem (i.e. Institutional Foundations (IF); Relational Foundations (RF); Entrepreneurial Agency (EA); Finance (FI); Human Capital (HC); and Supports (SU)) are higher level covariates (provincial-level), and thus β_4 to β_{27} are the coefficients for the cross-level interaction terms. $\mathrm{u}_{0j},\mathrm{u}_{1j},\mathrm{u}_{2j}$ and u_{3j} are provincial-specific effects (random effects) on the intercept, and slopes of three predictors (Attitude (ATT); Subjective Norm (SN); and Perceived Behavior Control

(PBC)). e_{ij} represents residual from the level-1 equation (with group variance).

Since the pooling of data from city level to provincial level could potentially lead to some provinces being over-represented/underrepresented in the sample, the parameters in the above models were estimated using a maximum weighted likelihood estimator.

In a study of entrepreneurial growth aspirations using multilevel analysis, in addition to individual effects, Estrin et al. (2013) also introduced country averages, distinguishing between individual level and group level variations. For instance, they investigated an individual effect of being an owner of established business on employment growth aspirations and also look at a peer effect of the prevalence rate of established firms in a given country group that may affect entrepreneurs' growth aspirations. In order to increase the robustness of the findings, this paper followed the procedure by Estrin et al. (2013) and accordingly conducted a data analysis in three specific steps. First, we estimated model 1 as a baseline regression model without provincial means. Second, it incorporated province-aggregates of individual-level variables (peer effects) as model 2 and performed the likelihood ratio (LR) tests to examine if the inclusion of the peer effects can enhance the model fit. Third, given that the LR ratio tests (in Table 2) suggested an improvement in the model goodness of fit after the inclusion of all the peer effects, the peer effects were thereafter retained in the rest of models. The LR test indicated an increase in the model fit over the baseline specification. In addition, each model displayed

log-likelihood and Akaike Information Criterion to imply the goodness of fit.

3.6. Results

The means, standard deviations and pairwise correlation coefficients for the variables were presented in Table 12. All of the correlations among the variables are below the generally agreed threshold value (0.5). Moreover, we performed the Harman's one-factor test to examine the potential common method bias (Podskoff & Organ, 1986). The results demonstrated that no single factor could account for the majority of variance in these variables, implying that common method bias is unlikely to be a concern.

Given that the hypotheses were tested using hierarchical models, we accordingly conducted an ANOVA in which entrepreneurs' growth aspirations were used as the dependent variable and provinces was utilized as the predictor. This test implies significant between-group variance within the data, with $\chi^2(27)=200.1$ (p <0.000), implying that there is significant variance in Chinese entrepreneurs' growth aspirations across provinces .

Table 12.Correlation matrix

	Mean	S.D.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Expected job growth(1)	0.15	0.36	1.000												
Gender(2)	1.47	0.50	-0.121**	1.000											
Age(3)	36.10	10.46	-0.037*	-0.024	1.000										
Innovativeness(4)	1.77	0.70	0.069**	0.003	-0.036*	1.000									
Export intensity(5)	1.18	0.44	0.154**	0.010	-0.050**	0.084**	1.000								
Transforming(6)	0.13	0.34	0.108**	-0.121**	0.014	0.001	0.001	1.000							
Business service(7)	0.06	0.50	0.092**	-0.029	-0.030	0.029	0.082**	-0.102**	1.000						
Customer-oriented(8)	0.73	0.44	0.094**	0.100**	-0.049**	0.026	-0.002	-0.466**	-0.424**	1.000					
Attitude(9)	0.00	1.00	0.099**	-0.029	-0.079**	0.041*	0.093**	0.034	0.033	-0.007	1.000				
Subjective norm(10)	0.00	1.00	0.027	-0.007	-0.036*	-0.005	-0.018	0.042*	0.014	-0.029	0.009	1.000			
Perceived behavioral control(11)	0.00	1.00	0.277**	-0.025	-0.274**	0.057**	0.138**	-0.015	0.156	0.049**	0.154**	0.030	1.000		
GDP per capital(12)	2.41	1.54	0.018	0.014	-0.019	-0.006	0.120**	-0.023	0.060**	0.049**	0.049**	-0.029	0.161	1.000	
Population (13)	0.49	0.67	-0.037*	0.012	0.029	-0.002	0.049**	-0.038*	-0.011	0.074**	0.052**	0.013	0.042	0.35	1.000

Note: ** p<0.01;* p<0.05

The empirical results were summarised in Table 13. Model 1 was an intercept-varying as well as a base model in which the control variables were first added. The intra-class correlation indicates that 10.2 % of the total variance resided between Chinese provinces. Province-aggregates of individual-level variables were entered in model 2. Model 3 is a random coefficient model (also named as intercept

and slope as outcomes model). The analyses demonstrated significant variance in both the intercepts and slopes across China's provinces. The results show strong support for hypothesis 1 and hypothesis 3, with both entrepreneur's attitude ($p<0.05$) and perceived behavioural control ($p<0.001$) positively and significantly relating to growth aspirations. Hypothesis 2 which is that the entrepreneur's subjective norm exerts a significant impact on growth aspirations was not supported.

A set of interaction terms was added in model 4 in order to assess the moderating effects of entrepreneurial ecosystems on growth aspirations. Based on a comparison of model 3 and 4, it shows that the provincial-level variance decreases from 0.779 to 0.519 and suggests that the inclusion of the cross-level interaction terms explains the additional province-level variance in growth aspirations.

Some evidence was found to support hypothesis 4a that entrepreneurial ecosystems moderate the relationship between attitude and entrepreneurial growth aspirations. For instance, institutional foundations, relational foundations, entrepreneurial agency and access to finance were found to positively moderate the relation between attitude and entrepreneurial growth intention, supporting our hypothesis that the stronger the entrepreneurial ecosystems, the stronger the positive relation between attitude and growth aspiration. Two dimensions (access to finance and support system) in enabling foundations appeared to positively and significantly moderate the relationship between perceived behavioural control and growth

Table 13. Multilevel logistic regression analysis results

		Model 1		Model 2		Model 3		Model 4	
		Odds ratio	**S.E.**	**Odds ratio**	**S.E.**	**Odds ratio**	**S.E.**	**Odds ratio**	**S.E.**
Fixed effects									
Individual-level controls									
Gender		**0.527*** **	**(0.103)**	**0.536*** **	**(0.104)**	**0.561*** **	**(0.107)**	**0.558*** **	**(0.108)**
Age		**0.989***	**(0.004)**	**0.989***	**(0.004)**	0.999	(0.005)	**0.998***	**(0.005)**
Innovativeness		**1.257** **	**(0.076)**	**1.254** **	**(0.076)**	**1.221***	**(0.081)**	**1.216***	**(0.081)**
Export intensity		**1.802*** **	**(0.096)**	**1.740*** **	**(0.096)**	**1.698*** **	**(0.100)**	**1.714*** **	**(0.100)**
Provincial-level controls									
GDP per capital		1.106	(0.183)	1.280	(0.161)	1.313	(0.123)	1.132	(0.239)
Population density		1.037	(0.502)	1.479	(0.443)	1.031	(0.545)	1.102	(0.738)
Provincial-level means									
Gender provincial mean				0.899	(0.256)	0.530	(0.562)	0.558	(0.590)
Age provincial mean				0.955	(0.074)	1.082	(0.061)	1.077	(0.066)
Export intensity provincial mean				**2.597** **	**(0.864)**	**2.843*** **	(0.704)	**2.815*** **	**(0.798)**
Innovativeness provincial mean				1.150	(0.583)	1.484	(0.483)	1.604	(0.584)
Individual-level predictors									
Attitude(ATT)						**1.272***	(0.110)	**1.616***	(0.221)
Subjective norm(SN)						1.196	(0.137)	1.112	(0.171)
Perceived behavioral control(PBC)						**2.291*** **	(0.142)	**2.874*** **	**(0.241)**
Ecosystem									
Institutional foundations								0.950	(0.342)
Relational foundations								0.746	(0.728)
Entrepreneurial agency								0.450	(0.735)
Funding								**2.656***	**(0.388)**
Human capital								2.148	(0.627)
Support								**0.677+**	**(0.210)**
Cross-level Interactions									
ATT*Ecosystem	ATT* Institutional foundations							**2.314** **	**(0.325)**
	ATT* Relational foundations							**4.992+**	**(0.823)**
	ATT* Entrepreneurial agency							**3.876+**	**(0.712)**
	ATT*Funding							**1.633+**	**(0.263)**
	ATT*Human capital							0.599	(0.571)
	ATT*Support							0.903	(0.178)
PBC*Ecosystem	PBC* Institutional foundations							0.820	(0.321)
	PBC* Relational foundations							1.546	(0.857)
	PBC* Entrepreneurial agency							0.591	(0.739)
	PBC*Funding							**1.834***	**(0.298)**
	PBC*Human capital							1.343	(0.598)
	PBC*Support							**1.809** **	**(0.203)**
Industrial controls	Extractive industry								
	Transforming	**3.225*** **	**(0.283)**	**3.387*** **	**(0.285)**	**2.138***	**(0.298)**	**2.168** **	**(0.298)**
	Business service	**3.177*** **	**(0.312)**	**3.353*** **	**(0.314)**	1.693	(0.329)	1.685	(0.330)
	Customer-oriented	**1.707***	**(0.269)**	**1.800***	**(0.271)**	1.040	(0.283)	1.029	(0.283)
Random effects and model fits									
Number of observations		3107		3107		3107		3107	
Number of provinces		28		28		28		28	
Provincial-level variance		0.374		0.178		0.779		0.505	
Log-likelihood		-1365.0		-1356.5		-1291.9		-1269.8	
Akaike Information Criterion		2752.0		2742.9		2637.8		2641.6	

Note: *** p<0.001 ; ** p<0.01;* p<0.05; + p<0.1

Likelihood ratio test (model2 vs model1) chi2(4)=17.08 prob>chi2=0.0018. Likelihood ratio test (model3 vs model1) chi2(7)=92.02; prob>chi2=2.2e-16

Table 14 Multilevel logistic regression analysis results summary		
Variables	**Odds Ratio**	**Hypothesis Test**
Controls		
Gender	**0.558*** **	
Age	**0.998***	
Innovativeness	**1.216***	
Export intensity	**1.714*** **	
Main Effects		
Attitude(ATT)	**1.616***	**H1 was supported**
Subjective norm(SN)	1.112	**H2 was not supported**
Perceived behavioral control(PBC)	**2.874*** **	**H3 was supported**
Interaction Effects		
ATT*Institution	**2.314** **	**H4a was supported**
ATT*Network	**4.992+**	**H4b was not supported**
ATT*Culture	**3.876+**	**H4c was supported**
ATT*Funding	**1.633+**	
PBC*Funding	**1.834***	
PBC*Support	**1.809** **	

aspirations, supporting hypothesis 4b.

Focusing on the control variables, it was observed that gender is consistently a significant factor in explaining the likelihood of one being a growth aspiring entrepreneur. In particular, females were found to be half as likely to be growth aspiring entrepreneurs as males. This is consistent with prior research findings (Reynolds et al. 2002). Innovativeness and export intensity of a new business exerted positive effects on growing ventures. More specifically, according to the results from model 1, new ventures whose products are viewed “new” and “unfamiliar” by a higher number of customers can enhance the odds of entrepreneurs possessing growth ambitions by 25.7% ($p<0.01$). Firms with a higher degree of export intensity can positively as well as significantly improve

entrepreneurs' growth ambitions ($p<0.001$). The industry in which the new firms are operating and trading also matters. For example, the result suggested that entrepreneurs in the transforming business and business service industries have a higher probability of being a growth aspiring entrepreneur than those in the extractive industry (reference category).

Lastly, we performed a cluster analysis to split the observations into two provincial categories with weak and strong entrepreneurial ecosystems ecosystems.[4] We then conducted separate logistic regressions for observations in weak, and strong entrepreneurial ecosystems. The empirical results were listed in Table 15. Some interesting effects can be observed for both the individual-level and provincial-level predictors. First, although women were less likely to possess growth aspirations than men in both types of entrepreneurial ecosystems, comparatively speaking, female entrepreneurs in strong entrepreneurial ecosystems were more likely to aspire to growth than their counterparts in weak ecosystems. Second, export intensity was found to exert significant effects on growth aspirations in both types of entrepreneurship ecosystems. Third, entrepreneurs' attitude towards growth tended to positively affect growth aspirations in China's provinces with strong ecosystems, whereby such effects were negative in the regions where the entrepreneurial ecosystems were relatively underdeveloped. Fourth, subjective

[4] The cluster analysis was carried out using the standard k-means method, with the entrepreneurial ecosystem index as the input variable. This provided a data-driven methodology for grouping the provinces, instead of imposing ad-hoc cut off points to define the groups. The results of the clustering analysis are provided in Appendix H.

norms were significantly related to growth aspirations under strong ecosystems, whereas such impacts could not be observed in weak entrepreneurial ecosystems. Fifth, there were improvements in the effects of perceived behavioural control on growth aspirations from weak to strong entrepreneurial ecosystems. These patterns can support our notion that entrepreneurial ecosystems positively moderate the relationship between perceived behavior control and growth aspiration.

Table 15. Logistic regression in weak, and strong ecosystem regimes

		Weak ecosystem regimes	**Strong ecosystem regimes**
		Odds ratio	**Odds ratio**
Individual-level controls			
Gender		**0.449*** **	**0.726+**
Age		0.998	**0.971** **
Innovativeness		**1.179+**	**1.359***
Export intensity		**2.015*** **	**1.541***
Provincial-level controls			
GDP per capital		0.796	1.062
Population density		0.958	0.983
Individual-level predictors			
Attitude(ATT)		**0.716** **	**1.421+**
Subjective norm(SN)		0.974	**1.554***
Perceived behavioral control(PBC)		**2.179*** **	**2.401** **
Industrial controls	Extractive industry		
	Transforming	**2.194***	1.695
	Business service	**2.170+**	2.912
	Customer-oriented	1.096	1.090

Note: *** p<0.001 ; ** p<0.01;* p<0.05; + p<0.1

3.7. Discussion and Conclusion

This paper looks at how a Chinese entrepreneur's attitude, subjective norms, and perceived behavioural control can affect their business growth aspirations and whether entrepreneurial ecosystems can modify such relationships. The empirical results confirm our predictions that entrepreneurs who have more positive attitudes

towards growth and perceive a greater sense of control over the outcomes of business actions are more likely to possess growth aspirations. Nevertheless, contrary to our predictions, we cannot find evidence that subject norms are significantly related to growth aspirations. This finding might not be entirely surprising. Existing studies on entrepreneurial intention using TPB have found mixed results. For instance, the social norm component has been found to be non-significant in some studies (e.g., Krueger et al., 2000) and significant in others (e.g., Kautonen et al. 2015). A possible explanation is that an entrepreneur's judgemental decision making on growth is a very personal interpretation of the opportunity and it involves making decisions that require judgements at odds with the judgements of others (Casson 1982; Shane 2003). Consequently, social influences on the intention to grow a business are less relevant than on the intention to start a business.

An important part of this study is the investigation into the extent to which entrepreneurial ecosystems moderate the relationship between individual motivational aspects and growth aspirations. The proposed theoretical frame implies that although entrepreneurs remain the central agent in entrepreneurial growth endeavours (Autio & Acs ,2010), the moderating role of the entrepreneurship ecosystems of the target place cannot be underestimated. In other words, the positive effects of attitudes and perceived behavioural control can be strengthened in entrepreneurial ecosystems with strong dimensions in terms of institutional

foundations, relational foundations, entrepreneurial agency, and enabling foundations.

This study contributes to the field of Chinese entrepreneurship literature. First, it allows for simultaneous considerations of individual motivational factors by building a model of model of motivation-driven growth aspirations based on TPB. Our findings, while consistent with the extant studies (Tominc & Rebernik 2007; Audio & Acs, 2010; Estrin et al., 2013), provide a more nuanced understanding of the effects of personal motivation on growth aspirations. Second, in order to adopt a more holistic view to investigating growth aspirations, this study combines TPB with the entrepreneurial ecosystems approach to collectively explain entrepreneurs' growth aspirations. Third, our model of growth aspirations is contextualised from a transition economy perspective. The result finds that, for example, the extent to which institutional voids are present in entrepreneurial ecosystems has a significant moderating effect, revealing the uniqueness of China's business environment. Nevertheless, no difference from other economies, stronger enabling foundations are consistently found to be significant moderators of the motivation's link with growth aspirations.

Our study has important implications for policy-makers. For instance, the findings suggest that policy-makers should be aware that growth aspiring entrepreneurs are motivated by perceptions of opportunities and perceived behavioural control.

Policies need to be tailored in order to enhance entrepreneur's skills and learning, and thereby improve their perceptions of behavioural control. Policies also need to concentrate on promoting access to finance as well as decreasing institutional voids.

There are some limitations in this study. Given the cross-sectional pooled nature of the dataset, it inhibits us from performing a causality test and eliminating simultaneity (i.e., aspirations cause behaviours and behaviours also cause aspirations). This can be addressed by duplicating this theoretical framework using some panel dataset in future studies. Moreover, one disadvantage of using GEM data is the lack of measures for actual growth behaviour. Although existing studies have found support for a positive link between growth intention and growth behaviour (e.g. Bellu & Sherman, 1995; Kolvereid & Bullvåg, 1996; Miner et al., 1994; Wiklund & Shepherd, 2003), the relationship has been shown to be complex as in the case of Sweden (Wiklund & Shepherd, 2003).Our research cannot say how Chinese entrepreneurs' aspirations to expand their business activities leads to actual growth using the current data. This should be explored in future research.

Chapter 4. Entrepreneurial exit in China: the moderating effects of environmental and institutional factors

Abstract

China has become a land of entrepreneurship since it started to pursue economic reform and an agenda of opening up to the outside. Yet, there is a dearth of research on entrepreneurial exit in China. Following social cognitive theory, this study firstly assesses how individual cognitive aspects can contribute to distinctions in the exit motives. Second, by adopting resource dependence theory, and institutional theory, this paper argues that environmental dynamism and institutional ambiguity exert direct and indirect effects on entrepreneurial exit patterns in China. Using data from the GEM China surveys and the Annual Report on the Information of Chinese Courts, the results suggest that there is a positive relationship between Chinese entrepreneur's self-efficacy and the probability of choosing voluntary exit and that people who are more risk-tolerant in regard to the outcomes of their actions are less likely to exit voluntarily. In addition, at the regional level, environmental dynamism appears to be influential in exit motives. The results also confirm the negative moderating effects of institutional ambiguities on risk tolerance, suggesting that more ambiguous institutions can weaken the relationship between entrepreneur's risk attitude and the probability of making voluntary exit.

Keywords Entrepreneurial exit, Institutions, environmental dynamism, Global Entrepreneurship Monitor

4.1. Introduction

An entrepreneurial perspective is developed suggesting that the entrepreneurial process does not end with venture creation, but rather with entrepreneurial exit, which is a crucial component of the entrepreneurial process. Recent studies in entrepreneurship have shown that the definitions of entrepreneurial failure and entrepreneurial exit emerge from distinct views and are determined by various factors (Bates, 2005; DeTienne & Cardon, 2012; Wennberg et al., 2010). The primary view from organizational research and strategic management is that an entrepreneur's major objective is to obtain a competitive advantage and sustainability in long run and thereby exit is described as business failure (Wennberg & DeTienne, 2014). Nevertheless, decision making autonomy and individual volition is not taken into account in such dichotomous view in which survival is seen positively whereas exit is viewed negatively (Ryan & Power, 2012). According to Strotmann (2007), many studies in the entrepreneurship literature have applied entrepreneurial exit to approximate the “business failure”, while it is more clear from the practitioner-oriented literature in entrepreneurship that exit is not the same as business failure (Knott & Posen, 2005). For example, Ucbasaran et al. (2006) surveyed on a basis of a representative sample of 767 entrepreneurs in Great Britain and revealed that among the entrepreneurs that had experience of business closure, more than a third considered their last business to be “a success”. These studies demonstrate that, by nature, exit and failure are two different concepts. It thereby

calls for an expanding notion in the practitioner-oriented entrepreneurship literature which emphasises the difference of entrepreneurial exit motives. In order to disentangle business failure and voluntary exit, this study adopts a more fine-grained definition of exit motives, that is, voluntary and involuntary exit, in order to reveal the rationales that underlie distinct types of entrepreneurial exit.

Researchers in diverse fields such as strategic management, economics, finance, sociology, and organizational psychology have explored the topic of entrepreneurial exit (DeTienne & Cardon, 2012), but no systematic picture emerges across these disciplines. In line with Wennberg (2008), entrepreneurial exit is not only a multi-faceted but also multi-level phenomenon. Due to the different theoretical perspectives, levels of analysis, choices of dependent variables, and the lack of a holistic view, it is hard to extrapolate research findings from prior research to a theory of entrepreneurial exit. This paper addresses the research gap by taking an important step incorporating multi-levels of analyses, namely, individual-level, environmental level and institutional-level, into the theory of entrepreneurial exit. Given that opportunities emerge in the environment under conditions associated with instability and uncertainty (Sine & David, 2003), this study introduce the concepts of environmental dynamism and institutional ambiguity. It is argued that both environmental dynamism and institutional ambiguities are negatively related to voluntary exit. In addition, the link between individual cognitive aspects and entrepreneurs' voluntary exit decisions is contingent on environmental and

institutional factors, being weaker in the highly dynamic and ambiguous business environment.

While entrepreneurial exits are context-dependent, transition economies differ considerably from other economies. The distinct features of institutions in transition economies lead to unique systems that impact on entrepreneurial exit choices. China is a transition economy and shares many institutional features with its counterparts. Because of the idiosyncratic nature of economic development, much attention has been paid to China in academia (Bhagat et al., 2010). Nonetheless, there is a dearth of studies on entrepreneurial exit in China. As revealed in the annual surveys conducted by the Global Entrepreneurship Monitoring (GEM) project, each year around 17% of the working-age population in China are engaged in new business creation. In 2016, entrepreneurs created 5.5 million new firms. Not surprisingly, the Chinese entrepreneurship literature is dominated by research on new venture creation. However, the GEM surveys also confirm that every year about 4% of nascent entrepreneurs exit from their entrepreneurial activities. We thus respond to the calls by contextualizing of entrepreneurial exit from a transition economic perspective, and plug the gap in the literature with regard to entrepreneurial exit in China.

By incorporating three theoretical perspectives (social cognitive theory, resource dependence theory, and institutional theory) to propose a theoretical framework

regarding entrepreneurial exit in China, we aim to answer three research questions: How are individual cognitive factors related to the exit decisions of entrepreneurs? How do environmental dynamism and institutional ambiguities contribute to the differences in exit patters? And how do environmental dynamism and institutional ambiguities moderate the relationship between individual cognition and entrepreneurial exit decisions? Our study makes numerous contributions to the existing literature. First, this study contributes to the entrepreneurial exit debate by presenting a more fine-grained definition of the exit motivations underlying two different exit types. Although a multitude of studies depict entrepreneurial exit as a dichotomous result, this study is beneficial to business owners in regard to intensively assessing exit routes, crafting exit strategies, identifying successors, and recognising the best process for exit. Second, this is a pioneering study that is contextualized in China and empirically demonstrates how individual cognitive aspects are related to entrepreneurial exit. It adds to the extant research on entrepreneurial exit by demonstrating how entrepreneurs' self-efficacy and risk-attitude affect their choice to exit rather than by being forced to close business because of poor performance. These research findings respond to early entrepreneurial exit studies that have called for a clear delineation of business exit patterns and also suggest that prior research may have overstated the rates of business failure. Third, in the transition from a planned economic system to a market economic system, China is characterised by ever-changing and uncertain business system. We introduce the concepts of environmental dynamism and

institutional ambiguity in this paper in response to the call that entrepreneurial exit is a multilevel as well as context-dependent phenomenon. Fourth, by applying theories and methodologies that incorporate different levels of analyses, this study stands at a unique position by assessing the interactions between individual cognitive aspects and environmental and institutional factors.

4.2. Literature Review

There are a multitude of studies on entrepreneurial exit that tend to assume that exit is the outcome of poor business performance (Boden & Nucci, 2000). Entrepreneurial exit was conceptualised by DeTienne (2010) as the process in which business owners of privately owned companies leave the businesses they have created; hence eliminating themselves, to a distinct degree, from the decision-making structure and ownership of the business. This definition concentrates on entrepreneurs' decisions to leave their firms. By contrast, Stam et al. (2010) described entrepreneurial exit as the process of exiting an entrepreneurial career, indicating that the exit choice can be permanent or in other cases represent a major shift in work identity. More recently, research on entrepreneurial exit has increasingly stated that entrepreneurs can also leave their business based on volitional decisions, or exit their business from the market altogether because of non-pecuniary reasons (DeTienne & Cardon, 2012; McGrath, 2006; Taylor, 1999). Given that exit represents the 'end phase' of an entrepreneur's involvement in a specific firm, different exit motives necessitate that research clearly defines what is

meant by ‘exit’. In entrepreneurship research, it is necessary to move beyond the over-simplified concept of equating exit with business failure if further progress is to be achieved. According to Zacharakis (2013), business failure is a narrow term that refers to the cessation of engagement in a firm because it fails to meet the minimum threshold for economic viability, which is stipulated by the business owner. Moreover, researchers have acknowledged a multitude of successful closures (Wennberg et al, 2010). Taylor (1999) adopted the term “voluntary terminations” to define those who withdraw from self-employment to re-enter paid employment. Headd (2003) revealed that many entrepreneurs may have terminated a venture without excessive debt, retired from the work force, or sold a viable business.

The antecedents of entrepreneurial exit have identified two types: involuntary exit owing to poor business performance (failure), and voluntary exit due to personal reasons or to engage in professional or financial opportunities. Exit due to personal reasons refer to withdrawal from self-employment because of retirement, family issues, health issues, or a change in motivations. Bates (2005) stated that another key issue that underlies the rationale for successful business closures is the “availability of more appealing alternatives”. Harada (2007) revealed that while the proportion of business terminations due to bankruptcy remains small, a higher percent of businesses close because the owners are seeking to a different or better professional opportunity. Also, some entrepreneurs might decide to leave a venture rather than act a managerial role (Boeker & Karichalil, 2002), whereby others might

do so in order to recapture their initial investment. We define such events as exit for professional/finical opportunities.

Research has found a number of individual factors determining entrepreneurial exit. Using microdata from the U.S. Census Bureau, the study by Fairlie and Robb (2009) focused on the performance of female-owned ventures and made comparisons with male-owned ventures. Their study identified that higher closure rates in female-owned businesses than in male-owned businesses were due to the females having less business human capital obtained through previous work experience, less previous work experience in a family business and less startup capital. However, such arguments have been questioned by Justo et al. (2015), who argued that true "failure" rates may be overstated. Based on feminist theories and by differentiating exit from failure, Justo et al. (2015) analysed 219 Spanish entrepreneurs with business exit experience and found that females do not fail more often than males, rather, female entrepreneurs are actually more likely than males to exit voluntarily. By concentrating on 1361 U.K. entrepreneurs from the British Household Panel Survey, Taylor (1999) suggested that prior entrepreneurial experience decreases the probability of failure-related exit. On the other hand, based on a study of 31,000 Danish entrepreneurs, Jørgensen's (2005) found that previous experience increases the probability of exit. Similarly, conflicting evidence has been found in regard to the relationship between age and entrepreneurial exit. Adopting data from the Retirement of Small Firm Managers Survey, Harada's paper investigates the exit

behaviour of small ventures, By dividing them into subgroups based on the manager's age at exit, Harada (2004) found among the exits, 66% were 60 years or older, and 93% were 50 years or older. Morin and Suarez (1983) proved that the strength of risk attitude increases uniformly with age, which leads to a higher probability of business closure. Nevertheless, these results contradict to the study from Gimeno et al. (1997) who argued that concern about job seeking at an older age is a key driver for older entrepreneurs to continue their business. This paper argues that one of the reasons for the conflicting evidence and discrepancies in the entrepreneurship literature is intimately related to the under-specification of exit types. For example, the research by Gimeno et al. (1997) constrained the concept of entrepreneurial exit to being the result of poor performance while business survival was understood as success. They also excluded ventures that were sold and therefore the role of experience in volitional decisions by entrepreneurs to exit their firms, or exit the firm from the market could not be investigated. The study by Taylor (1999) differentiated businesses that exited owing to bankruptcy and businesses that were discontinued, but finds no distinct difference between the groups in terms of human capital factors. Gatewood et al. (1995) suggested that cognitive factors also exert a significant influence on entrepreneurs' willingness to persist in entrepreneurial activity. Specifically, they argued that individuals who hold the beliefs that they can control the environment by their actions tend to persist in business activities in the face of business difficulties. Shaver and Scott (2001) elaborated on how entrepreneurs think about themselves and stated that situations

have a bearing on entrepreneurs' persistence at business activity. Gudmundsson and Lechner (2013) contended that entrepreneurs' cognition has emerged as one of the central themes in explaining the differences in entrepreneurial outcomes. Individual's overconfidence and optimism bias help business start-ups, but also contribute to firm failure (Gudmundsson &Lechner, 2013). In spite of the wide application of cognitive approach in business survival or failure (Baron & Ward, 2004; Mitchell et al., 2000), how individuals' cognitive aspects as a tool explain "positive entrepreneurial outcomes" is underdeveloped (Carrier, 2013).

The extant literature on the explanation of entrepreneurial exit has also concentrated on environmental factors. The study by Everett and Watson (1998) included 5,196 Australian retail and service start-ups between 1960 and 1999 and found macro-economic variables including trading bank interest rates, business bankruptcies, consumer price index, employment, and retail sales are associated with between 30 percent and 50 percent of small business exits, depending on the concept of entrepreneurial exit adopted. Stam et al. (2010) examined the effects of environment factors on entrepreneurial exit intentions. They identified that the indicators of constraints perceived in the environment are highly associated with giving up entrepreneurial intentions and efforts, leading to business closure. This was further confirmed by the work by Carree et al. (2011) who revealed the roles of the environment and region specific factors (including IPR activities, population density, industrial districts, and regional specialization in manufacturing) in driving

the exit rate in twelve sectors in the Italian provinces.

Similar to many outcomes from entrepreneurship, entrepreneurial exit is a process that is complex and wrought with uncertain outcomes (Wennberg et al., 2010).It is a human decision-making process with cognitive self-regulation. Bandura's (1986) social cognitive theory holds the view that both personal aspects in the form of cognition and environmental factors that result in interactions play crucial roles in performing behaviour. Consistent with view, this study contends that entrepreneurial exit decisions are influenced jointly by two individual factors, namely the degree to which an individual believes they are capable of performing a specific behavior(self-efficacy), and the evaluation of the pursued courses of action that is associated with uncertainty regarding the success or failure outcomes (risk tolerance). Additionally, it is argued that entrepreneurial exit can be explained by an interaction between personal and environmental factors. Box (2008) stated that an explanation that acknowledges environmental aspects in business exit is necessary, such as macroeconomic variations and institutional conditions. Thus, this study introduces the concepts of environmental dynamism and institutional ambiguity to investigate the effects of macro-environmental aspects, and the interplay between individual cognitions and environmental dynamism and institutions.

4.3 Theoretical Development

In the entrepreneurial exit literature, there might be some confusion as to whether

research deals with the exit of individuals or the exit of a firm from the market. Entrepreneurial exit is operationalized by different studies as an individual's choice to withdraw from self-employment (Van Praag, 2003), the exit of firms from the markets (Anderson & Tushman, 2001), or as business discontinuance or bankruptcy. Entrepreneurs and firms often exit in parallel, such as when entrepreneurs liquidate their businesses. However, entrepreneurs might also exit a business that continues operations, for example, in the case of an entrepreneur selling the business to another owner. This research concentrates on the situation where individuals exit the businesses, and what exit routes are adopted.

4.3.1. Cognitive Dimensions

Self-efficacy

The social cognitive theory (SCT) of Bandura (1986) focuses on the concepts of reinforcement and observation, placing more importance on the mental internal process as well as the interaction between cognitive aspects and behavioral. One of the purposes of the SCT is to develop the self-evaluation and the self-reinforcement constructs. In line with Bandura (1986), individuals possess an auto-system that allows them to measure the control over their own feelings, thoughts, motivations and actions. Social cognitive theory is embedded in a perspective of human agency where people are agents engaged in their own development and can perform actions. Among other individual aspects, people possess self-beliefs that can trigger the exercise of control over their thoughts and actions. Among the aspects in social

cognitive theory, self-efficacy is the most central mechanism of self-directedness and personal agency. Self-efficacy refers to individuals' beliefs in their own ability to perform a certain task and involves the examination or judgement of one's capability (Bandura 1982, 1989, 1997).Self-efficacy affects the decisions people make and the courses of actions individuals' purse in different ways. People with high self-efficacy are inclined to generate feelings of serenity in dealing with difficult activities. By contrast, individuals with low self-efficacy tend to hold the belief that things are even more difficult and tougher than they naturally are. Therefore, the perseverance associated with a high level of self-efficacy belief gives rise to enhanced performance, whereby the giving-in associated with a low degree of self-efficacy ensures the failure. From an entrepreneurship view, self-efficacy is seen as the possession of the capabilities that can modify an individual's belief in the probability of completing the tasks in order to successfully establish and initiate a new business (Bandura, 1989). It appears to be a variable that determines and explains why entrepreneurs of equal ability might behave differently.

Whilst self-efficacy is behaviour-specific, in the entrepreneurial literature, the general concept of entrepreneurial self-efficacy has become a fundamental element in explaining the exit process typical of entrepreneurs. The initial work by Betz and Hackett (1981) hypothesized that individual's self-efficacy could affect both their range of perceived career and persistence in chosen options. Chen et al. (1998) contented that self-efficacy plays an important determining role with regard to an

individual's choice, perseverance, and level of effort. In particular, individuals with a high degree of self-efficacy tend to pursue for a certain task and then persist in the task than those who have low self-efficacy (Bandura ,1997). Similarly, Shane et al. (2003) stated that an entrepreneur with a high degree of self-efficacy for a certain task will place more effort for a greater length of time, persist through setbacks, and develop better plans and make strategic choice for the task. According to social cognitive theory, entrepreneurial exit that relies on individual attitudes typically posits that attitudes precede entrepreneurial behaviour (Krueger el al., 2000). Attitudes can be seen as the weighted sum of recognised outcomes and the likelihood of different entrepreneurial consequences. Self-efficacy appears to affect entrepreneurial behaviours and improve the perceived feasibility of certain courses of action (Krueger et al., 2000). Given the uncertainty surrounding the decision-making process, self-efficacy is an indication of the choices of entrepreneurial exit (Baum & Locke 2004). Specifically, when confronting financial setbacks or high uncertainty regarding business profits, nascent entrepreneurs who have doubts about their abilities are more inclined to reduce their efforts or even quickly abandon current business (Baum and Locke 2004). On the other hand, entrepreneurs with a strong belief in their capabilities tend to continue their efforts towards business continuation until the opportunity to sell the business at a profit or an attractive job becomes available rather than being forced to leave their businesses. Chen et al. (1998) found that self-efficacy distinguishes entrepreneurs, especially in their orientation towards the opportunity identification process. People

with weak self-efficacy are more likely to avoid challenging tasks and focus on personal failings (Bandura, 1994), which might lead to business failure. Self-efficacy provides entrepreneurs with an increase in their cognitive abilities, leading to more productive activity (Becker, 1964; Mincer, 1974). Hence, people with higher self-efficacy tend to be better at perceiving profitable opportunities if they exist. Likewise, once engaged in the entrepreneurial process, such entrepreneurs should also have superior ability in successfully exploiting opportunities such as seeking a profitable exit. We therefore expect that higher levels of self-efficacy should increase the likelihood of successfully realizing an exit.

Hypothesis 1 Self-efficacy is positively associated with exit motives.

Risk attitude

Risk tolerance is conceputalised as a personality trait that refers to the willingness to pursue courses of action or decisions associated with uncertainty regarding the success or failure consequences (Jackson, 1994). Miller and Friesen (1978) have described risk tolerance as “the degree to which entrepreneurs are willing to make large and risky resource commitments - i.e., those which have a reasonable chance of costly failures” (p.932). According to cognitive theory, it is reasoned that entrepreneurs are characterized as risk-takers (Palich & Bagby, 1995). In line with the tenets of cognitive theory, entrepreneurs might simply categorise and then frame the same stimuli differently from each other. There are adequate theoretical grounds

and explanations for why entrepreneurs who are less risk tolerant are more likely to exit due to a personal choice to withdraw from the firm than be forced to close their business. These refer to decreasing returns to scale of risk (Caliendo, 2010), the high opportunity costs of continuing to be an entrepreneur (Khelil & Hammer, 2013), and lower expected returns compared with earnings from wage incomes (Stewart & Roth, 2001). Research on risk tolerance has shown how it can promote entrepreneurial activities (Mitchell & Shepherd, 2010), generate the opportunity identification and exploration process (Woodet et al., 2014), positively affect entrepreneurship as an occupational decision (Arenius & Minniti, 2005), and distinguish between nascent entrepreneurs and non-entrepreneurs (Langowitz & Minniti, 2007; Wagner, 2007). Justo et al. (2015) argued that risk tolerance is an influential factor in remaining self-employed as the earnings from entrepreneurship are more volatile than those from being an employee. In addition, several empirical studies proposed that risk tolerance is a defining characteristic of entrepreneurial outcomes (Cramer et al., 2002; Caliendo et al.,2009, 2010 ;Minniti & Nardone, 2007). For example, Cramer et al. (2002) used Dutch survey data, where an initial interview took place on a cohort of schoolchildren in 1952, at the age of twelve, and again in the years of 1983 and 1993, as far as they could be traced. The interview included a measure of risk attitudes. By applying a probit analysis, they demonstrated a significant effect of risk tolerance on the probability of being self-employment. Later, using the same data, Van Praag and Cramer (2001) suggested that risk tolerance encourages people to undertake entrepreneurial activities while at the same time it increases the rate of

business closure. However, these studies simply equate exit with business failure. Entrepreneurs may not necessarily exit their business merely as a result of business failure; rather, their behaviour might be the result of framing a certain situation more voluntarily. Caliendo (2010) conceptualised risk tolerance as a decisive factor in entrepreneurial exit by arguing that with decreasing returns to the scale of risk, less risk-tolerant entrepreneurs tend to exit their current business associated with high level of perceived risk and choose projects with a smaller amount of risk. Using psychometric meta-analysis on existing literature concerning risk tolerance, Stewart and Roth (2001) argued that entrepreneurs have a higher risk tolerance than managers. And lower expected returns compared with earnings from wage incomes will be more likely to be perceived by less risk-tolerant entrepreneurs, which might encourage them to step back and become employees. According to March (1991), the entrepreneurial process begins with the discovery of opportunities and resources. Since a full-time career always contains financial stability, retirement benefits and health insurance, entrepreneurship represents a less desirable opportunity compared with a full-time career in the wage sector (Bonet et al., 2013). Less risk tolerant people place a great emphasis on the likely downside of opportunity exploitation (i.e., the costs of being wrong), whereas entrepreneurs who are more risk-tolerant place an emphasis on the upside of opportunity exploitation (i.e., the benefits of being right) (Shepherd et al., 2015). The low opportunity perception might push the less risk-tolerant entrepreneurs to search for opportunities to sell current business and find other job opportunities. Thus, risk

attitude is expected to exert a meaningful influence on entrepreneurial exit patterns.

Hypothesis 2 Risk tolerance is negatively associated with exit motives.

4.3.2. Provincial Level Factors

Environmental dynamism

Variations in the rates and types of entrepreneurial exit found in different regions imply that entrepreneurial exit is not only an individual behaviour, but also a largely local phenomenon (DeTienne & Cardon, 2012). Naffziger (1994) pointed out that as an entrepreneur establishes a venture and competes in a relevant environment, an assessment of the environment should be part of the exit decision-making process. According to the resource dependence theory (Hannan & Freeman,1984; Pfeffer & Salancik, 1978), the environment is a pool of resources available and interconnected organizations. Environments affect organizations by the process of enabling or inhibiting the availability of resources. Specifically, the resource dependence theory gives rise to a more fine-grained view of organizations by defining environmental dependence as the importance of a resource to the organization. From its perspective, business growth and survival is related to the level of uncertainty and changes in the environment, namely environmental dynamism.

Environmental dynamism is defined as the unpredictable and rapid changes in the environment that reflects the level of turbulence (Dess&Beard, 1984). Wijbenga and

Van Witteloostuijn (2007) stated that environmental dynamism can reflect the rate at which the preferences of customers and the services of organizations vary over time. It refers to the degree of turbulence or instability of key operating concerns as market conditions and more general economic, technological, political, and social forces (Li & Simerly, 1998). Dynamic environments are characterized by rapid and unexpected change, which leads to uncertainty for the firms and individuals operating within them (Dess & Beard, 1984).Studies by different scholars have revealed that changes in the environment give rise to opportunities that entrepreneurs can identify (e.g. Drucker, 1985; Kirzner, 1973; Shane, 2003) and lead to differences in entrepreneurial outcomes (Reynolds ,1997). In the transition from a planned economic system to a market economic system, China is characterised by an ever-changing and uncertain environmental system (Zhang et al., 2016). Although environmental dynamism generates the possibility for Chinese entrepreneurs to create images of the opportunities in the business market, Tang and Tang (2012) contended that the dynamic and volatile business environment can induce high levels of stress for entrepreneurs and prevent entrepreneurial firms from proceeding aggressively and proactively. In addition, the turbulent markets result in externally induced changes that can come from anywhere without notice and are difficult to plan for. Entrepreneurial firms in highly dynamic environments are encountered with the challenge of adjusting, resulting in the reconfiguration of their operating routines in order to respond adequately to the rapid changing conditions (Drnevich & Kriauciunas, 2011). Environmental dynamism can thus impair cognitive

processing and lead to a higher probability of business failure for Chinese entrepreneurs who are not able to circumvent the effects of stress (Ensley et al., 2006) and who are not able to respond to the changes in volatile agilely (Romme et al.,2010).On the other hand, Meso et al. (2006) pointed to the level of environmental stability in a country that has the potential to affect the level of engagement by domestic citizens in entrepreneurial activity. In particular, in situations of high environmental dynamism, individuals will be more likely to retire productive resources or convert them into assets that can protect them against possible business failure. We therefore posit:

Hypothesis 3a Environmental dynamism is negatively associated with exit motives.

In addition, this paper contents that the association between entrepreneurs' self-efficacy and the choice of entrepreneurial exit can be modified by the environmental dynamism. This is consistent with the reciprocal causation model by Bandura's (1989) Social Cognitive Theory (SCT) in which cognitive process, behaviour, and environment interact with one another. Indeed, it places remarkable contrast to theories of human functioning by emphasizing the critical role of environmental factors in the development of individual's behavior. Entrepreneurs need a cognitive assessment of their capabilities to mobilise the continuous interactions with the environment. According to Bandura (1977), in a volatile environment in which the competition is strong, the beneficial margins are unstable, and the industrial future

is unpredictable, people tend to believe that such a situation exceeds their coping skills and thus results in weaker perceived self-efficacy. It may be more difficult to match individuals' self-efficacy and voluntary exit decisions, because as noted by Chen et al. (1998), business owners will more negatively examine their entrepreneurial capabilities regarding the perceived resources and obstacles in the dynamic environments. Vancouver et al (2001; 2002) pointed to the negative effect of self-efficacy on business performance and suggested that an uncertain environment is an essential element underlying the rationale for the negative effect of self-efficacy on entrepreneurial performance. It is reasoned that the effect of entrepreneur's self-efficacy on choosing voluntary exit tends to shrink in a dynamic business environment. Accordingly, it is argued that the link between entrepreneurs' self-efficacy and voluntary exit will be weaker in dynamic than in stable environments.

Hypothesis 3b Environmental dynamism negatively moderates the relationship between entrepreneurs' self-efficacy and exit motives.

The causal structure identified by Bandura's (1989) Social Cognitive Theory (SCT) places an emphasis on the point that individuals are both producers and products of their social environment (Bandura, 1989; 2001). From a social psychological view, risk tolerance is defined as a socio-cultural trait that is affected by the perceptions and attention in the business environment (Gómez-Araujo et al., 2015; Vaillant &

Lafuente, 2007).Given that risk is a contextual phenomenon (Fama & French, 1993; Wiseman & Catanach, 1997; Wiseman & Gomez-Meija, 1998), in stable environments, entrepreneurs tend to be more “risk-taking” (Zahra and Garvis, 2000).On the other hand, the influence of risk tolerance can be derived, modified, and improved by variations in the unstable environment where strategic decision making becomes harder under volatile circumstances ,when changes are taking place rapidly and unpredictably (Chen et al.,1998; Dess & Beard, 1984). By linking environmental stability and the risks associated with business investments, Sadowsky (1996) established that the greater the degree of turbulence, the more risky it is to invest in the region. Caliendo et al. (2010) argued that if the riskiness of investments increases, this will lead to a larger variation between the lowest and highest possible return, indicating an enhanced probability of negative returns as the risk level of an investment improves. Thus, this paper argues that entrepreneurs in dynamic environments must be able to circumvent the effects of instability, which can further amplify the negative impact of risk tolerance on making voluntary business exit decisions.

Hypothesis 3c Environmental dynamism negatively moderates the relationship between entrepreneurs’ risk tolerance and exit motives.

Institutional ambiguity

Although much attention has been paid to micro-level explanations for exit routes, there is increasing recognition that entrepreneurial exit patterns needs to be interpreted in the context in which they occur. The performance and outcomes of business ventures are not only determined by environmental aspects, but also by other indigenous characteristics such as institutional determinants (Li, 1998). This is particularly necessary in institutional environments characterized by a high degree of ambiguity. Early views in institutional theory conceptualised institutions as static artifacts of the environment that tend to coevolve with organizations in a predictable way in the long run. In the short run, nevertheless, the institutionalization process is always unpredictable and is associated with ambiguity (Meyer & Rowan, 1977). Institutional ambiguity is defined as a policymaking environment of overlapping institutions that lacks a clear hierarchy and stability (Ackrill & Kay,2011). It refers to a situation where there is no single "constitution" that predetermines how a legitimate decision is to be made (Hajer, 2006).It arises when changing institutional arrangements alter the 'rules of the game'. Zhang et al. (2016) argued that the rapid economic development in China has led to ever-changing and uncertain institutional environment in which old ones are either the targets of ongoing reform or quickly outdated, while new institutions are constantly emerging and might not be very well-crafted or enforced. Thus, as a transition economy, China has an institutional environment that is characterized by a lack of policy stability and transparency (Peng & Luo, 2000). Institutional theorists

have contended that a principal function of institutions is to diminish cognitive uncertainty by forming socially rationalized rules for business action (Scott, 2002). An early study by Baum, and Oliver (1991) suggested that tight coupling between business ventures and predictable institutions is expected to decrease the probability of organizational failure. Specifically, they argued that when an entrepreneurial firm operates in a well-established institutions and signals its adherence to appropriate behavior transparently prescribed by institutions, it can obtains a variety of rewards that can contribute to its likelihood of business survival, including less vulnerability to questioning, greater stability and predictability , and greater ease of access to resources. On the other hand, numerous theoretical studies suggest that political instability may adversely affect entrepreneurship. For instance, Cukierman et al. (1992) stated that governments with ambiguous institutions are more likely to adopt suboptimal and inefficient policies, which in turn, adversely affect entrepreneurial activity. An ambiguous institutional environment can hinder the development of productive entrepreneurship (Welter & Smallbone, 2011). A longitudinal study from Haveman and Rao (1997) revealed that firms tend to be deterred from evolving in unpredictable institutions as business owners strive to ensure their survival and concurrently balance success with the avoidance of failure and uncertainty. We therefore argue that the institutional ambiguities, which have been identified as a critical motive for entrepreneurs' entry into business, also weigh in the subsequent involuntary decision to exit business.

Hypothesis 4a Institutional ambiguities are negatively associated with exit motives.

Social cognitive theory points out that the course of action is taken if individuals believe that they have confidence in their ability to achieve their objectives, perceive few external barriers in reaching their goals, and have control over the outcome with uncertainty (Bandura, 1986).Ambiguous institutions form business conditions in which the nature and quality of information is uncertain and thus entrepreneurs cannot make use of the information for effective decision-making (Atherton & Newman ,2016). Therefore, the ambiguous institutional environment affects Chinese entrepreneurship in both positive and negative ways: it generates considerable entrepreneurial opportunities for exploration and exploitation, but it inflicts penalties on people who have stepped outside of the blurred line. Zahra (1996) confirmed that an institutional environment that is perceived favourable will tend to encourage entrepreneurs' proactiveness and self-confidence. On the other hand, given that entrepreneurial self-efficacy allows entrepreneurs to realise their ability to make use of the resources offered by the institutions, an ambiguous institutional environment prevents entrepreneurs from changing their mental schema willingly to better reflect the information and resources they have noticed in the market, thus leading to a reduced impact on making a voluntary exit decision. These arguments lead us to propose:

Hypothesis 4b Institutional ambiguities negatively moderate the relationship between entrepreneur's self-efficacy and exit motives.

In line with the GEM programme, fear of failure is the primary reason given worldwide for why entrepreneurs are deterred from business activities and for triggering business exit (Bosma et al., 2007). Risk tolerance reflects entrepreneurs' disposition to devote sizeable resources to projects that contain a considerable probability of failure, along with the chance of a high return (Swierczek & Ha, 2003; Feifei, 2012; Islam & Tedford, 2012; Kraus et al., 2012). Birney et al. (1969) argued that, with the threat of institutional uncertainty, fear of failure is more instrumental in entrepreneurial decisions and behaviour. Bandura (1989) pointed out that institutional ambiguities make the transactional behaviour challenging, Similar arguments can be found in a recent study on risk attitude in psychology which argued that external cues to a risk-taking attitude are contingent on the degree to which they are recognized to increase the probability of business failure (Cacciotti et al.,2016).Ambiguous institutions may increase the risks for the entrepreneur in exploiting opportunities, including the corrupt behavior by government officials or the wrongful expropriation of assets by third parties (Baumol, 1990; Bowen & De Clercq, 2008).Therefore, it is postulated that an individual with a certain degree of risk-tolerance in an uncertain institutional environment will even more easily exit due to failure.

Hypothesis 4c Institutional ambiguities negatively moderate the relationship between entrepreneur's risk tolerance and exit motives.

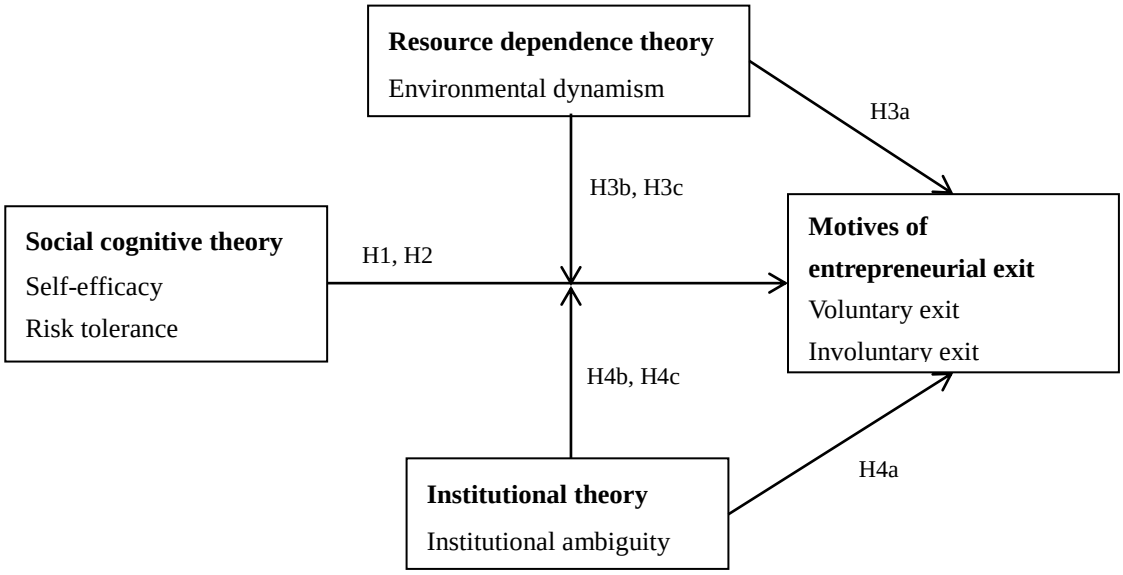


Figure 3. The conceptual framework for studying the motives of entrepreneurial exit

4.4. Method

4.4.1. Sample and Design

The theoretical model was tested using a multilevel design in which individuals (Level 1) are nested within provinces (Level 2). The individual level variables were collected by pooling six years of the adult population survey data from the Global Entrepreneurship Monitor (GEM) China for 2009-2014 to form a database of 21,940 observations from 28 provinces. At that time, the respondents were entrepreneurs or former entrepreneurs that had closed or exited a business during the year preceding the survey. 910 respondents were identified as former entrepreneurs with previous business exit experience. The data were summarized in Table 16. A

detailed description of the variables and data sources was displayed in Appendix I.

Table 16. Provinces in the sample, adult-population prevalence of former entrepreneurs with exit experience

Province	Obs	%former entrepreneurs with exit experience	Province	Obs	%former entrepreneurs with exit experience
BEIJING	1,677	2.09%	NEIMENGGU	212	4.72%
HEBEI	880	4.32%	GUANGXI	835	8.14%
SHANGHAI	1884	1.17%	CHONGQING	494	4.66%
JIANGSU	291	4.12%	SICHUAN	1,901	4.42%
ZHEJIANG	978	7.87%	GUIZHOU	583	6.00%
FUJIAN	190	1.58%	YUNNAN	247	9.31%
SHANDONG	1019	3.83%	SHANXI	734	6.95%
GUANGDONG	1,526	1.70%	GANSU	286	10.14%
SHANXI	725	4.69%	QINGHAI	177	4.52%
ANHUI	971	5.87%	NINGXIA	113	7.08%
JIANGXI	1,039	7.60%	XINJIANG	149	10.74%
HENAN	1030	6.50%	LIAONING	583	1.89%
HUBEI	1,094	1.37%	JILIN	428	0.93%
HUNAN	1176	2.13%	HEILONGJIANG	718	1.53%
			Total	**21,940**	**4.15%**

Dependent variable

Exit type-To obtain different entrepreneurial exit patterns, this paper applied a set of items that elicit exit motives, enabling the separation of performance–laden reasons, that is involuntary exit, due to reasons of personal issues or associated with other professional, career and financial considerations (voluntary exit). In particular, the respondents were asked based on the question regarding the most important reason for exiting business. Six options were given that were consistent with prior study on entrepreneurial exit (Winter et al., 2004): 1) the business was not profitable, 2) problems getting finance, 3) early retirement or illness, 4) personal reasons, 5) an opportunity to sell the business, or 6) found another job opportunity

In order to test the hypotheses, a binary dependent variable was created. 0 was coded to represent involuntary exit, indicating if the entrepreneurs declared they were forced to leave their firms due to performance reasons by selecting the options of 1 or 2. This variable was coded as 1 to indicate voluntary exit, when the entrepreneurs chose options of 3, 4, 5, or 6.

Independent variables

Self-efficacy- In line with Bandura's concept (1982), self-efficacy is concerned with the judgements of how well an individual can execute the courses of actions needed to deal with prospective situation. While self-efficacy is defined as a multi-dimensional construct, many empirical studies have utilized unidimensional or limited-dimensional measures (Arenius & Minniti, 2005; Baum & Locke, 2004; Kristiansen & Indarti, 2004). Scholars claimed to have measured self-efficacy by questioning subjects regarding the self-assessment of their entrepreneurial ability in starting a new business. Following this approach, in this study, self-efficacy was measured dichotomously. A binary variable was created based on the question regarding whether the respondents have the skills knowledge, and experience to start a new business?

Risk attitude- In prior studies, risk attitude was measured by capturing the idea that if the possible loss was weighed more heavily than the potential gains from

entrepreneurship (Caliendo et al.,2009, 2010; Cramer et al.,2002; Shepherd et al., 2015;Stewart & Roth, 2001;). Following this logic, we adopted the proxy well-justified by Sepúlveda and Bonilla (2014) for the attitude towards risk of the individual. People who answer yes to the question regarding whether fear of failure can prevent them doing business are less willing to bear the risk in entrepreneurial activities than people who answer no. The relevance of this dimension for entrepreneurs' risk attitude has been confirmed experimentally (e.g. Arenius & Minniti, 2005;Koudstaal et al.,2015).

Environmental dynamism-Following previous studies (e.g. Bamford et al., 2000; Dean, 1995; Dess & Beard, 1984), dynamism was measured as the standard error of the estimate for the regression of the Per Capita Gross Regional Product(GRP) Per Capita from 2009 to 2014, divided by the average (for all years) GRP for the same period

Institutional ambiguity- In line with Erbas (2004), institutional ambiguity/transparency can be reflected by the efficacy and reality of adjudication and enforcement. Hence, institutional ambiguity is measured by reversing the 'Judicial Transparency Index' from the Annual Report of Judicial Transparency in China compiled by the Institute of Law (IOL) of the Chinese Academy of Social Sciences (CASS). The index consists of six components, namely litigation transparency, adjudgement transparency, judicial document transparency, judicial data

transparency, law enforcement transparency, and judicial reform information transparency (IOL, 2015).

In order to enhance the robustness of our findings, this study controlled for a variety of other factors at both the individual level and provincial levels. Empirical studies have implied that the relationship between age and entrepreneurial activity follows an inverted U-shaped pattern (Levesque & Minniti, 2006). It hence included age and age-squared variables in this study in order to verify the non-linear relationship. Previous research suggests that female entrepreneurs are more likely to exit voluntarily than males (Justo et al., 2015). Considering the fact that females are more likely to exit businesses due to a voluntary decision rather than due to "failing" or being forced out, it controlled for gender. Boyle & Desai (1991) stated that resource availability is a factor determining the likelihood of business failure, the entrepreneur's socioeconomic status (SES) was taken into account in this study based on a measure of household income calculated by the GEM programme. In addition, this paper controlled for the educational level of entrepreneurs, given the impact of this on voluntary exit patterns (Bates, 2005; Taylor, 1999). Based on UK Community Innovation Survey data , Roger and Xia (2014) identified that firms that receive entrepreneurial support are 2.7 per cent more likely to survive for eight years than firms without public support. It hence used five indicators to measure the region's enterprise support services: a) the number of national level S&T incubators per capita, b) the number of national level demonstration venture parks per capita, c)

the number of national level demonstration SME services per capita, d) the number of makerspaces per capita, and e) the number of VC investment intermediaries per capita. An index of enterprise support services was further generated using a well-known dimensionality reduction technique principle component analysis. Recent studies have revealed that industry influences entrepreneurs' exit patterns (DeTienne and Cardon, 2012; Wennberg et al., 2010). In order to control for industry effects on exit patterns, this study thereby constructed four industry dummies on the basis of a 1-digit industry classification for extractive industry, transforming industry, business services and consumer-oriented industry. In the analyses, extractive industry will be taken as the reference category.

As the dependent variable has a binary nature, the effects of covariates on exit decisions was analysed using the binomial logit model. Since this paper combined individual-level observations with provincial-level measures, the data were analysed by hierarchical modeling methods. In the multilevel methods, fixed effects deal with individual factors that exert impacts on the dependent variable. In order to estimate the influence of provincial-level characteristics (level 2) on the individual's likelihood of voluntary exit, this study applies random effects that include unobserved province-specific coefficients. This allows the coefficients of region-level predictors to vary randomly across provinces and it also gives rise to more accurate examinations of cross-level moderation effects (Martin al., 2007).

4.5 Results

Table 17 displayed the correlation matrix. We further performed a diagnostic test of multicollinearity using a variance-inflation-factor (VIF) method with a maximum VIF score of 1.555 (in Appendix J). Since the result was much smaller than the threshold, this indicated that the issue of multicollinearity appears to be minimal (Hair et al. 1998).

The hypotheses were tested using hierarchical regression analysis. Following Hofmann (2000), we conducted an ANOVA with individual-level exit type as the dependent variable and provincial group as the predictor. The test implied significant between-group variance within the data, with $\chi^2(27)=198.14(p < 0.05)$. The empirical results are presented in Table 18 and Table 19. The discrepancies between model 1 and the rest of the model are caused by the missing values in the measures of social cognitive factors.

Table 17.Correlation matrix

	Mean	**S.D.**	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**	**(9)**	**(10)**	**(11)**
Entrepreneurial exit (1)	0.47	0.49	1.000										
Age (2)	38.31	12.01	-0.087*	1.000									
Age-Square(3)	1611.81	953.14	-0.070*	0.986**	1.00								
Gender (4)	1.48	0.50	0.025	-0.062	-0.080*	1.00							
Income (5)	2.09	0.82	-0.010	0.06	0.060	-0.070*	1.00						
Education (6)	3.91	1.10	0.082*	-0.247**	-0.251**	-0.033	0.310**	1.00					
Support Service (7)	0.03	0.17	0.036	-0.053	-0.051	0.04	-0.197**	-0.096**	1.00				
Self-efficacy (8)	0.42	0.49	0.087*	-0.125**	-0.119**	0.001	0.093**	0.100**	-0.029	1.00			
Risk Attitude (9)	0.66	0.30	0.078*	0.092**	0.096**	0.026	0.028	-0.056	0.059	-0.041	1.00		
Environmental Dynamism (10)	0.69	0.29	-0.039*	-0.026	-0.032	0.013	-0.159**	-0.085*	0.572**	0.008	0.034	1.00	
Institutional Ambiguity (11)	5.07	1.27	0.00	0.070	0.065	0.024	0.082*	0.012	-0.264**	-0.111**	-0.034	-0.310**	1.00

Note: ** p<0.01;* p<0.05;

Table 18 . Multilevel logistic regression analysis results

		Model 1		Model 2	
		Odds ratio	**S.E.**	**Odds ratio**	**S.E.**
Control variables					
Age		**0.878*** **	**(0.031)**	**0.889*** **	**(0.031)**
Age squared		**1.001*** **	**(0.000)**	**1.001*** **	**(0.000)**
Gender		1.247	(0.139)	1.120	(0.149)
Household income		0.944	(0.093)	0.933	(0.099)
Education attainment		**1.150***	**(0.069)**	**1.149+**	**(0.074)**
Support services		**1.070+**	**(0.073)**	**1.059+**	**(0.031)**
Industrial controls	Extractive industry				
	Transforming	0.589	(0.734)	0.915	(0.775)
	Business service	1.063	(0.626)	1.312	(0.669)
	Customer-oriented	1.049	(0.636)	1.215	(0.680)
Cognitive dimension					
Self-efficacy				**1.385***	**(0.150)**
Risk tolerance				**0.886***	**(0.053)**
Random effects and model fits					
Residual country-level variance		0.494		0.372	
Number of observations		897		792	
Number of groups		28		28	
Log-likelihood		-606.0		-531.3	
AIC		1234.0		1088.6	

Note: *** p<0.001 ; ** p<0.01;* p<0.05; + p<0.1

Table 19 . Multilevel logistic regression analysis results

		Model 3		Model 4	
		Odds ratio	**S.E.**	**Odds ratio**	**S.E.**
Control variables					
Age		**0.891*** **	**(0.029)**	**0.887*** **	**(0.028)**
Age squared		**1.001*** **	**(0.001)**	**1.001*** **	**(0.000)**
Gender		1.108	(0.149)	1.122	(0.150)
Household income		0.918	(0.098)	0.884	(0.099)
Education attainment		**1.151+**	**(0.074)**	**1.164***	**(0.074)**
Support services		**1.157+**	**(0.083)**	**1.165+**	**(0.082)**
Industrial controls	Extractive industry				
	Transforming	0.936	(0.772)	0.972	(0.775)
	Business service	1.328	(0.667)	1.364	(0.670)
	Customer-oriented	1.247	(0.678)	1.317	(0.681)
Cognitive dimension					
Self-efficacy		**1.404***	**(0.151)**	1.888	(0.519)
Risk tolerance		**0.884***	**(0.053)**	**0.711***	**(0.165)**
Environmental factors					
Environmental dynamism		**0.567+**	**(0.329)**	0.552	(0.427)
Institutional ambiguity		0.981	(0.050)	0.948	(0.072)
Cross-level interaction					
Environmental dynamism*Self-efficacy				0.655	(0.532)
Environmental dynamism*Risk tolerance				1.497	(0.260)
Institutional ambiguity*Self-efficacy				0.999	(0.094)
Institutional ambiguity*Risk tolerance				**0.856** **	**(0.055)**
Random effects and model fits					
Residual country-level variance		0.184		0.073	
Number of observations		792		792	
Number of groups		28		28	
Log-likelihood		-529.6		-523.6	
AIC		1089.2		1085.3	

Note: *** p<0.001 ; ** p<0.01;* p<0.05; + p<0.1

Table 20. Multilevel logistic regression analysis results summary		
Variables	**Odds Ratio**	**Hypothesis Test**
Controls		
Age	**0.878*** **	
Age squared	**1.001*** **	
Gender	1.247	
Household income	0.944	
Education attainment	**1.150***	
Support services	**1.070+**	
Main Effects		
Self-efficacy	**1.385***	**H1 was supported**
Risk tolerance	**0.886***	**H2 was supported**
Environmental dynamism	**0.567+**	**H3a was supported**
Institutional ambiguity	0.981	**H4a was not supported**
Interaction Effects		
Environmental dynamism*Self-efficacy	0.655	**H3b was not supported**
Environmental dynamism*Risk tolerance	1.497	**H3c was not supported**
Institutional ambiguity*Self-efficacy	0.999	**H4b was not supported**
Institutional ambiguity*Risk tolerance	**0.856****	**H4c was supported**

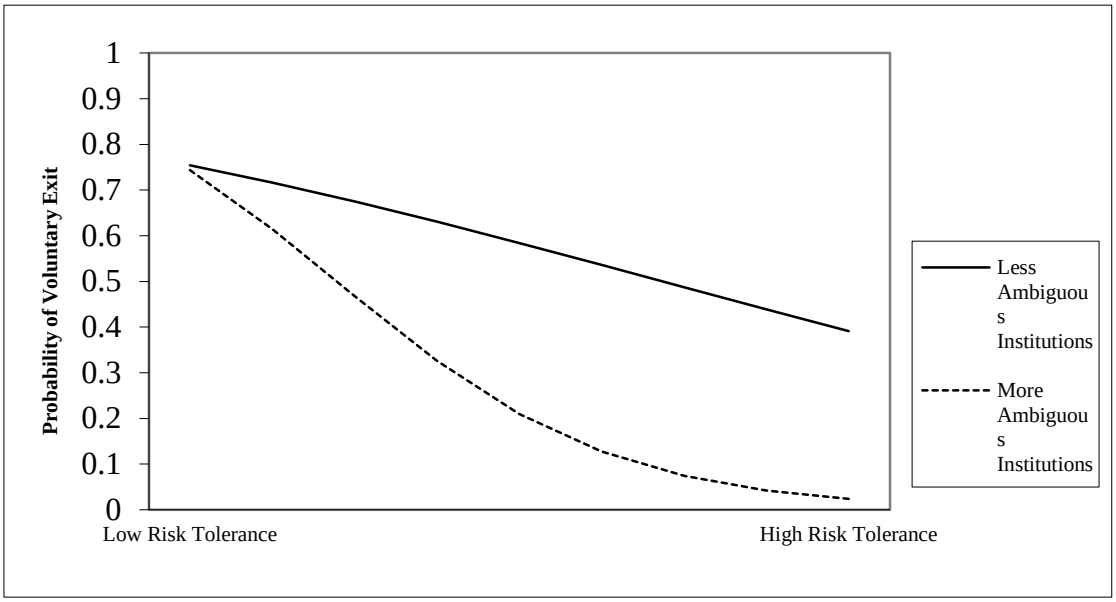
Model 1 in Table 18 was an intercept-varying and a base model where the control variables of age, gender, income, education, and enterprise service were first entered. The intraclass correlation suggested that 13.1% of the total variance within the data resided between provincial groups, which suggested that the provincial-level variance is both highly significant and nontrivial. In the next step (Model 2), a random coefficient model (intercept as outcomes model) was tested. The analysis demonstrated significant variance in the intercepts across provincial groups. The results confirmed that entrepreneurs who are more risk-tolerant are more likely to exit their business due to poor performance (p<0.05). Additionally, self-efficacy was found to have a significant positive relation with the probability of exiting business voluntarily. In particular, individuals with a high degree of self-efficacy for a certain task increase 38.5% of being voluntary exit in odds ratio.

Thus, Hypotheses 1 and 2 that the entrepreneur's self-efficacy and risk tolerance are significantly associated with a voluntary exit path are supported. While our results indicate that entrepreneurs with high self-efficacy, on average, are more likely to exit voluntarily and individuals with higher degree of risk tolerance are more likely to close their business due to poor performance, the social cognitive theory predicts that the extent to which the cognitive aspects can lead to entrepreneurial behaviour is contingent upon different contexts. Thus, in model 3 and 4, a set of provincial-level predictors and interaction terms were incorporated to test the direct and indirect (moderating) effects of environmental dynamism and institutional ambiguity on entrepreneurial exit outcomes respectively. The residual at the provincial-level followed an apparent decreasing trend from Model 1 to Model 4, suggesting that the inclusion of upper-level variables and the cross-level interaction terms explains the additional province-level variance in exit path.

While the results could not support the hypothesised interaction of environmental dynamism, we observed evidence to support hypothesis 3a that environmental dynamism is significantly related to exit patterns. In a volatile environment with opportunities fleeting quickly and threats from rivals always staying around, such environmental turbulence weakens firms' competitive advantage and leads to a higher probability of business failure. In addition, the results confirmed the significant and negative moderating effect of institutional ambiguities on the relationship between risk-attitude and exit patterns, supporting hypothesis 4c. This

suggested that the negative effects of risk-tolerance on types of entrepreneurial exit can be largely amplified when the institutional system is more ambiguous in China. To gain further insights into the significant interaction effects, the moderating effects were plotted based on the results. Fig. 3 illustrated the two-way interactions between institutional ambiguity and risk-attitude in explaining entrepreneurial exit outcomes. The figure confirmed our expectation. That is, the probability of making voluntary exit decision will be lower for risk-tolerant entrepreneurs in ambiguous institutions than in transparent ones.

Figure 4. Interaction of institutional ambiguities and risk-attitude



This study conducted a further analysis as a robustness check. In particular, the legal environment index was obtained from the NERI business environment. The score was revised and higher scores suggest lower degree of institutional development. The NERI indices are viewed as the official and comprehensive measures of the multifaceted institutional development in China and have been commonly applied in

recent studies (e.g., Du et al.,2008; Fan et al.,2011;Gao et al., 2010; Lu et al.,2009;Wang, Wong, & Xia, 2008). We then ran a cross-level interaction analysis and the results were nearly the same as in Model 4 (0.828 in odds ratio, $p<0.1$).

4.6 Discussion and Conclusions

This paper presents a more fine-grained conceptualization of entrepreneurial exit and confirms the motivational factors that influence entrepreneurs to leave their ventures. By specifying a multilevel theoretical model, this paper shows how entrepreneurs' cognitive aspects shape the entrepreneurial exit patterns. The findings of the empirical research confirm the positive relation between self-efficacy and the probability of choosing voluntary exit. They also support our prediction that entrepreneurs who are more risk-tolerant regarding the outcomes of their actions are less likely to exit voluntarily. In addition, the results in the entrepreneurial domain reinforce the notion from prior research that entrepreneurial exit is not only a multi-faceted but also a multi-level phenomenon. Environmental dynamism that reflects the stability of the Chinese market, appears to be influential in leading to the differences in entrepreneurial outcomes. An important part of this paper focuses on investigating the extent to which the institutional system moderates the relation between cognitive aspects and exit decisions. The results reveal the negative moderating effects of institutional ambiguity on the relationship between risk-attitude and voluntary exit, confirming our thinking that an entrepreneur with a certain degree of risk-tolerance in an uncertain institutional environment will even

more easily exit due to failure. Furthermore, consistent with the existing entrepreneurship literature, the results imply that entrepreneurs' sociodemographic characteristics are important in understanding exit outcomes (DeTienne & Cardon, 2012;Justo et al., 2015; Wennberg et al., 2010). Specifically, we find that education is consistently a significant factor in explaining the likelihood of exiting voluntarily. This can be explained by stating that individuals with a higher education level demonstrate greater avoidance of business failure (Bates, 2005). The negative coefficient of age indicates that the likelihood of voluntary exit decreases; however, it suggests that the relationship reaches the bottom in the middle and increases thereafter due to the positive and statistically significant sign of age-squared. Given that age has been identified as a proxy for entrepreneurial experience (Davidsson & Honig, 2003), the U-shape relationship indicates that middle-age entrepreneurs have a higher propensity to be risk takers and are more likely to suffer from business failure than early-stage or more experienced entrepreneurs. Given the positive effect of national support services on voluntary exit, the results reinforce the arguments from Roger and Xia (2014) that support services are found to be determining factors in explaining a personal choice to leave the business.

Studies on the determinants of entrepreneurial exit have received growing interest in recent years (Ucbasaran et al., 2013), while entrepreneurial exit is an under-studied area in China. This study takes an important step towards an increased understanding of entrepreneurial exit routes by adopting a more holistic

view of exit motives in the Chinese context. This study makes a number of contributions to the existing entrepreneurship literature. First of all, it is a pioneering study on entrepreneurial exit decisions to use a representative sample of Chinese entrepreneurs. Using GEM Adult Population Surveys in China, it enables to directly measure the entrepreneurial exit path by separating performance–laden reasons (involuntary exit) and voluntary exit, which responds to the recent call for the further specification of entrepreneurial exit. Second, recalling the work concerning the need for entrepreneurs to match their internal attributes with external environments (Carree et al.,2011;Stam et al.,2010;Wennberg et al., 2010), this study highlights the need to account for the business environment when making entrepreneurial decisions. Given that as a transitional economy, China is characterised by an ever-changing and uncertain business system, we introduce two macro-level variables, namely, environmental dynamism and institutional ambiguity, and the results reveal that support exists for our argument that entrepreneurial exit is a multi-level as well as context-dependent phenomenon. Third, due to the idiosyncratic nature of China's economic development, the research findings have important implications for policy-makers. The negative moderating effect of institutional ambiguity on the relationship between cognitive factors and entrepreneurial exit decisions demonstrates the need for Chinese policy-makers to promote the transparency of institutional systems. Given that transparent rules make the transactional environment less challenging (Atherton & Newman, 2016) and strengthen entrepreneur's beliefs in their ability to perform a certain task, the

results imply that they should be aware of the central role of institutions in modifying the exit choices of entrepreneurs.

The research findings should be considered with the study's limitations. First, this study has cross-sectional in nature. A longitudinal study is actually needed in order to fully capture the dynamic direct and indirect effect of motivational factors on the decisions in exit process. Second, whereas most theorists argue that self-efficacy and risk attitude are best conceptualized and measured as a multi-dimensional construct (McGee, 2009), construct, this study uses unidimensional measures from the GEM dataset. Future research on alternative multi-dimensional measures of cognitive aspects is wanted. Third, Caliendo (2008) assessed the extent to which risk tolerance affects business survival and the failure rates of entrepreneurs based on the German Socio-Economic Panel. The analytical results reveal an inverse U-shaped relationship between risk tolerance and entrepreneurial survival, suggesting that entrepreneurs with particularly low or high risk tolerance are more likely to exit businesses than individuals who have middle range risk tolerance. Therefore, a non-linear relationship between risk tolerance and exit patterns might also be expected. However, the non-linear relationship could not be examined in this study due to the binary nature of risk tolerance measured in the GEM dataset. Fourth, this study investigates the motivating and inhibiting factors behind voluntary exit decisions at the individual and regional levels but does not take into account organizational level variables. This is largely due to the lack of organizational-level

information in the GEM dataset (Amorós & Bosma, 2014). Future research might advance the conceptual model that is proposed in this study by incorporating organizational level information to enrich our understanding of exit patterns.

Chapter 5. Conclusions

Each of the presented studies brings new empirical evidence and insights into different fields of entrepreneurship, the conclusion section is organized in order to integrate and summarise the key findings from each study. Furthermore, this chapter focuses the research findings, implications, and potential extensions in future research.

5.1. Key Findings

Based on integrated models that explain entrepreneurial phenomena in different stages of the entrepreneurial process, the research findings advance the existing literature in the field of entrepreneurship. First, the research findings contribute to the existing literature by revealing the critical role of institutions in entrepreneurial start-ups, growth aspirations and entrepreneurial exit. By assessing the influence of Scott's three institutional pillars on the probability of becoming an entrepreneur, the results suggest that the heterogeneity in institutions affects the levels of entrepreneurship across countries (Stenholm et al.,2013; Urbano & Alvarez, 2014). The results also advance and add a sense of complexity to the entrepreneurship literature by identifying the roles institutional foundations and institutional ambiguity as significant moderators in the phases of entrepreneurial growth and exit. In particular, by contextualising our model of growth aspirations from a transition economic perspective, it finds that the extent in which institutional foundations (presented in entrepreneurial ecosystems) has a significant moderating effect on the

relationship between behavioural attitude and growth aspirations. The results also reveal the negative moderating effects of institutional ambiguity on the relationship between risk-tolerance and voluntary exit, confirming our assumption that an entrepreneur with certain degrees of risk-tolerance in an uncertain institutional environment would even more easily exit due to business failure.

Second, this research bridges an important gap in the existing literature by offering a multi-dimensional perspective of national-level or regional-level factors such as the quality of government, entrepreneurial ecosystems, and environmental dynamism that exert direct and indirect effects across the whole entrepreneurial process. For instance, the results reveal the importance of governments in formulating policies and carrying them out in the process of reaping the benefits of institutions for the development of entrepreneurship. Based on the data from the GEM surveys and the World Bank's Worldwide Governance Indicators, this research has uncovered the contingent role of the quality of government on the relationship between institutions and entrepreneurship. By drawing upon Fukuyama's (2004) frame, the analytical results introduce the concept of the quality of government in terms of the state, rule of law, and accountability with diverse implications from political science perspective to existing literature in order to more comprehensively assess entrepreneurial start-ups. Thus, if appropriate aspects of the quality of government are constructed, they can strengthen and complement institutions in facilitating entrepreneurship. The results also uncover the contingent role of entrepreneurial

ecosystems on attitude and perceived behavioral control to existing research in the fields of entrepreneurial growth, suggesting that the stronger the entrepreneurial ecosystem, the stronger the effect of motivational factors on growth aspirations.

Third, the primary findings reinforce Schumpeter's notion (1934) that entrepreneurial process is performed by entrepreneurs who display "essential features". Using a multilevel design, the results support the predictions that people who possess a more positive attitude toward growth and perceive greater sense of control over the outcomes of their actions are more likely to possess growth aspirations. Likewise, by specifying a multilevel theoretical model, the third paper shows how entrepreneurs' cognitive aspects shape entrepreneurial exit patterns. The findings present strong support for a more fine-grained conceptualization of entrepreneurial exit routes in existing literature and also imply that entrepreneurs' cognitive aspects differentially affect such routes. In particular, the findings of the empirical research find the positive relation between self-efficacy and the probability of making voluntary exit decisions, suggesting that entrepreneurs with higher self-efficacy should have a superior ability in terms of successfully realizing an exit. They also support the prediction that entrepreneurs who are more risk-tolerant in regard to the outcomes of their actions are less likely to exit voluntarily. Additionally, the research findings are consistent with the existing literature, reconfirming that sociodemographic characteristics, such as age, gender, education, and support services are important for understanding entrepreneurial process (DeTienne &

Cardon, 2012;Justo et al., 2015; Wennberg et al., 2010).

5.2. Contributions

5.2.1. Theoretical Contributions

This thesis has several theoretical implications. Conventionally, the literature has studied how entrepreneurial activity is affected by a combination of institutional pillars across countries (Ahlstrom & Bruton, 2001; Bruton et al., 2010; Stenholm et al.,2013). Urbano and Alvarez (2014) have argued that such an approach is inadequate in explaining the variation in entrepreneurship across countries and that neglecting the quality of government, which could mobilise and enable institutions to drive entrepreneurial activities, might lead to inconsistent findings. This thesis adopts a more holistic approach to studying entrepreneurial start-ups by integrating institutional theory and the quality of government to consider the direct and indirect effects of motivational factors on entrepreneurship. The analytical results complement prior studies that underscore the relationship between national institutions and entrepreneurial start-ups by introducing the concept of the quality of government from political science perspective. The political science view identifies an important boundary condition to the current understanding of the effect of national institutions on entrepreneurship. This adds an extended sense of complexity to the existing institutional literature. By adopting a theoretical lens that incorporates the joint effects of the quality of government, national institutions and entrepreneurial development, the results suggest that if countries are to seek the

best from the institutional environment and growing international expansion, they need to develop fully-fledged governments in terms of state capacity, rule of law and accountability.

In order to answer the call for more research on entrepreneurial ecosystems (Acs et al., 2017) and the adoption of a multilevel research design (Autio & Acs 2010), this thesis contributes to the existing entrepreneurship literature by providing a more nuanced understanding of the effect of personal psychological motivation on growth aspirations. Moreover, based on a more integrated approach to studying growth aspirations in the entrepreneurship literature, it presents the underlying conditions of entrepreneurial ecosystems that constrain or expand the role of motivational factors in voluntary exit. The ecosystem approach offers a frame for a holistic view of growth aspiring entrepreneurship by building up from the "actor" level to the macro level in order to further understand the entrepreneurship context. In addition, the ecosystem approach provides valuable elements for a strengthened relationship between entrepreneurs' motivational factors and growth aspirations. By not merely fixating on individual entrepreneurs, the ecosystem approach suggests that policy shall not only be enhancing certain entrepreneurship indicator, it is more about generating a context or a system where growth aspiring entrepreneurship can flourish.

This thesis presents a pioneering study on entrepreneurial exit decisions using a

representative sample of Chinese entrepreneurs, which enables the direct measurement of the entrepreneurial exit path by separating performance–laden reasons (involuntary exit) from personal issues or issues related to other financial ,professional, and career considerations (voluntary exit), and responds to the recent call for the further specification of entrepreneurial exit. It places an emphasis on the need to take environmental factor into account. As a transitional economy, China is characterised by an ever-changing and uncertain business system. It therefore introduces two environmental level variables, namely, environmental dynamism and institutional ambiguity, and the results support Wennberg's (2010) argument that the entrepreneurial exit process is a multi-level and context-dependent phenomenon. The proposed theoretical frame implies that although entrepreneurs and researchers consider a high level of self-efficacy and risk-tolerance to be determining aspects in terms of voluntary exit in Chia, the direct and indirect impacts of environmental and institutional level factors cannot be overlooked. In other words, the effects of cognitive aspects of business owners in China are modified if the market remains dynamic and the institutional system is unclear.

5.2.2. Policy Implications

This thesis also has implications for policymakers. First, it has implications for policy-makers who are interested in enhancing entrepreneurial activity by highlighting the importance of administratively capable governments. Given that the

quality of government contributes to shaping the influence of institutions on entrepreneurial development, policymakers involved in entrepreneurial development need to take action in order to improve the quality of government in terms of the state, rule of law and accountability, therefore leveraging the effects of institutions on entrepreneurship. Policy-makers have largely concentrated on institutions to promote entrepreneurial opportunities, but institutions may not be sufficient to stimulate entrepreneurial development (Ahlstrom & Bruton, 2001; Bruton et al., 2010). Second, instead of agreeing that all entrepreneurship is contributing to economic growth and job generation, policy makers need to realize that only a few entrepreneurs with growth aspirations can create ventures that generate jobs, decrease unemployment, make markets competitive, encourage innovation, and facilitate economic development (Shane, 2009). The recognition of the importance of growth aspiring entrepreneurship has necessitated a transition in policy from improving the quantity of entrepreneurship to driving up the quality of entrepreneurship (Stam, 2015). Policy makers should be aware that growth aspiring entrepreneurs are motivated by perceptions of opportunities and perceived behavioural control. The entrepreneurial ecosystem approach feeds the shift from traditional economic view about business per se to new perspectives on individuals, networks, and institutions (Stam, 2015). The constructive synthesis of the identified elements of ecosystems offers insights into how the relationship between entrepreneurs' motivational aspects and entrepreneurial growth can be affected and provides a better regional framework for policy in China. Therefore, policies need to

be tailored in order to improve entrepreneur's skills and learning in order to enhance their perceptions of behavioural control and also to focus on improving access to resource as well as reducing institutional voids. Third，due to the idiosyncratic nature in China's economic development, understanding the routes of entrepreneurial exits has profound influence on regional economic development in China. The observed negative moderating effects of institutional ambiguity on the relationship between cognitive factors and voluntary exit decisions should increase policy-makers' awareness of the central role of institutions and calls upon Chinese policy-makers to promote the transparency of institutional systems.

5.3. Limitations

Since Global/China GEM databases are adopted across the three studies, it might be considered that these studies are driven by the availability of data. To eliminate any concern and misunderstanding, it is necessary to highlight that each study focuses on and points to a specific phase of the entire entrepreneurial process. The GEM database is an academically reliable and well-recognized database that has been dedicating to the field of entrepreneurship from its inception. Given that not each field possesses a comparable global survey, the availability of the GEM dataset should be regarded as a strength. Although each sub-chapter includes the respective limitations of each study, the major limitations are highlighted from the author's view in the following paragraphs.

Given that second and third studies are based on China GEM dataset, the generalisation of research findings can be constrained by obtaining from a a transition economy that is characterised by the underdevelopment of institutions (North, 1990) that leads to unique incentive systems that affect entrepreneurs' intentions and behaviours (Baumol, 1996). Nevertheless, most of the effects of micro environment (e.g. self-efficacy, attitude, etc.) can be applicable in other countries. Additionally, some imperfections could have been caused due to the disadvantages of the GEM dataset. First, since the decisive factors contributing to entrepreneurial start-ups, growth aspirations, and exit might be considered differently due to the complexities at different points in time, longitudinal studies are expected in order to account for the dynamic patterns. The limitation is that these three studies are cross-sectional in nature. This is largely because all of the studies focus on both micro-level (individual) and macro-level (environmental) factors. Although the GEM data are collected on an annual basis, the survey respondents are different from each year, which makes it unable to be applied on longitudinal case. Second, this thesis focuses on the interaction effects of the quality of government at the national level but does not take into account variations in institutions and the quality of government at the regional level. Prior studies have suggested that entrepreneurship is a local phenomenon (Stam, 2015) and that the quality of regional institutions and administrative governments matters (Mai & Gan, 2007).The conceptual model proposed in this research study at the regional level should be further investigated in future research studies. Likewise, much attention

has been paid to the motivating and inhibiting factors behind entrepreneurial exit decisions at the individual and national levels but not the organizational level variables. This is largely due to the lack of organizational-level information in the GEM dataset (Amorós & Bosma,2014). Third, the GEM data focus on early-stage entrepreneurship (Grilo & Thurik , 2008). Although massively different growth rates have been witnessed in newly founded businesses (Gilbert et al., 2006; Kirchhoff, 1994), the growth aspirations of entrepreneurs from other entrepreneurial engagement levels cannot be observed in this thesis. Fourth, whereas most theorists argue that self-efficacy and risk attitude are best conceptualized and measured as a multi-dimensional construct (McGee, 2009), the adoption of unidimensional measures from the GEM dataset cannot answer the call for alternative multi-dimensional measures of cognitive aspects.

5.4. Extensions of the Study

This thesis offers insights and intriguing avenues for future studies. Given that different countries have different institutional structures at different stages (Holmberg et al., 2009), the quality of government might be viewed differently because of the complexities of institutions at different times. It could be interesting to look at the dynamic patterns of the effects of the quality of government. It has already been suggested that entrepreneurial activity is a local phenomenon (Stam, 2015). It deserves further investigation to account for the proposed framework at the regional level and to see how the quality of regional governments matters.

Although support has been identified for the relationship between growth aspirations and growth behaviour (Bellu & Sherman, 1995; Kolvereid & Bullvåg, 1996; Miner et al., 1994; Wiklund & Shepherd, 2003), as already mentioned in the limitation part, one weakness of the GEM data is that it does not offer measures for growth behaviour. Therefore, research is needed that clearly delineates how entrepreneurs' growth aspirations result in actual growth.

According to Mellahi and Wilkinson (2004), at the organisational level, business closure is synonymous with "organizational mortality". Future research might advance the model proposed in the thesis by investigating how organizational level factors affect business exit in order to enrich the understanding of exit patterns.

References

Acemoglu, D., Johnson,S., & Robinson. J. A. (2001). The colonial origins of comparative development: An empirical investigation. *The American Economic Review* ,91 (5), 1369–1401.

Acemoglu, D., Johnson,S., & Robinson. J. A. (2002). Reversal of fortune: Geography and institutions in the making of the modern income distribution. *The Quarterly Journal of Econometrics ,* 117(4), 1231–1294.

Ackrill, R. & Kay, A. (2011). Multiple streams in EU policy-making: the case of the 2005 sugar reform, *Journal of European Public Policy* ,18(1), 72–89.

Acs, Z. J., Armington, C., & Robb, A. (1999). Measures of job flow dynamics in the U.S. economy. Upper Marlboro, Maryland, U.S. Bureau of the Census, Center for Economic Studies, *Discussion Paper*.

Acs,Z.J.,Desai,S.,& Klapper,L.F.(2008). What does "entrepreneurship" data really show? *Small Business Economics*, 24(3),323-334

Acs, Z. J., Autio, E., & Szerb, L. (2014). National systems of entrepreneurship: Measurement issues and policy implications. *Research Policy*, 43(3), 476-494.

Acs, Z. J., Stam, E., Audretsch, D. B., & O'Connor, A. (2017). The lineages of the entrepreneurial ecosystem approach. *Small Business Economics*, 49(1),1-10.

Adserà, A., Boix, C.,& Payne.,M. (2003). Are you being served? Political accountability and quality of government. *The Journal of Law, Economics & Organization* ,19(2),445–490.

Ahlstrom, D.,& Bruton,G.(2001). Learning from successful local private firms in China: establishing legitimacy. *The Academy of Management Executive* ,15 (4),72–83.

Aidis, R., & Estrin, S. (2013).Institutions, incentives and entrepreneurship. *The global entrepreneurship and development index 2013,* Edward Elgar, 18 – 26.

Aidis, R., Estrin,S.,& Mickiewicz,T. (2008). Institutions and entrepreneurship development in Russia: A comparative perspective. *Journal of Business Venturing*,23(6), 656-672.

Ajzen, I. (1988). Attitudes, personality, and behavior. Chicago: Dorsey Press.

Ajzen, I. (1991). The theory of planned behaviour. *Organizational Behaviour and Human Decision Processes*, 50(2), 179-211.

Ajzen, I. (2011). The theory of planned behaviour: Reactions and reflections. *Psychology and Health*, 26(9), 1113-1127.

Aldrich, H. E., & Martinez, M. A. (2001). Many are called but few are chosen: an evolutionary perspective for the study of entrepreneurship. *Entrepreneurship Theory and Practice, 25*(4), 41–56.

Amorós, J.E. & Bosma, N. (2014). *Global Entrepreneurship Monitor 2013 Global Report*. Babson Park, USA: Babson College; Santiago, CL: Universidad del Desarrollo; Razak, MY: Universiti Tun Abdul Razak and London, U.K: London Business School.

Anderson, A. R., Dodd, S. D., & Jack, S. L. (2012). Entrepreneurship as connecting: some implications for theorizing and practice. *Management Decision,* 50(5), 958–971.

Andrews, M. (2010). Good government means different things in different countries, governance. *An International Journal of Policy, Administration, and Institutions ,*23(1), 7-35.

Anderson,P. & Tushman, M. (2001). Organizational environments and industry exit: The effects of uncertainty, munificence and complexity. *Industrial and Corporate Change*, 10(3), 675–711.

Ardichvili, A., Cardozo, R.,& Ray, S. (2003). A theory of entrepreneurial opportunity identification and development. *Journal of Business Venturing* , 18 (1), 105–123.

Arenius, P., & Minniti, M. (2005). Perceptual variables and nascent entrepreneurship. *Small Business Economics*,24(3), 233–247.

Atherton, A., & Newman, A. (2016). The emergence of the private entrepreneur in reform era China: re-birth of an earlier tradition, or a more recent product of development and change? *Business History*, 58(3), 319-344.

Audretsch, D. (2012). Entrepreneurship research. *Management Decision*, 50(5), 755–764.

Audretsch, D. B., Heger, D., & Veith, T. (2015). Infrastructure and entrepreneurship. *Small Business Economics*, 44(2), 219-230.

Autio, E. (2005). Global entrepreneurship monitor. *2005 Report on High-Expectation Entrepreneurship*. London: London Business School.

Autio, E., (2007). *Global Entrepreneurship Monitor: 2007 Global report on*

high-growth entrepreneurship. London Business School, Babson College, London, U.K., and Babson Park, MA.

Autio, E.(2011). *High-aspiration entrepreneurship. In: Minniti, M. (Ed.)*, The dynamics of entrepreneurship. Oxford University Press, Oxford, 181–208.

Autio, E. & Acs, Z. (2010). Intellectual property protection and the formation of entrepreneurial growth aspirations. *Strategic Entrepreneurship Journal,* 4(3), 234–251.

Bae, T.J., Qian, S., Miao, C., & Fiet, J.O. (2014). The relationship between entrepreneurship education and entrepreneurial intentions: a meta-analytic review. *Entrepreneurship Theory and Practice*, 38, 217–254.

Baker, T., Gedajilovic, T., & Lubatkin, M. (2005). A framework for comparing entrepreneurship processes across nations. *Journal of International Business Studies* ,36 (5), 492–504.

Bates, T. (1990). Entrepreneur human capital inputs and small business longevity. *The Review of Economics and Statistics,* 72(4), 551-559.

Bates, T. (2005). Analysis of young, small firms that have closed: delineating successful from unsuccessful closures. *Journal of Business Venturing*, 20 (3),343-358.

Bamford, C.E., Dean, T.J., & McDougall, P.P. (2000). An examination of the impact of initial founding conditions and decisions upon the performance of new bank start-ups. *Journal of Business Venturing*, 15(3), 253–277.

Bandura, A. (1982). The assessment and predictive generality of self-percepts of efficacy, *Journal of Behavior Therapy and Experimental Psychiatry*, 13(3), 195-199.

Bandura,A.(1989).Human agency in social cognitive theory. *American Psychologist,* 44(9), 1175-1184.

Bandura, A. (1994).Self-efficacy. In V. Ramachaudran, *Encyclopedia of Human Behavior*. New York: Academic Press.

Bandura, A. (1997). *Self-efficacy: The exercise of control.* New York: Freeman.

Bandura, A. (2001). Social cognitive theory: An agentic perspective. *Annual Review of Psychology*, *52*(1), 1-26

Baron, R.A., & Ward, T.B. (2004). Expanding entrepreneurial cognition's toolbox: Potential contributions from the field of cognitive science. *Entrepreneurship Theory and Practice*, 28(6), 328-340.

Baum, J.A.C. & Oliver, C. (1991). Institutional linkages and organizational mortality. *Administrative Science Quarterly*, 36(2), 187–218.

Baum, J.R., Locke, E.A., & Smith, K.G. (2001). A multi-dimensional model of venture growth. *Academy of Management Journal*, 44(2), 292–303.

Baum, J.R.,& Locke, E.A. (2004). The relationship of entrepreneurial traits, skill, and motivation to subsequent venture growth, *Journal of Applied Psychology*, 89(4), 587-598.

Baumol, W. J. (1968). Entrepreneurship in economic theory, *American Economic Review* ,58 (2), 64–71.

Baumol, W.J. (1990). Entrepreneurship: productive, unproductive, and destructive. *Journal of Political Economy*, 98 (5), 893–921

Baumol, W.J.(1993). Formal entrepreneurship theory in economics: existence and bounds. *Journal of Business Venturing*, 8 (3), 197–210.

Baumol, W. J. (1996). Entrepreneurship: Productive, unproductive, and destructive. *Journal of Business Venturing*, 11(1), 3-22.

Becker, G. S. (1964). Human capital. New York: Columbia University Press.

Bellu, R. R.,& Sherman, H. (1995). Predicting business success from task motivation and attributional style: a longitudinal study. *Entrepreneurship and Regional Development*, 349–63.

Besley, T., & T. Persson (2011), *Pillars of prosperity: The political economics of development clusters*, Princeton, NJ: Princeton University Press.

Betz, N. E., & Hackett, G. (1981). The relationship of career-related self-efficacy expectations to perceived career options in college women and men. *Journal of Counseling Psychology*, *28*, 399–410.

Bhagat, R. S., McDevitt, A. S., & McDevitt, I. (2010). On improving the robustness of Asian management theories: Theoretical anchors in the era of globalization. *Asia Pacific Journal of Management*, 27(2), 9-22.

Bird, B. (1988). Implementing entrepreneurial ideas: the case for intention. *Academy*

of Management Review ,13 (3), 442–453.

Birney, R.C., Burdick, H., & Teevan, R.C. (1969). *Fear of Failure*. New York: Van Nostrand-Reinhold Company.

Boden, R.J., & Nucci, A.R. (2000). On the survival prospects of men's and women's new business ventures. *Journal of Business Venturing*. 15 (4), 347–362.

Boeker, W.,& Karichalil, R.(2002). Entrepreneurial transitions: factors influencing founder departure. *Academy of Management Journal*, 45 (4), 818–826.

Boettke, P.J., & Coyne, C.J.(2003). Entrepreneurship and development: cause or consequence? *Advances in Austrian Economics*, 6(1), 67–87.

Bosma, N., Coduras, A., Litovsky, Y., & Seaman, J. (2012). *GEM Manual. A report on the design, data and quality control of the Global Entrepreneurship Monitor*. Global Entrepreneurship Monitor, 1-95.

Bonet, R., Cruz, C., Fernandez, D., & Justo, R., (2013). Temporary contracts and work? Family balance in a dual labor market. *Industrial & Labor Relations Review*, 66 (1), 55–87

Box, M. (2008). The death of firms: Exploring the effects of environment and birth cohort on firm survival in sweden. *Small Business Economics*, 31(4), 379-93.

Boyd, B. (1990). Corporate linkages and organizational environment: A test of the resource dependence model. *Strategic Management Journal*, 11(6), 419-430.

Boyle, R.D.,& Desai, H.B. (1991). Turnaround strategies for small firms. *Journal of Small Business Management* . 29 (3), 33–42.

Brown, R., & Mason, C. (2017). Looking inside the spiky bits: a critical review and conceptualisation of entrepreneurial ecosystems. *Small Business Economics*, 49(1),1-20.

Bruderl, J., Preisendorfer, P., & Ziegler, R. (1992). Survival chances of newly founded business organizations. *American Sociological Review,* 57(2), 227-242.

Bruton, G. D., Ahlstrom, D., & Li, H.L. (2010). Institutional theory and entrepreneurship: Where are we now and where do we need to move in the future? *Entrepreneurship: Theory and Practice*, 34(3), 421–440.

Bruton, G.D., Ahlstrom, D., & Singh, K. (2002). The impact of the institutional environment on the venture capital industry in Singapore. *Venture Capital*, 4(1),

197–218.

Burnstein, E. (1963). Fear of failure, achievement motivation, and aspiring to prestigeful occupations. *Journal of Abnormal and Social Psychology*, 67, 189-193.

Busenitz, L. W.,&Lau, C. M. (1996). A cross-cultural cognitive model of new venture creation. *Entrepreneurship Theory and Practice*, 20(4), 25–39.

Busenitz, L. W, Gomez, C., & Spencer, J. W. (2000). Country institutional profiles: Unlocking entrepreneurial phenomena. *Academy of Management Journal*, 43(5), 994–1003.

Cacciotti, G., Hayton, J.C., Mitchell, J.R.,& Giazitzoglu, A.(2016). A reconceptualization of fear of failure in entrepreneurship. *Journal of Business Venturing*,31(3), 302-325

Caliendo, M., F.M. Fossen, and A.S. Kritikos (2009). Risk attitudes of nascent entrepreneurs – New evidence from an experimentally-validated survey. *Small Business Economics,* 32(2), 153-167.

Caliendo, M., F.M. Fossen, and A.S. Kritikos (2010). The impact of risk attitudes on entrepreneurial survival. *Journal of Economic Behavior and Organization,* 76(1), 45-63.

Carree, M., Verheul,I., & Santarelli,E. (2011). Sectoral patterns of firm exit in Italian provinces. *Journal of Evolutionary Economics* , 21 (3), 499-517.

Carrier, C. (2013). The prospective map: a new method for helping future entrepreneurs in expanding their initial business ideas. *International Journal of Entrepreneurship and Small Business*, 5(1), 28-44.

Cassar, G. (2006). Entrepreneur opportunity costs and intended venture growth. *Journal of Business Venturing*, 21(5),610–632.

Casson, M. (1982). *The entrepreneur: An economic theory*. Rowman & Littlefield.

Casson, M.(2003). *The entrepreneur: An economic theory. 2nd ed*. Northampton, MA: Edward Elgar Publishing Ltd.

Chatterji, A., Glaeser, E., & Kerr, W. (2014). Clusters of entrepreneurship and innovation. *Innovation Policy and the Economy*, 14(1), 129-166.

Chen, C.C., Greene, P.G. and Crick, A. (1998), Does entrepreneurial self-efficacy

distinguish entrepreneurs from managers. *Journal of Business Venturing*, 13(4), 295-316.

Choi, Y.R., & Shepherd, D.A.(2004). Entrepreneurs' decisions to exploit opportunities. *Journal of Management* ,30 (3), 377–395.

Clarysse, B., Moray, N. (2004). A process study of entrepreneurial team formation: the case of a research-based spin-off. *Journal of Business Venturing* ,19 (1), 55–79.

Coase, R.(1960). The problem of social cost. *Journal of Law and Economics*,3, 1–44.

Covin, J.G., & Slevin D.P. (1991). A conceptual model of entrepreneurship as firm behavior, *Entrepreneurship Theory and Practice,* 16(1), 7-25.

Cramer, J.S., Hartog, J., Jonker,N.,&Van Praag C.M. (2002). Low risk aversion encourages the choice for entrepreneurship: An empirical test of a truism. *Journal of Economic Behavior and Organization* ,48(1), 29-36.

Cukierman, A., Edwards, S., & Tabellini, G. (1992). Seignioriage and political instability. *American Economic Review*. 82(3), 537-555.

Cullen J. B., Johnson, J. L., & Parboteeah, K. P. (2013). National rates of opportunity entrepreneurship activity: Insights from institutional anomie theory. *Entrepreneurship Theory and Practice*,38(4),775-806

Dau, L.,& Cuervo-Cazurra, A. (2014). To formalize or not to formalize: Entrepreneurship and pro-market institutions. *Journal of Business Venturing*, 29 (5), 668-686

Davidsson P. (1991). Continued entrepreneurship: ability, need, and opportunity as determinants of small firm growth. *Journal of Business Venturing,* 6(6), 405–429.

Davidsson, P.,& Honig, B. (2003). The role of social and human capital among nascent entrepreneurs. *Journal of Business Venturing* 18(3), 301–331.

Dean, T.J. (1995). *New venture formations in United States manufacturing: The role of industry environments*. New York: Garland Publishing.

De Carolis, D.M.,& Saparito, P. (2006). Social capital, cognition, and entrepreneurial opportunities: a theoretical framework. *Entrepreneurship Theory and Practice*, 30(1), 41–56.

De Clercq, D., Danis, W. D., & Dakhli, M. (2010). The moderating effect of institutional context on the relationship between associational activity and new business activity in emerging economies. *International Business Review*, 19(1), 85–101

Dess, G. G., & Beard, D. W. (1984). Dimensions of organizational task environments. *Administrative science quarterly*, 29(1), 52-73.

DeTienne,D.R.(2010).Entrepreneurial exit as a critical component of the entrepreneurial process: Theoretical development. *Journal of Business Venturing*, 25(2), 203-215.

DeTienne,D.R.,&Cardon,M.S.(2012). Impact of founder experience on exit intentions. *Small Business Economics*, 38 (4), 351-374.

DeTienne, D.R., Sheperd, D.,& Castro, J.O., (2008). The fallacy of "only the strong survive": the effects of extrinsic motivation on the persistence of underperforming firms. *Journal of Business Venturing*, 23(5), 528-546.

Dickson, P.,& Weaver, K. (2008). The role of the institutional environment in determining firm orientations towards entrepreneurial behavior. *International Entrepreneurship and Management Journal* ,4 (4), 467–483.

DiMaggio, P. J., & Powell, W.W.(1983).The iron cage revisited" institutional isomorphism and collective rationality in organizational fields. *American Sociological Review*, 48 (2), 147-160.

DiMaggio, P. J., & Powell, W. W. (Eds.). (1991). *The new institutionalism in organizational analysis*. Chicago: University of Chicago Press.

Djankov, S., & Murrell, P. (2002). Enterprise restructuring in transition: A quantitative survey. *Journal of Economic Literature*, 40(3), 739–792.

Drnevich, P. L., & Kriauciunas, A. P. (2011). Clarifying the conditions and limits of the contributions of ordinary and dynamic capabilities to relative firm performance, *Strategic Management Journal*, 32(3), 254–279.

Drucker, P.F. (1985). Innovation and entrepreneurship: Practice and principles. NewYork: Harper and Row.

Du, J., Lu, Y., & Tao, Z. (2008). Economic institutions and FDI location choice: Evidence from US manufacturing firms in China. *Journal of Comparative Economics*, 36, 412-429.

Easterly, W., & Levine. R.(2003). Tropics, germs, and crops: How endowments influence economic development. *Journal of Monetary Economic* , 50(1),3–39.

Edelman, L. F., Brush, C. G., Manolova, T. S., & Greene, P. G. (2010). Start-up motivations and growth intentions of minority nascent entrepreneurs. *Journal of Small Business Management*, 48(2), 174-196.

Eikhof, D.,&Haunschild, A. (2006).Lifestyle meets market. Bohemian entrepreneurs in creative industries, *Creativity and Innovation Management*, 15 (3), 234-241.

El-Namaki, M.S.S. (1988). Encouraging entrepreneurs in developing countries. *Long Range Planning* ,21 (4), 98–106.

Ensley, M. D., Pearce, C. L., & Hmieleski, K. M. (2006). The moderating effect of environmental dynamism on the relationship between entrepreneur leadership behavior and new venture performance. *Journal of Business Venturing,* 21(2),243–263.

Erbas, S.N. (2004), Ambiguity, transparency and institutional strength, *IMF Working Paper 04/115*, Washington: International Monetary Fund.

Estrin, S., Korosteleva, J., & Mickiewicz, T. (2013). Which institutions encourage entrepreneurial growth aspirations?. *Journal of Business Venturing*, 28(4), 564-580.

Everett, J., & Watson, J. (1998). Small business failures and external risk factors. *Small Business Economics,* 11(4), 371-390

Fairlie, R. W.,& Robb, A. M. (2009). Gender differences in business performance: evidence from the characteristics of business owners survey, *Small Business Economics*, 33, 375-395.

Fama, E. F., & French, K. R. (1993). Common risk factors in the returns on stocks and bonds. *Journal of Financial Economics*, 33(1), 3-56.

Fan, G., & Wang,X. (2004). *NERI Index of Marketization of China's Provinces.* Economics ,Science Press

Fan,G.,Wang, X.,& Zhu,H.(2011). *NERI index of marketization of China's provinces:2011 report*, Economic Sciences Press.

Feifei, Y. U. (2012). Strategic flexibility, entrepreneurial orientation and firm performance: Evidence from small and medium-sized business (SMB) in China. *African Journal of Business Management,* 6(4), 1711-1720.

Firth, M., Lin, C., Liu, P., & Wong, S. M. (2009). Inside the black box: Bank credit allocation in China's private sector. *Journal of Banking & Finance*, 33(6), 1144-1155.

Fischer, E., & Reuber, A. R. (2003). Support for rapid-growth firms: A comparison of the views of founders, government policymakers, and private sector resource providers. *Journal of Small Business Management*, 41,346–365.

Friar, J., & Meyer, M. (2003). Entrepreneurship and start-ups in the Boston region: Factors differentiating high-growth ventures from micro-ventures. *Small Business Economics*, 21(2), 145–152.

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39–50.

Fukuyama, F. (2013). What is governance? *Governance* , 26(3), 347–368.

Fukuyama, F. (2014). *Political order and political decay: From the industrial revolution to the globalization of democracy.* Profile books ltd

Gao, G., Murray, J., Kotabe, M., & Lu, J. (2010). A strategy tripod perspective on export behaviors: Evidence from domestic and foreign firms based in an emerging economy, *Journal of International Business Studies*, 41(3), 377–396.

Gatewood E.J., Shaver, K.G.,& Gartner, W.B.(1995). A longitudinal study of cognitive factors influencing start-up behaviors and success at venture creation, *Journal of Business Venturing*, 10(5), 372-390.

Gohmann, S. F. (2010). Institutions, latent entrepreneurship, and self-employment: An international comparison. *Entrepreneurship Theory and Practice*, 36(2), 295-321.

Gómez-Araujo, E., LafuenteI, E., Vaillant, Y., & Gómez Núñez, L.M., (2015). The differential impact of self-confidence, reference models and the fear of failure in young entrepreneurs. *Innovar* ,25 (57), 157–174.

Gilbert, B. A., McDougall, P. P. & Audretsch, D. B. (2006). New venture growth: A review and extension. *Journal of Management*, 32(6), 926–950.

Gimeno,J.,Folta,T.,Cooper,A.&Woo,C.(1997). Survival of the fittest? Entrepreneurial human capital and the persistence of underperforming firms. *Administrative Science Quarterly*. 42 (4), 750–783.

Gist. M. E. (1987). Self-efficacy: Implications for organizational behavior and human resource management. *Academy of Management Review,* 12(3), 472-485.

Greve, A., & Salaff, J. W. (2003). Social networks and entrepreneurship. *Entrepreneurship theory and practice*, 28(1), 1-22.

Grilo, I., & Thurik, A. R. (2008). Determinants of entrepreneurial engagement levels in Europe and the US. *Industrial and Corporate Change*, 17(6), 1113-1145

Gudmundsson,S.V.,& Lechner,C.(2013).Cognitive biases, organization, and entrepreneurial firm survival. *European ManagementJournal*,31(3),278-294.

Gujarati, D. N., & Porter, D. C. (2009). *Basic Econometrics*. 5th Edition. Boston: McGraw-Hill.

Gnyawali, D. R., & Fogel, D. S. (1994). Environments for entrepreneurship development: Key dimensions and research implications. *Entrepreneurship: Theory & Practice*, 18(4), 43–62.

Guo, Q., He, C., & Li, D. (2016). Entrepreneurship in China: The role of localisation and urbanisation economies. *Urban Studies*, 53(12) 2584–2606.

Gupta, V. K., Yayla, A. A., Sikdar, A., & Cha, M. S. (2012). Institutional environment for entrepreneurship: evidence from the developmental states of South Korea and United Arab Emirates. *Journal of Developmental Entrepreneurship*, 17(3), 1250013-1-1250013-21.

Hair, J. F., Black, W. C., Babin*,* B. J.*, Anderson, R. E., & Tatham, R. L.* (1998). *Multivariate Data Analysis*, 5 Upper Saddle River, NJ: Prentice-Hall.

Hannan,M.,& Freeman,J. (1977). The population ecology of organizations. *American Journal of Sociology* ,82(5),929–964.

Hajer, M. A. (2006). The Living Institutions of the EU: Analysing governance as performance. *Perspectives on European Politics and Society*,7(1), 41 – 55.

Harada, N.(2007). Which firms exit and why? An analysis of small firm exits in Japan. *Small Business Economics*, 29 (4), 401–414.

Haveman, H.A. & Rao, H. (1997). Structuring a theory of moral sentiments: Institutional and organizational coevolution in the early thrift industry. *The American Journal of Sociology*, 102(6), 1606–1651.

Headd, B.(2003). Redefining business success: distinguishing between closure and failure. *Small Business Economics*, 21(1), 51-61.

Hechavarria, D. M., & Reynolds, P. D. (2009). Cultural norms & business start-ups: The impact of national values on opportunity and necessity entrepreneurs. *International Entrepreneurship and Management Journal*, 5(4), 417-437.

Herron, L., & Sapienza, H. J. (1992). The entrepreneur and the initiation of new venture launch activities. *Entrepreneurship Theory and Practice*, 17(1), 49-55.

Hessels, J., Van Gelderen, M., & Thurik, R. (2008a). Entrepreneurial aspirations, motivations, and their drivers. *Small Business Economics*, *31*(3), 323-339.

Hessels, J., van Gelderen, M., & Thurik, R. (2008b). Drivers of entrepreneurial aspirations at the country level: the role of start-up motivations and social security. *International Entrepreneurship and Management Journal*, *4*(4), 401-417.

Hitt, M. A., Bierman, L., Uhlenbruck, K., & Shimizu, K. (2006). The importance of resources in the internationalization of professional service firms: The good, the bad, and the ugly. *Academy of Management Journal*, *49*(6), 1137-1157.

Hofmann, D.A., Griffin, M.A., & Gavin, M.B., (2000). T*he application of hierarchical linear modeling to organizational research.* In Multilevel Theory, Research, and Methods in Organizations: Foundations, Extensions, and New Directions, Klein KJ, Kozlowski SWJ (eds). Jossey-Bass: San Francisco, CA; 467–511.

Holt, D. H. (1997). A comparative study of values among Chinese and US entrepreneurs: Pragmatic convergence between contrasting cultures. *Journal of Business Venturing*, *12*(6), 483-505.

Holmberg, S., Rothstein, B.,& Nasiritousi,N. (2009). Quality of government: What you get. *Annual Review of Political Science*,12,135-162.

IOL (2015). Annual Report of Judicial Transparency in China. Beijing, Social Sciences Academic Press.

Isenberg, D. J. (2010). How to start an entrepreneurial revolution. *Harvard Business Review,* 88(6), 40-50.

Islam, A., & Tedford, D. (2012). Risk determinants of small and medium-sized manufacturing enterprises (SMEs)-an exploratory study in New Zealand. *Journal of Industrial Engineering International*, 8(1), 1-13.

Jackson, D. N. 1994. *Jackson Personality Inventory: Revised manual.* Port Huron, MI: Sigma Assessment Systems.

Jaime, S. N., & Oswaldo, M. T. (2011). Using the theory of planned behavior to predict nascent entrepreneurship. *Academia, Revista Latinoamericana de Administracion*, 46, 55-71

Jarillo, J. C. (1989). Entrepreneurship and growth: The strategic use of external resources. *Journal of Business Venturing*, 4(2), 133-147.

Jørgensen, R.(2005). A duration analysis of Danish start-ups. Working paper SP 2005-08, Centre for Economic and Business Research, Denmark.

Justo, R., DeTienne, D., &Sieger, P. (2015). Failure or voluntary exit? Reassessing the female underperformance hypothesis. *Journal of Business Venturing*,30(6), 775-792.

Justo, R., DeTienne, D., &Sieger, P. (2015). Failure or voluntary exit? Reassessing the female underperformance hypothesis. *Journal of Business Venturing*,30(6), 775-792.

Karadeniz, E.E., & Ozcam, A. (2010). The determinants of the growth expectations of the early-stage entrepreneurs using the ordinal logistic model: The case of Turkey, *Journal of Economic and Business Review*, 13(1).

Karlsson, C. & Z.J. Acs,Z.J. (2002), Introduction to institutions, entrepreneurship and firm growth: The case of Sweden, *Small Business Economics,* 19 (2), 63-67.

Kautonen, T., Gelderen, M., & Fink, M. (2015). Robustness of the theory of planned behavior in predicting entrepreneurial intentions and actions. *Entrepreneurship Theory and Practice*, 39(3), 655-674.

Kaufmann, D., Kray, A., & Zoido-Lobotan, P. (1999). *Governance matters* (Policy Research Working Paper 2196). Washington, DC: World Bank Development Research Group.

Kaufmann, D., Mastruzzi, M., & Kraay, A. (2010). *The Worldwide Governance Indicators*. Methodology and Analytical Issues. Washington, DC.

Kenney, M., Breznitz, D., & Murphree, M. (2013). Coming back home after the sun rises: Returnee entrepreneurs and growth of high tech industries. *Research Policy*, 42(2), 391-407.

Khelil, N., & Hammer, M. H. (2013). Why do some entrepreneurs decide to give up ?

Exploring the causes through cognitive maps. RENT Research in Entrepreneurship and Small Business XXVII - Vilnius, Lithuania.

Kihlstrom, R.E.,& Laffont, J.J.(1979). A general equilibrium entrepreneurial theory of firm formation based on risk aversion. *Journal of Political Economy*,87(4), 719–748.

Kirchhoff, B. A. (1994). *Entrepreneurship and dynamic capitalism*. Westport, C. T.: Praeger.

Kirzner, I.M. (1973). *Competition and entrepreneurship*. Chicago: University of Chicago Press.

Kleinfeld, R. (2006). Competing Definitions of the Rule of Law. In Promoting the Rule of Law Abroad: In Search of Knowledge, ed. T. Carothers. Washington, DC: Carnegie Endowment, 31–74.

Knott,A.M.,& Posen,H.E. (2005) Is failure good? *Strategic Management Journal*, 26(7), 617-641.

Kolvereid, L. (1992). Growth aspirations among Norwegian entrepreneurs. *Journal of Business Venturing,* 7(2), 209-222.

Kolvereid, L., & Bullvag, , E. (1996). Growth intentions and actual growth: The impact of entrepreneurial choice. *Journal of Enterprising Culture*, 4(1), 1–17.

Korunka, C., Frank, H., Lueger, M.,& Mugler, J. (2003). The entrepreneurial personality in the context of resources, environment, and the startup process - a configurational approach. *Entrepreneurship Theory and Practice* ,28 (1), 23–42.

Koudstaal, M., Sloof, R., & Van Praag, M.(2015). Risk, uncertainty and entrepreneurship: Evidence from a lab-in-the-field experiment. *Management Science*,62(10),2897-2915

Kraus, S., Rigtering, J. C., Hughes, M., & Hosman, V. (2012). Entrepreneurial orientation and the business performance of SMEs: A quantitative study from the Netherlands. *Review of Managerial Science*, 6(2), 161-182.

Krishnan, S., &Teo, T. S. H. (2012). Moderating effects of governance on information infrastructure and E-Government development. *Journal of the American Society for Information Science And Technology,* 63(10), 1929–1946.

Kristiansen, S. & Indarti, N. (2004). Entrepreneurial intention among Indonesian and

Norwegian students.*Journal of Enterprising Culture*, 12(1), 55–78.

Krueger, N.F., Reilly, M.D.， & Carsrud, A.L. (2000). Competing models of entrepreneurial intentions. *Journal of Business Venturing* ,15 (5–6), 411–432.

Kshetri, N. & Dholakia, N.(2011).Regulative institutions supporting entrepreneurship in emerging economies: A comparison of China and India. *Journal of International Entrepreneurship*, 9(2), 110-132.

Kurer, O. (2005). Corruption: An Alternative Approach to Its Definition and Measurement. *Political Studies* , 53(2), 222–239.

Langowitz, N., & Minniti, M. (2007). The Entrepreneurial Propensity of Women, *Entrepreneurship Theory and Practice,* 31 (3), 341-364.

LaPorta,R.,Lopez-de-Silanes,F., Shleifer, A., & Vishny,R. (1999). The quality of government. *Journal of Law, Economics and Organization* ,15 (1): 222-279.

Lee, S. M., Lim, S. B., & Pathak, R. D. (2011). Culture and entrepreneurial orientation: A multi-country study. *International Entrepreneurship and Management Journal*, 7(1), 1–15.

Levesque, M., & Minniti, M. (2006). The effect of aging on entrepreneurial behavior. *Journal of Business Venturing*, 21(2), 177–194.

Levie, J. & Autio, E. (*2011*).*Regulatory burden, rule of law, and entry of strategic entrepreneurs: An international panel study*. *Journal of Management Studies*, 48(6), 1392–1419

Li, K., Yue, H., & Zhao, L. (2009). Ownership, institutions, and capital structure: Evidence from China. *Journal of Comparative Economics*, 37(3), 471-490.

Li, S.M. (1998), Success in China's industrial market: an institutional and environmental approach, *Journal of International Marketing*, 6(1),56-80.

Liñán, F., Fayolle, A. (2015). A systematic literature review on entrepreneurial intentions: Citation, thematic analyses, and research agenda. *International Entrepreneurship and Management Journal*,11(4),907-933

Liu, X., Lu, J., Filatotchev, I., Buck, T., & Wright, M. (2010). Returnee entrepreneurs, knowledge spillovers and innovation in high-tech firms in emerging economies. *Journal of International Business Studies*, 41(7), 1183-1197.

Liu, Y. (2011). High-tech ventures' innovation and influences of institutional voids: A

comparative study of two high-tech parks in China. *Journal of Chinese Entrepreneurship*, 3(2), 112-133.

Locke, E. A. (1991). Introduction to special issue. *Organizational Behavior and Human Decision Making*, 50 (2), 151–3.

Lu, J., & Tao, Z. (2010). Determinants of entrepreneurial activities in China. *Journal of Business Venturing*, 25(3), 261-273.

Lu*, J., Xu, B., & Liu,* X. (*2009*). The effects of corporate governance* and institutional environments on export behaviour in emerging economies: Evidence from China. *Management International Review*,49,455-478

Mahoney, J.,& Michael,S. (2004), A Subjective Theory of Entrepreneurship, in S. Alvarez (Ed.), *Handbook of Entrepreneurship*. Boston, MA: Kluwer

Mai, Y., & Gan, Z.(2007). Entrepreneurial opportunities, capacities and entrepreneurial environments. Evidence from Chinese GEM data. *Chinese Management Studies* ,1 (4), 216–224.

Mair, J., & Marti, I. (2009). Entrepreneurship in and around institutional voids: A case study from Bangladesh. *Journal of Business Venturing*, 24(5), 419-435.

Manolova, T.S.,Eunni, R.V.,& Gyoshev,B.S.(2008).Institutional environments for entrepreneurship: evidence from emerging economies in Eastern Europe. *Entrepreneurship Theory and Practice*, 32 (1), 203–218.

March, J. G. (1991). Exploration and exploitation in organizational learning. *Organization Science*,2(1), 71-87.

Martin, K. D., Cullen, J. B., Johnson, J. L., & Parboteeah, K. P. (2007). Deciding to bribe: Across-level analysis of firm and home country influences on bribery activity. *Academy of Management Journal*, 50(6), 1401-1422

Mason, C., & Brown, R. (2013). Creating good public policy to support high-growth firms. *Small Business Economics*, 40(2), 211-225.

McGee. J.E., Peterson. M., Mueller. S.L., & Sequeira. J.M. (2009). Entrepreneurial self-Efficacy: Refining the measure. *Entrepreneurship Theory and Practice*, 33(4), 965-988.

McGrath, R.G.(1999). Falling forward: real options reasoning and entrepreneurial failure. *Academy of Management Review* ,24 (1), 13–30.

McGrath, R.G.(2006). Rumors of my mortality have been greatly exaggerated: reconsidering the mortality hypothesis. Paper presented at the conference *Academy of Management*. Atlanta, GA.

McMullen, J.,Bagby,D., & Palich,L. (2008). Economic freedom and the motivation to engage in entrepreneurial action. *Entrepreneurship Theory and Practice*, 32 (5),875-895.

Meek,W.R.,Pacheco, D.F.,& York, J. G. (2010). The impact of social norms on entrepreneurial action: Evidence from the environmental entrepreneur context. *Journal of Business Venturing*, 25(5), 493-509.

Meso, P., Datta, P., & Mbarika, V. (2006). Moderating information and communication technologies' influences on socioeconomic development with good governance: A study of the developing countries. *Journal of the American Society for Information Science and Technology*, 57(2), 186–197.

Miller, D. & Friesen, P. H. (1978). Archetypes of strategy formation. *Management Science*, 24,921-933.

Mitchell, R.K., Busenitz, L., Lant, T., McDougall, P.P., Morse, E.A.,& Smith, J.B.(2002). Toward a theory of entrepreneurial cognition: rethinking the people side of entrepreneurship research. *Entrepreneurship Theory and Practice* ,27 (2), 93–104.

Mitchell, R.K., Smith, J.B., Morse, E.A., Seawright, K.W., Peredo, A.M., & McKenzie, B.(2002). Are entrepreneurial cognitions universal? Assessing entrepreneurial cognitions across cultures. *Entrepreneurship Theory and Practice*,26 (4), 9–32.

Mincer, J. (1974). *Schooling, Experience and Earnings*. New York: National Bureau of Economic Research.

Miner, J. B., Smith, N. R. and Bracker, J. S. (1994). Role of entrepreneurial task motivation in the growth of technologically innovative businesses: interpretations from follow-up data. *Journal of Applied Psychology*, 79(4), 627–30.

Minniti, M., & Nardone, C. (2007). Being in someone else's shoes: the role of gender in entrepreneurship. *Small Business Economics*, 28(2), 223–238.

Mitchell, J.R., & Shepherd, D.A. (2010). To thine own self be true: images of self, images of opportunity, and entrepreneurial action. *Journal of Business Venturing*, 25(1), 138–154.

Mitchell, R.K., Smith, B., Seawright, K. W.,& Morse, E.A.(2000). Cross-cultural cognitions and the venture creation decision. *Academy of Management Journal* 43(5), 974–993.

Morin, R. A. & Suarez, A. F. (1983). Risk aversion revisited. *The Journal of Finance*, 38(4), 1201-1216.

Mueller, S. L., & Thomas, A. S. (2000). Culture and entrepreneurial potential: A nine country study of locus of control and innovativeness. *Journal of Business Venturing*, 16(1), 51–75.

Naffziger, D. H. (1994). A proposed model of entrepreneurial motivaton. *Entrepreneurship Theory and Practice*, 18(3),29-41.

Neck, H. M., Meyer, G. D., Cohen, B. & Corbett, A. C. (2004). An entrepreneurial system view of new venture creation. *Journal of Small Business Management,* 42(2), 190-208.

Nielsen, S. L., & Lassen, A. H. (2012). Images of entrepreneurship: Towards a new categorization of entrepreneurship. *International Entrepreneurship and Management Journal*, 8(1), 35–53.

North, D.C., (1990). *Institutions, institutional change and economic performance*. Cambridge University Press, Cambridge, MA.

Norris, D. F., & Moon, M. J. (2005). Advancing E-Government at the Grassroots: Tortoise or Hare? *Public Administration Review* ,65(1), 64-75

Nunnally, J.C. (1978). Psychometric Theory, 2nd ed. McGraw-Hill, New York

Penrose, E. T. (1959). *Theory of the Growth of the Firm*, New York, NY: Wiley.

Nyström, K. (2008). The Institutions of Economic Freedom and Entrepreneurship Evidence from Panel Data, *Public Choice*, 136(3-4), 269-282.

Olson, J. M.,& Zana, M. P. (1993). Attitudes and attitude change. *Annual Review of Psychology*, 44,117–54.

Pages, E. R., Freedman, D., & Von Bargen, P. (2003). Entrepreneurship as a state and local economic development strategy. In Hart, D. (Ed.), *Entrepreneurship Policy* (pp.240–259). Cambridge: Cambridge University Press.

Palich, L.E., & Bagby, D.R. (1995). Using cognitive theory to explain entrepreneurial risk-taking: Challenging conventional wisdom. *Journal of Business Venturing,*

10(6), 425-438.

Peng, M. W., & Luo, Y. (2000). Managerial ties and firm performance in a transition economy: The nature of a micromacro link. *Academy of Management Journal*,43(3), 486–501.

Pennings, J.M., Lee, K.,& Witteloostuijn, A.V.(1998). Human capital, social capital and firm dissolution. *Academy of Management Journal* ,41 (4), 425-440

Penrose, E. T.(1959). *Theory of the Growth of the Firm*, NewYork, NY: Wiley.

Pfeffer, J.,& Salancik, G.R. (1978). *The External Control of Organizations: A Resource Dependence Perspective*. New York: Harper and Row.

Podsakoff, P.M. & Organ, D. W. (1986). Self-reports in organizational research: Problems and prospects, *Journal of Management*, 12, 531-544.

Puffer, S. M., McCarthy, D. J., & Boisot, M. (2010). Entrepreneurship in Russia and China: The impact of formal institutional voids. *Entrepreneurship theory and practice*, 34(3), 441-467.

Qian, H., Acs, Z. J., & Stough, R. R. (2013). Regional systems of entrepreneurship: The nexus of human capital, knowledge and new firm formation. *Journal of Economic Geography*, 13(4), 559-587.

Renko, M., Shrader, R. C., & Simon, M. (2012). Perception of entrepreneurial opportunity: A general framework. *Management Decision*, 50(7), 1233–1251.

Reynolds, P. D. (1997). Who starts new firms? Preliminary explorations of firms-in-gestation. *Small Business Economics*, 9(5), 449–462.

Reynolds, P. D., Hay, M., & Camp, S. (1999). *Global entrepreneurship monitor: 1999 executive report*. Kansas City,MO: Kauffman Foundation.

Reynolds, P. D., Hay, M., Bygrave, W. D., Camp, S. M., & Autio, E. (2000). *Global entrepreneurship monitor: 2000 executive report*. Kansas City: Kauffman Center for Entrepreneurial Leadership.

Reynolds, P., Camp, S., Bygrave, W., Autio, E., & Hay, M. (2001). *Global Entrepreneurship Monitor. 2001 Executive Report*. Babson College, London Business School, Kauffman Center for Entrepreneurial Leadership.

Reynolds, P., Carter, N., Gartner, W., Greene, P., & Cox, L. (2002). *The entrepreneur next door characteristics of individuals starting companies in America.* Kansas

City, MO: Ewing Marion Kauffman Foundation.

Reynolds, P., Bosma, N., Autio, E., Hunt, S., De Bono, N., Servais, I., Lopez-Garcia, P. & Chin, N. (2005). Global entrepreneurship monitor: Data collection design and implementation 1998–2003. *Small Business Economics*, 24(3), 205-231.

Romme, A. G. L., Zollo,M., & Berends,P. (2010). Dynamic capabilities, deliberate learning and environmental dynamism: a simulation model. *Industrial and CorporateChange*,19(4),1271-1299.

Roper, S.,& Xia, H. (2014). Unpacking open innovation: Absorptive capacity, exploratory and exploitative openness and the growth of entrepreneurial biopharmaceutical firms, *Enterprise Research Centre,* 19, 1-47.

Rothstein, B.， & Teorell, J. (2008). What is quality of government? A theory of impartial government institutions. *Governance: An International Journal of Policy, Administration and Institutions,* 21(2), 165–190.

Roux,A.D.(2002).A glossary for multilevel analysis. *Journal of Epidemiology and Community Health*, 56(8), 588–594

Ryan,G.,&Power,B. (2012) Small business transfer decisions: What really matters? Evidence from Ireland and Scotland. *Irish Journal of Management,*31(2), 99-125.

Sadowsky, G. (1996). The internet society and developing countries. *On the Internet: An International Publication of the Internet Society* (November/December), 23-29.

Santarelli, E., &Vivarelli, M. (2007), Entrepreneurship and the process of firms' entry, survival and growth, *Industrial and Corporate Change*, 16(3), 455-488.

Sarasvathy, S.D., Menon, A.R., & Kuechle, G. (2013). Failing firms and successful entrepreneurs: serial entrepreneurship as a temporal portfolio. *Small Business. Economies*, 40 (2), 417–434.

Satish,K.,&Thompson,S.H.T.(2012) Moderating effects of governance on information infrastructure and E-government development. *Journal of the American society for information science and technology*, 63(10),1929–1946

Scott, W.R., (1995). *Institutions and Organizations*. Sage Publications, Thousand Oaks, CA.

Scott, W.R. (2002). *Organizations: Rational, natural, and open systems (5th ed.)*. Englewood Cliffs, NJ:Prentice-Hall.

Scott,S.(2009). Why encouraging more people to become entrepreneurs is bad public policy. *Small Business Economics*,33,141-149

Schlaegel, C., & Koenig, M. (2014). Determinants of entrepreneurial intent: a meta-analytic test and integration of competing models. *Entrepreneurship Theory and Practice*, 38(2), 291-332.

Sepúlveda,J.P., & Bonilla,C.A. (2014) The factors affecting the risk attitude in entrepreneurship: evidence from Latin America, *Applied Economics Letters*, 21(8), 573-581

Shane, S. (2003). *A general theory of entrepreneurship: The individual-opportunity nexus*. Cheltenham: Edward Elgar.

Shane, S. (2009). Why encouraging more people to become entrepreneurs is bad public policy. *Small Business Economics*, 33(2), 141-149.

Shane, S., & Cable, D. (2002). Network ties, reputation, and the financing of new ventures. *Management Science* , 48 (3), 364–381.

Shane, S., & Kolvereid, L. (1995). National environment, strategy, and new venture performance: A three country study. *Journal of Small Business Management*, 33(2), 37–50.

Shane, S., Locke, E.A.,& Collins, C.J. (2003). Entrepreneurial motivation. *Human Resource Management Review*, 13 (2), 257–279.

Shapero, A. & Sokol, L. (1982). Social dimensions of entrepreneurship. In C.A. Kent, D.L. Sexton, & K.H. Vesper (Eds.), *The encyclopedia of entrepreneurship* (pp. 72–90). Englewood Cliffs, NJ: Prentice-Hall.

Shaver, K. G., & Scott,L. R. (1991). Person, process, choice: The psychology of new venture creation. *Entrepreneurship Theory and Practice* ,16(2), 23–45.

Shepherd, D. A., Williams, T. A., & Patzelt, H. (2015). Thinking about entrepreneurial decision making: Review and research agenda. *Journal of Management, 41*(1), 11–46.

Stam, E., Thurik, R. & Van der, Z.P.(2010). Entrepreneurial exit in real and imagined markets. *Industrial and Corporate Change*, 19(4), 1109-1139.

Stewart, W. H., & Roth, P. L. (2001). Risk propensity differences between entrepreneurs and managers: A meta analytic review. *Journal of Applied Psychology*, 86(1),145-153.

Sine, W. D., & David, R. (2003). Environmental jolts, institutional change, and the creation of entrepreneurial opportunity in the U.S. electric power industry. *Research Policy* ,32(2), 185-207.

Smallbone, D., Baldock, R., & Burgess, S. (2002). Targeted support for high-growth start-ups: Some policy issues. *Environment and Planning C*, 20(2), 195–209.

Sobel, R.S.(2008). Testing Baumol: institutional quality and the productivity of entrepreneurship. *Journal of Business Venturing*, 23 (6), 641–655.

Spence, M.(1973). Job market signaling. *The Quarterly Journal of Economics*, 87 (3), 355–374.

Spencer, J., & Gomez, C. (2004). The relationship among national institutional structures, economic factors, and domestic entrepreneurial activity: A multi-country study. *Journal of Business Research*, 57(10), 1098–1107.

Stam,E. (2015) Entrepreneurial ecosystems and regional policy: A sympathetic critique. *European Planning Studies*, 23(9), 1759-1769

Stam, E., R. Thurik, & P. van der Zwan (2010). Entrepreneurial exit in real and imagined markets. *Industrial and Corporate Change*, 19(4), 1109-1139.

Stenholm, P., Acs, Z. J., & Wuebker, R. (2013). Exploring country-level institutional arrangements on the rate and type of entrepreneurial activity. *Journal of Business Venturing*,28(1), 176–193.

Strotmann, H. (2007).Entrepreneurial Survival. *Small Business Economics*, 28(1), 87-104.

Suchman,M.C.,& Edelman,I.B.(1997). Legal rational myths: The new institutionalism and the law and society tradition. *Law and Social Inquiry*, 1747-4469

Swierczek, F. W., & Ha, T. T. (2003). Entrepreneurial orientation, uncertainty avoidance and firm performance: an analysis of Thai and Vietnamese SMEs. *The International Journal of Entrepreneurship and Innovation*, 4(1), 46-58.

Taylor, M.P.(1999). Survival of the fittest? An analysis of self-employment duration. *The Economic Journal*, 109 (454), 140–155.

Thai, M.,& Turkina, E.(2014).Macro-level determinants of formal entrepreneurship versus informal entrepreneurship, *Journal of Business Venturing* , 29 (4), 490–510

Thurik, A. R., & Wennekers, A. R. M. (2004).Entrepreneurship, small business and economic growth. *Journal of Small Business and Enterprise Development,11(1)* 140–149.

Tominc, P., & Rebernik, M. (2007). Growth aspirations and cultural support for entrepreneurship: A comparison of post-socialist countries. *Small Business Economics*, 28(2-3), 239-255

Tonoyan, V., Strohmeyer, R., Habib, M., & Perlitz, M. (2010). Corruption and entrepreneurship: How formal and informal institutions shape firm behavior in transition and mature market economies, *Entrepreneurship Theory and Practice*, 34(5),803-831

Triandis, H. C. (1977). *Interpersonal behaviour*. Monterey, CA: Brooks/Cole.

Troilo, M. (2011). Legal institutions and high-growth aspiration entrepreneurship. *Economic Systems*, 35(2), 158-175.

Ucbasaran,D., Westhead,P.,& Wright,M. (2006). Habitual entrepreneurs experiencing failure: Overconfidence and the motivation to try again. In: Wiklund J, Dimov, D, Katz J and Shepherd D (eds) *Advances in Entrepreneurship, Firm Emergence and Growth* (Vol 9). Oxford: JAI Press.

Ucbasaran, D., Shepherd, D.A., Lockett, A., & Lyon, S.J.(2013). Life after business failure the process and consequences of business failure for entrepreneurs. *Journal of Management*. 39 (1),163–202.

Urbano,D.,& Alvarez,C.(2014). Institutional dimensions and entrepreneurial activity: an international study. *Small Business Economics*, 42(4),703-716

Vaillant, Y.,& Lafuente, E. (2007). Do different institutional frameworks condition the influence of local fear of failure and entrepreneurial examples over entrepreneurial activity?. *Entrepreneurship and Regional Development*,19(4), 313–337.

Vancouver, J. B., Thompson, C. M., & Williams, A. A. (2001). The changing signs in the relationships among self-efficacy, personal goals, and performance. *Journal of Applied Psychology,* 86(4), 605–620.

Vancouver, J. B., Thompson, C. M., Tischner, E. C., & Putka, D. J. (2002).Two studies examining the negative effect of self-efficacy on performance. *Journal of Applied Psychology,* 87(3)*,* 506–516.

Van Gelderen, M., Thurik, R., & Bosma, N. (2006). Success and risk factors in the pre-startup phase. *Small Business Economics*, 26(4), 319–335.

Van Praag, C.M. (2003) Business survival and success of young small business owners. *Small Business Economics* ,21(1), 1–17.

Van Praag, C. M., & J. S. Cramer. (2001). The roots of entrepreneurship and labour demand: individual ability and low risk aversion. *Economica* ,68(269), 45–62.

Veciana, J. & Urbano, D.(2008). The institutional approach to entrepreneurship research. Introduction. *International Entrepreneurship and Management Journal* 4(4), 365–379

Verheul, I., & Van Mil, L. (2011). What determines the growth ambition of Dutch early-stage entrepreneurs?. *International Journal of Entrepreneurial Venturing*, 3(2), 183–207.

Wang, Q., Wong, T. J., & Xia, L. (2008). State ownership, the institutional environment, and auditor choice: Evidence from China. *Journal of Accounting and Economics*, 46(1), 112-134.

Wang, X.L., Fan, G. & Yu, J.W. (2017). *Marketization index of China's provinces: NERI report 2016*. Beijing: Social Science Literature Publisher.

Weber, M. (1930). *The protestant ethic and the spirit of capitalism.* New York: Scribner's.

Weingast, B. (1997). The political foundations of democracy and the rule of law. *American Political Science Review*, 91 (2), 245–263.

Welter, F.,& Smallbone,D. (2011). Institutional perspectives on entrepreneurial behaviour in challenging environments, Journal of Small Business Management, 49 (1), 107-125.

Wennberg, K. (2008).*Entrepreneurial exit*. In: Dana, L.P. (Ed.), Encyclopedia of Entrepreneurship. Edward Elgar, Cheltenham, UK, 170–177.

Wennberg, K. (2009). Entrepreneurial Exit. Published Doctoral Dissertation. Stockholm: Economics Research Institute.

Wennberg,K.,Wiklund,J.,DeTienne, D.R.,& Cardon, M.S., (2010). Reconceptualizing entrepreneurial exit: Divergent exit routes and their drivers. *Journal of Business Venturing*,25 (4),361-375.

Wennberg, K., & DeTienne, D.R. (2014) What do we really mean when we talk about 'exit'?. A critical review of research on entrepreneurial exit. *International Small Business Journal*, 32, 4-16.

Wijbenga, F. H., & Van, Witteloostuijn, A. (2007). Entrepreneurial locus of control and competitive strategies: The moderating effect of environmental dynamism. *Journal of Economic Psychology*, 28(5), 566-589.

Wiklund, J., & Shepherd, D. (2003). Aspiring for, and achieving growth: The moderating role of resources and opportunities. *Journal of Management Studies*, 40(8), 1919-1941.

Wiseman, R. M., & Catanach, C. (1997). A longitudinal disaggregation of operational risk under changing regulations: Evidence from the savings and loan industry. Academy of Management Journal, 40(4), 799-830.

Wiseman, R. M., & Gomez-Meija, L. R. (1998). A behavioral agency model of managerial risk taking. Academy of Management Review, 23(1), 133-153.

Wong, B., Ho Y., & Autio, E. (2005). Entrepreneurship, innovation and economic growth: Evidence from GEM data. *Small Business Economics*, 24(3), 335–350.

Wood,M.S., Pearson, J.M., 2009. Taken on faith? The impact of uncertainty, knowledge relatedness, and richness of information on entrepreneurial opportunity exploitation. *Journal of Leadership & Organizational Studies*, 16(2), 117–130.

World Bank.(1991). *Managing Development: The Governance Dimension.* World Bank Discussion PaperNo.34899. Washington, DC.

Zacharakis, A.L., Meyer, G.D., &DeCastro, J., (1999). Differing perceptions of new venture failure: a matched exploratory study of venture capitalists and entrepreneurs. *Journal of Small Business Management*. 37 (3), 1-14.

Zahra, S. (1996). Technology strategy and financial performance: Examining the moderating role of the firm's competitive environment. *Journal of Business venturing,* 11(3), 189-219.

Zahra, S., & Garvis, D. (2000). International corporate entrepreneurship and firm performance: the moderation effect of international environmental hostility. *Journal of Business Venturing,* 15(5-6), 469-492.

Zhang,X.,Ma,X., Wang, Y., Li, X. & Huo, D. (2016). What drives the internationalization of Chinese SMEs? The joint effects of international entrepreneurship

characteristics, network ties, and firm ownership. *International Business Review*, 25 (2), 522-534.

Zhou, P., & Leydesdorff, L. (2006). The emergence of China as a leading nation in science. *Research policy*, 35(1), 83-104.

Appendix A

GEM Entrepreneurial Framework Conditions

Dimension	Description
Entrepreneurial Financial	The availability of financial resources—equity and debt—for small and medium enterprises (SMEs) (including grants and subsidies).
Government Policies	The extent to which public policies give support to entrepreneurship. This EFC has two components: 2a. entrepreneurship as a relevant economic issue and 2b. taxes or regulations are either size-neutral or encourage new SMEs.
Government Entrepreneurship Programs	The extent to which taxes or regulations are either size-neutral or encourage SMEs.
Entrepreneurial Education	The extent to which training in creating or managing SMEs is incorporated within the education and training system at all levels (primary, secondary, and post-school).
R&D Transfer	The extent to which national research and development will lead to new commercial opportunities and is available to SMEs.
Commercial and Legal Infrastructure	The presence of property rights and commercial, accounting, and other legal services and institutions that support or promote SMEs.
Entry Regulations	Contains two components: (1) market dynamics—the level of change in markets from year to year—and (2) market openness—the extent to which new firms are free to enter existing markets.
Physical Infrastructure	Ease of access to physical resources—communication, utilities, transportation, land, or space—at a price that does not discriminate against SMEs.
Cultural and Social Norms	The extent to which social and cultural norms encourage or allow actions leading to new business methods or activities that can potentially increase personal wealth and income.

Source: Amorós & Bosma (2014) GEM Global Report

Appendix B

Variable Description

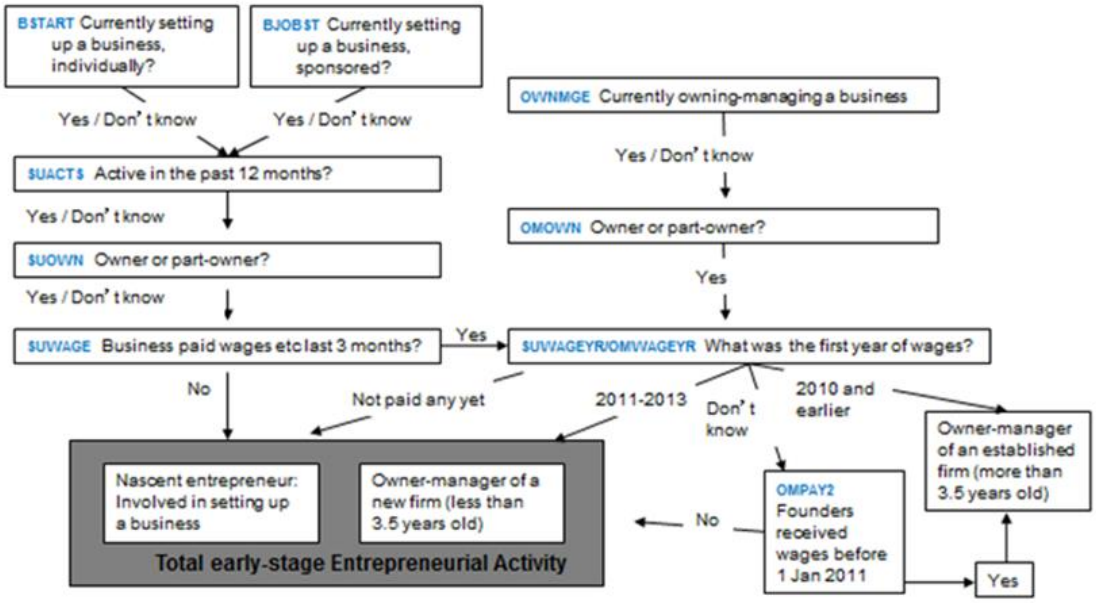
Dimension	Variables	Cronbach's alpha	Description	Possible Value
Dependent variable (Individual level)	Total entrepreneurial activity		Dummy variable equals 1 if individuals are starting a new business or are owners of managing a young firm 0 otherwise	1-Entrepreneur 0-In other case
Regulative dimension (country level)	Political support	0.782	Categorical variable that indicate if the support for new and growing firms is a high priority for policy at the the national government level	1-Completely false 2-Somewhat false 3-Neither true nor false 4-Somewhat true 5-Completely true
	Government policy		Categorical variable that indicates if government policies (e g , public procurement) consistently favor new firms	1-Completely false 2-Somewhat false 3-Neither true nor false 4-Somewhat true 5-Completely true
	Dealing regulations		Categorical variable that indicates if coping with government bureaucracy regulations, and licensing requirements is not unduly difficult for new and growing firms	1-Completely false 2-Somewhat false 3-Neither true nor false 4-Somewhat true 5-Completely true
Normative dimension (Individual level)	Career choice	0.653	Dummy variable that indicates if most people considering starting a new business a desirable career choice	1-Yes 0-No
	Status and respect		Dummy variable that indicates if people successful at starting a new business have a high level of status and respect	1-Yes 0-No
	Media attention		Dummy variable that indicates if people will often see stories in the public media about successful new businesses	1-Yes 0-No
Cultural-cognitive dimension (Individual level)	Knowing entrepreneurs	0.755	Dummy variable that indicates if respondents know anyone who	1-Yes 0-No

			started a business in the past 2 years	
	Self-efficacy		Dummy variable that indicates if the respondents have the knowledge, skill and experience required to start a new business	1-Yes 0-No
	Risk attitude		Dummy variable that indicates if fear of failure would prevent the respondents from starting a new business	1-Yes 0-No
	Opportunity perception		Dummy variable that indicates if the there be good opportunities for starting a business in the area where the respondents live	1-Yes 0-No
Quality of government (country level)	State Capacity	0.947	Captures the extent to which the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies	A higher value means a better rating, ranging from -2.5(weak QoG) to +2.5 (strong QoG)*
	Rule of law		Captures the extent to which agents have confidence in and abide by the rules of society and in particular the quality of contract enforcement , property rights , the police and the courts, as well as the likelihood of crime and violence (e.g.How much do you trust the courts of law? How problematic is crime for the growth of your business?)	A higher value means a better rating, ranging from -2.5(weak QoG) to +2.5 (strong QoG)*
	Accountability		Captures the extent to which country's citizens are able to participate in selecting their government as well as freedom of expression, freedom of association and a free media (e,g.How much do you trust the parliament?	A higher value means a better rating, ranging from -2.5(weak QoG) to +2.5 (strong QoG)*

		Overall, how satisfied a re you with the way democracy works in your country?)	
Control variables (Individual level)	Gender	Respondents are asked to provide their gender	1-Male 2-Female
	Education	Respondents are asked to provide the highest education level attained	1-No education 2-Some secondary 3-Secondary degree 4-Post secondary 5-Graduate degree
	Income	Respondents are asked to provide the income classification level	1-Lowest 33%tile 2-Middle 33%tile 3-Upper 33%tile

*31 data sources are used in the 2010 update of the WGI. Each of these data sources provides a set of empirical proxies for the categories

Appendix C "TEA" Assessment



Appendix D

Multicollinearity Test

	Gender	Education	Income	Political support	Government policy
VIF	1.04	1.14	1.08	2.47	2.21

	Bureaucracy dealing	Career choice	Status and respect	Media attention	Knowing entrepreneurs
VIF	2.96	1.1	1.05	1.06	1.13

	Self-efficacy	Risk attitude	Opportunity perception	State capacity	Rule of law
VIF	1.14	1.02	1.11	2.65	2.50

	Accountability
VIF	1.65

Appendix E

Cluster	Country	Government index
1	Iran	-2.52
1	Nigeria	-2.38
1	Pakistan	-2.23
1	Russia	-2.13
1	Algeria	-1.94
1	Bangladesh	-1.84
1	Guatemala	-1.75
1	Thailand	-1.21
1	Mexico	-1.21
1	Bosnia and Herzegovina	-1.20
1	Peru	-1.16
1	Argentina	-1.12
1	Colombia	-1.10
1	Jamaica	-0.91
1	Malaysia	-0.63
1	Brazil	-0.43
1	Croatia	-0.39
1	South Africa	-0.35
1	United Arab Emirates	-0.33
1	Greece	-0.12
2	Slovakia	0.19
2	Hungary	0.28
2	Poland	0.45
2	Taiwan	0.73
2	Uruguay	0.84
2	Slovenia	0.85
2	Spain	1.02
2	Singapore	1.32
2	Chile	1.37

2	France	1.46
2	United Kingdom	1.67
2	Ireland	1.73
2	Germany	1.76
2	Australia	2.08
2	Netherlands	2.21
2	Norway	2.31
2	Finland	2.31
2	Sweden	2.36

Note: “1” -countries with low quality of government index

“2” -countries with high quality of government index

Appendix F

Appendix G

Variable Description

Dimension	Variable	Description	Data source
Dependent Variable	Growth aspirations	Involved in TEA, expects more than 19 jobs in 5 years	GEM China surveys
Attitude	Opportunity perception	In the next six months, will there be good opportunities for starting a business in the area where you live? (1 = yes)	GEM China surveys
	Entrepreneurial motivation	The entrepreneur is driven by necessity, opportunity, or other motive (3 = opportunity, 2 = necessity, 1 = others)	GEM China surveys
	Fear of failure	Would fear of failure prevent entrepreneurs from starting a business (1 = yes)	GEM China surveys
Subjective norm	Respect and status	In my country, those successful at starting a new business have a high level of status and respect (1 = yes)	GEM China surveys
	Media attention	In my country, you will often see stories in the public media about successful new businesses (1 = yes)	GEM China surveys
Perceived behavioral control	Education attainment	What is the highest level of education you have completed?	GEM China surveys
	Self-efficacy	Do you have the knowledge, skill and experience required to start a new business? (1 = yes)	GEM China surveys
	Household income	The range best describes the total annual income of all the members of your household, including your income, as one combined figure (six scales ranging from 0-20,000 to more than 100,000)	GEM China surveys
Ecosystem Institutional foundations		Role of markets in resource allocation on a scale of 10 (1 = least important, 10 = most important)	NERI
		Reduced government intervention on a scale of 10 (1 = least severe, 10 = most severe)	NERI
		Product market development on a scale of 10 (1 = least developed, 10 = most developed)	NERI

		Factor market development on a scale of 10 (1 = least developed, 10 = most developed)	NERI
		Legal and regulatory framework development on a scale of 10 (1 = least developed, 10 = most developed)	NERI
Relational foundations		Social network (advice from the number of 20 sources)	GEM China surveys
		Subcontracted R&D to external research institutes as % of a firm's R&D spending	Report of regional Innovation Monitor in China 2013
		Science park-based firms' outsourced R&D spending	Report of Key Science Park Innovation Monitor 2013
Entrepreneurial agency		Number of nominees of national young entrepreneurs of the year per ten thousand	Organising Committee of China young entrepreneurs of the year award
		Number of high-growth firms listed in Shenzhen Stock Exchange ChiNext per ten thousand	Shenzhen Stock Exchange
		Non-state-owned enterprise development on a scale of 10 (1 = least developed, 10 = most developed)	NERI
Finance		VC managed fund per capita	China Venture Capital Yearbook
		Number of business angels per ten thousand population	Directory of Business Angels in China 2012
		R&D spending as % of regional product output	Report of regional Innovation Monitor in China 2013
Human capital		Number of university degree holders per ten thousand population	Report of regional Innovation Monitor in China 2013
		Number of students in STEM degree programmes per ten thousand	NBS
		Number of returnees in high-tech parks per ten thousand	Report of Key Science Park Innovation Monitor 2013
Supports	Support services	Number of national level S&T incubators per capita	Ministry of Science and Technology online database
		Number of national level demonstration venture	Ministry of Industry and

		parks per capita	Information Technology online database
		Number of national level demonstration SME services per capita	Ministry of Industry and Information Technology online database
		Number of makerspaces per capita	Ministry of Science and Technology online database
		Number of VC investment intermediaries per capita	China Venture Capital Yearbook
	Physical infrastructure	Penetration rate of internet	NBS
		Mileage of optical cable per square kilometer	NBS
		Mileage of motorway per square kilometer	NBS
	Knowledge	Number of scientific paper publication in domestic journals per capita	Report of regional Innovation Monitor in China 2013
		Number of scientific paper publication in international journals per capita	Report of regional Innovation Monitor in China 2013
		Number of granted patents per capita	Report of regional Innovation Monitor in China 2013

GEM = Global Entrepreneurship Monitor

NERI = NERI index of marketization of China's Provinces Report

NBS = National Bureau of Statistics of China

Appendix H

Clustering Analysis

Cluster	Provinces	Cluster	Provinces
1	Shanghai	2	Hubei
1	Beijing	2	Neimenggu
1	Jiangsu	2	Jilin
1	Guangdong	2	Qinghai
1	Zhejiang	2	Shanxi
1	Shandong	2	Jiangxi
1	Fujian	2	Shanxi
2	Liaoning	2	Guangxi
2	Henan	2	Guizhou
2	Chongqing	2	Xinjiang
2	Anhui	2	Ningxia
2	Hubei	2	Heilongjiang
2	Sichuan	2	Yunan
2	Hunan	2	Gansu

Appendix I

Variable Description

Dimension	Variable	Description	Code	Data
Dependent Variable	Entrepreneurial exit	What was the most important reason for quitting this business?	0-involuntary exit (the business was not profitable;problems getting finance) 1-voluntary exit (early retirement; illness;personal reasons;an opportunity to sell the business; and found another job opportunity)	GEM
Independent variable	Self-efficacy	Do you have the knowledge, skill and experience required to start a new business?	0-No 1-Yes	GEM
	Risk attitude	Would fear of failure prevent you from starting a business	0-No 1-Yes	GEM
Environmental variables	Environmental dynamism	Standard error of regression slope of GRP coefficient divided by the mean value.		NBS

	Institutitional ambiguity	Consists of litigation transparency, adjudgement transparency, transparency,law enforcement transparency,judicial data transparency , and judicial reform information transparency		ARJT
Control Variable	Gender	Respondents are asked to provide their gender	1-Male 2-Female	GEM
	Education	Respondents are asked to provide thehighest education level attained	1-No education 2-Some secondary 3-Secondary degree 4-Post secondary 5-Graduate degree	GEM
	Income	Respondents are asked to provide the income classification level	1-Lowest 33%tile 2-Middle 33%tile 3-Upper 33%tile	GEM
	Support Services	Number of national level S&T incubators per capita		MST
		Number of national level demonstration venture parks per capita		MIIT
		Number of national level demonstration SME services per capita		MIIT
		Number of makerspaces per capita		MST
		Number of VC investment intermediaries per capita		CVCY

GEM=Global Entrepreneurship Monitor

NBS=National Bureau of Statistics of China

ARJT=Annual Report of Judicial Transparency

MST=Ministry of Science and Technology online database

MIIT=Ministry of Industry and Information Technology nline database

CVCY=China Venture Capital Yearbook

Appendix J

Multicollinearity Test

	Age	Gender	Income	Education	Industry
VIF	1.12	1.013	1.181	1.209	1.041
	Support Service	**Self-efficacy**	**Risk Attitude**	**Environmental Dynamism**	**Institutional Ambiguity**
VIF	1.542	1.045	1.019	1.555	1.143