

Constraining Factors for Effective Entrepreneurship Policy Implementation in a Developing Economy: Evidence from Oman

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Doctoral Thesis



Doctoral Program in

Business and Territorial Competitiveness, Innovation and Sustainability

**Constraining Factors for Effective Entrepreneurship
Policy Implementation in a Developing Economy:
Evidence from Oman**

Constraining Factors for Effective Entrepreneurship Policy Implementation in a Developing Economy: Evidence from Oman

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Doctoral Program in

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To all my loved ones

To my country

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Foreword 1

Foreword 2

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Abstract

This thesis focuses in understanding the effectiveness of entrepreneurship policy in the context of developing countries. The debate continues over the effectiveness of entrepreneurship policy to address market and institutional failures, as mixed findings from the literature have led to unclear conclusions. While this subject has been extensively analyzed in advanced economies, little is known about the impact of entrepreneurship policy in developing countries.

My study aims to elaborate on the discussion of entrepreneurship policy in four main areas: government support, market failure, entrepreneurs' human capital, and new firm growth in the context of a developing economy. To address these issues, I draw on several research streams and the debate in the literature on entrepreneurship policy in developing countries to propose two main arguments which lead later on to two empirical analyses performed by this study. Because new firm owners often lack the entrepreneurship-promoting conditions (i.e., skilled human capital, financial resources, policy incentives, etc.) that are prevalent in developed countries (González-Pernía et al., 2015; Ramadani et al., 2015), the first study argues that it is misleading to extrapolate lessons on entrepreneurship policy from advanced economies and apply them to developing regions. Therefore, the purpose of the first study is to examine the extent to which current insights on entrepreneurship policy are applicable to less developed countries, where market and institutional failures are more pronounced. More specifically, the implementation of a government support program aimed at granting loans for venture growth in the context of a developing economy is assessed. Using bias-corrected matching estimation techniques, the results reveal that a policy designed to address severe financial market failure in a developing economy positively contributes to new firms' overcoming barriers to growth during the critical early stages of their development.

In the second empirical study, I argue that in a developing context, entrepreneurship policy is necessary but not a sufficient condition to deal with financial market failure. Entrepreneurs human capital matters in overcoming barriers to growth, and this may be especially true in the context of a developing country where resources are scarce. Thus, the aims of the second study are to disentangle the reasons behind the stagnation of new ventures that obtain government financing support in the context of a developing

economy (i.e., the case of Oman). A crisp-set Qualitative Comparative Analysis (csQCA) technique was applied to obtain results (Rihoux & Ragin, 2009). The study's findings shed some light on the factors that prevent new firms from growth in developing economies despite the financial support they receive from public institutions. I build on previous work on entrepreneurship policy, human capital and new firm growth (Erikson, 2002; Shaw et al., 2009) to argue that providing small business loans may be a necessary, yet insufficient condition to achieve venture growth, as the founders (and recipients of the government financing support) often lack human capital attributes to scale up their new businesses in disadvantaged contexts.

Implications and key findings extracted from this study are intended to interest and be of use to researchers, policymakers, entrepreneurs and government institutions in the context of developing countries, and specifically Oman. It is worth mentioning that the first study from this thesis has been accepted for publication in the *International Journal for Entrepreneurship and Small Business (IJESB)*, and in two international conferences: the 61st annual ICSB World Conference in New Jersey (US) during June 15-18, 2016, and in the 26th ACEDE conference (Spanish Scientific Association for Business Economics and Management) in Vigo (Spain) during June 26-28, 2016. The second part of the study from this thesis has been accepted in 2017 BCERC – Babson College conference at The University of Oklahoma Michael F. Price College of Business, in Norman, Oklahoma, USA, on June 7-10, 2017. This indicates that the research findings can be of use to researchers either in Oman, or the Gulf region, or be of interest in international journals and conferences.

All these issues are integrated into a cohesive, consistent manuscript that follows a unique conceptual framework that will be explained in the first chapter of this study. Chapter Two gives an overview about entrepreneurship policy and build the theoretical background and insights for my empirical work. Chapter Three outlines in details a brief description of the study's context (i.e. the case of Oman) and explains the research approach and methodology adopted. The results and discussion are in Chapter Four, and the study ends with my main conclusions, implications, and limitations in Chapter Five.

1 CHAPTER ONE: INTRODUCTION

1.1 Background

Entrepreneurship is widely regarded as an engine for change and prosperity. Spurring on entrepreneurial activity is particularly important in the context of developing economies because venture formation opens up new markets and leads to the emergence of different social habits. Scholars have often stressed the remarkable impact of new enterprises on economic growth (Storey, 2003; van Praag & Versloot, 2007). Accordingly, government authorities of many countries have widely recognized the positive influence of new enterprises on job generation, increased innovation and productivity (Storey, 2003; Davidsson, Delmar, & Wiklund, 2006; van Praag & Versloot, 2007; Girma et al., 2008; Greene & Storey, 2010). Indeed, entrepreneurship policy may play a key role in transforming contexts where market and institutional failures abound (Audretsch & Beckmann, 2007). However, to achieve economic and social goals, policies must be effective.

One of the significant factors in promoting entrepreneurship is the enhancement of the policy system that can support achievement of the policy goals and targets. Entrepreneurship policy (EP policy) is a mechanism or tool used by the government to stimulate high levels of entrepreneurial activities among individuals and communities. In that sense, Audretsch (2014) argued that “Entrepreneurship has become a focal point for policy” (p.237). However, empirical studies show mixed results concerning the ability and capability of entrepreneurship policy to reach the target of policymakers (Pergelova & Angulo-Ruiz, 2014; van Praag & Versloot, 2007).

Studies in entrepreneurship policy are countless, and the subject has been analyzed from multiple perspectives. There is a research stream that investigates the entrepreneurship policy as a mechanism to address financial market failures due to the problems arising from the liability of newness of young ventures. Empirical evidence regarding entrepreneurship policy suggests that government financing support should be positively related to new firm growth (Koski & Pajarinen, 2013; Riding, Madill, & Haines, 2007) .

Recently, researchers have shown an increased interest in measuring the effectiveness of EP policy. Several approaches and measures have been discussed in literatures to

investigate the impact of entrepreneurship policy in the economy. Thus, better understanding of market failure, environment conditions and country context should lead to better policy design, implementation and assessment, because EP policy has been criticized for its low effectiveness in understanding target groups and formulating policies (Arshed et al., 2014; Gilbert et al., 2004; Shane, 2009).

The combination of firm attributes, willingness to grow, abilities (management skills or financial resources) and opportunities has to be achieved to promote growth (Stenholm & Toivonen, 2009). Access to financial sources is crucial for firm growth and plays an important role in the dynamics of firms in terms of growth, job reallocation, and exit (Cooley & Quadrini, 2001). Several studies have emphasized the remarkable role of government public support programs in facilitating the growth of new startup firms.

While the effectiveness of the entrepreneurship policy for venture growth has been broadly investigated in the context of developed countries (Pergelova & Angulo-Ruiz, 2014; van Praag & Versloot, 2007), evidence remains scarce for the policy impact on new venture growth in less developed contexts where market (and institutional) failures are more abundant and profound (Park & Bae, 2004). In addition, most entrepreneurship policy models and evaluation frameworks have been studied in the context of developed economies (Audretsch et al., 2007; Lundstrom & Stevenson, 2005). Many of these frameworks do not apply, or are of little relevance, to developing countries (Lingelbach et al., 2005; Coad & Tamvada, 2012). The aim of this thesis is to contribute to the literature discussion by analyzing the effectiveness of financial public support programs.

1.2 Research problem

1.2.1 The importance of the study and the research gaps

Policy instruments or tools should prove a major contribution to the policy participation or the target population. However, Schneider & Ingram (1990) argue that “the implementation and evaluation research over the past two decades has made it clear that tools do not always deliver expected outcomes and sometimes produce unintended and unwanted effect” (p.525). The government cannot focus only on one set of policy tools to enhance entrepreneurship vitality in the society. As noted by Schneider & Ingram (1990), “very little systematic attention has been given to policy instruments and even less attention has been shed on the behavioral characteristics through which effect on target population are produced” (p.527). Therefore, there is a lack of studies in entrepreneurship

policy that highlight the positive or negative reactions of entrepreneurs towards different policy instruments such as authority tools, policy incentives, capacity-building instruments, symbolic and hortatory tools and learning tools. Much could be learned by conducting a comparative analysis of different entrepreneurship policy tools to investigate the effectiveness of alternative tools in certain circumstances. This could be done through the *Ex-post* evaluation which is mainly conducted after the support program has been implemented (Georghiou, 1998).

So, far, however, there has been little discussion in literature about evaluating the government support programs at each stage of the entrepreneurial process from the pre-start, startup and post-startup phases. The work of Lenihan (2011) observes that “the single biggest challenge in evaluating new enterprise policy interventions is to move away from methodologies that (1) concern themselves solely with narrowly defined economic impacts (e.g. number of jobs created), and (2) measure impact purely at the level of the ‘assisted’ firm” (p.330) to macro level scope, which also indicates a new approach to evaluating certain government programs.

In this study, I attempt to introduce a new view of evaluating the government support program as there is still a need for further research to investigate the conduct of evaluations and evaluate the impact of public subsidies in the entrepreneurial environment. As Green & Storey (2007) state, “while enterprise policy is widespread across developed economies, there is little evaluation of impact” (p.213).

Furthermore, this study will account for the research gaps pointed out by Román, Congregado & Millán (2013) (p.171) who stated that further research is needed for the following reasons:

- 1) *To evaluate startup programs in countries with different regulatory environments and/or in different phases of the business cycle and to compare the obtained results.*
- 2) *To study the impact of particular regulations or macro policies on entrepreneurial entry in terms of self-employment performance. (Earnings, survival, or employment growth could be explored in detail, either within a case study or a natural experiment framework).*

Despite the growth of entrepreneurship policy research in developed countries over the last decade, little research has been conducted on the developing countries. There is a

need to understand the economic context and the challenges in developing countries to overcome the formulation of entrepreneurship policy (Lundstrom & Stevenson, 2005). So far, however, there has been little discussion about “how entrepreneurship is carried out in developing countries” (p.2), and most of the previous studies have only been using the same models applied in developed countries which are, of course, not necessarily applicable to developing countries (Lingelbach et al., 2005). Therefore, the main challenge for developing countries is market failure and the regulatory constraints for entrepreneurs (Quatraro & Vivarelli, 2013). Few studies in entrepreneurship policy in developing countries have addressed these issues.

Clearly, there is a growing need in this field to better understand the challenges faced by policymakers of developing countries in designing and implementing effective entrepreneurship policies (Lundstrom & Stevenson, 2005; Desai, 2009). Furthermore, the entrepreneurship literature supports the importance of better understanding the role of entrepreneurship and how best to facilitate it in developing countries (Ayyagari, Demirguc-Kunt & Maksimovic, 2014; Monsen, Mahagaonkar, & Dienes, 2012; Naudé, 2010). Credit constraints, imperfect financial markets, and asymmetric information are the main reasons for government intervention (Levitsky, 1997; Zecchini & Ventura, 2009), and those market failures are more noticed in developing economies. Supply side initiatives, like subsidies and loan schemes, have been widely used by government agencies worldwide to reduce market failure and facilitate entrepreneurs’ access to credit (Freel, Carter, Tagg, & Mason, 2012; Levenson & Willard, 2000). Indeed, the provision of direct loans (or loan subsidies) constitutes a powerful entrepreneurship policy instrument to ameliorate this market failure problem. Consequently, the lack of entrepreneurship policy evaluation is more noticeable in developing countries in terms of the effectiveness of support programs and whether these programs can promote growth, increase competitiveness, and improve job creation (Acevedo & Tan, 2011), specifically for new startup firms that receive public support in developing countries. Furthermore, despite the increasing interest in understanding the role of entrepreneurship in developed countries and the rising numbers of studies in the relationship between human capital and engagement in entrepreneurship, few studies have focused on the context of developing countries (Cetindamar, Gupta, Karadeniz, & Egrican, 2012). Most of the research on entrepreneurship policy is focused on European and North American contexts (Cetindamar et al., 2012; Kasabov, 2016). Thus, there are few studies aimed at explaining

the role of “institutional intermediaries” in developing countries to support the development of entrepreneurship and innovation systems (Watkins, Papaioannou, Mugwagwa, & Kale, 2015).

To address some of these issues and to contribute to filling the research gaps in this field, the present study aims to evaluate the impact of a government loan incentive program on the growth of new firms in the context of a developing economy, that of the Sultanate of Oman. Thus, this study aims to evaluate the effect of a government loan scheme on the growth of new firms by comparing the performance impact of entrepreneurship policy on “supported” and “non-supported” firms; and this the first objective of my thesis. The second objective is to disentangle the reasons behind the stagnation of new ventures obtaining government-financing support in the context of a developing economy (i.e. the case of Oman).

In this study I focus on Oman and not on other developing countries, because developing countries are different in their structure, and accordingly there are different in their policy design and policy implementation. Therefore, the study’s result cannot be generalized across other developing countries because Oman has a specific economic structure, specific historical background, and specific policy design and implementation for entrepreneurship. Oman’s case is interesting in the scope of this study, as the country needs to diversify its economy, and policymakers are looking to entrepreneurship as one of the tools for economic diversification. In fact, some policy authorities have taken action to promote entrepreneurship in Oman and support its growth and development. Furthermore, Oman has had a long period since the inception of the SANAD program of Omanization, which replaces expatriate labor with educated and qualified Omani labor. Oman has also recently started the strategy of economic diversification in non-oil sectors to reduce the country’s dependence on oil revenue. Therefore, both strategies have made Oman different from other developing countries, and make its case suitable for this study. In addition, Oman now has many government and private programs to support entrepreneurship, thus enabling this study to better analyze and compare their effectiveness. Therefore, the impact of entrepreneurship policies designed to overcome barriers to venture survival and growth in developing countries is a topic that clearly demands further investigation (Lingelbach et al., 2005; Naudé, 2010).

A list of some previous researches on entrepreneurship and entrepreneurship policy with their main findings and the research gaps is summarized in **Appendix 1**.

1.2.2 Selection of context

The Government of Oman identified privatization and liberalization policies as those to accelerate the rate of economic growth. The government encouraged men and women equally to participate in the process of the economic development of the Sultanate. “Vision Oman 2020” proposed a policy for the Sultanate’s development over twenty five years (1996 to 2020). It took into account the far-reaching changes in the world economy and the revolution in telecommunications and information technology that have transformed the global system of production and exchange (Unesco, 2010). In order to encourage entrepreneurship among Omanis, the government launched a program called “SANAD” in 2001. The main objectives of this fund are to support initiatives and job seekers to establish self-employment projects, participating in spreading the individual initiatives of self-dependence and supporting the development of small projects as the main source of national income. Statistics show that this government-supported program, from its launch in 2002 to February 2013, supported 45,199 beneficiaries, of which 28,710 took advantage of the protection and finance scheme, while a total number of 16,489 were involved in the training support. There were also 13,289 new startups and existing firms that used this fund (Ministry of Man Power, 2012).

Steyaert & Katz (2004) recommended that entrepreneurship research go beyond the scope of the current focus to cover multiple sectors, domains and spaces, specifically for developing countries. In developing economies, little is understood about entrepreneurship and economic and social areas (Lingelbach et al., 2005), specifically in Arab countries (Gray, Foster, & Howard, 2006; Kuehn & Al-Busaidi, 2000). Despite the significant role of new venture in economic growth, little is known about new venture growth in developing countries (Park & Bae, 2004), and few studies have focused on the impact of government intervention on the growth of new firms. Thus, to capture the unique differences of developing countries, and to shed some light on entrepreneurship policy in those contexts, this study has considered Oman as an example of developing countries.

Since the aim of my study is to explore the effect of a specific type of EP support, namely the government loan support program, I focus on the assessment of the implementation of

a government support program aimed at granting loans for venture growth in the context of a developing economy. Therefore, the main attempt of this study is to fill the gap in the literature in terms of the lack of studies in entrepreneurship policy in this part of the world. Oman is a prime context for this field of studies, and is considered from three perspectives. First, there is data that can be collected about the SANAD program which represents an example of policy instruments the government has used to address financial market failures due to the problems of liability of the newness of young ventures. Second, the SANAD program, relabeled *Al Raffd* Fund in 2013, has been selected for this study to represent an example of an “intermediary” government institution that can promote entrepreneurial activities in developing countries. Contributing to the ongoing debate regarding the effectiveness of such “institutional intermediaries” in developing countries is at the core of my study objectives. Third, the SANAD program is a means to practically illustrate the impact of government entrepreneurship policy (i.e. loan policy) in a developing country and to elaborate on whether the adapted evaluation methodology is suitable for providing evidence about the impact of the government financial support on new firm performance. Therefore, the data collected from this program is suitable and convenient for my adopted techniques (i.e. matching estimator technique and qualitative comparative analysis).

1.2.3 Formal statement of the research problem

While this subject has been extensively analyzed in advanced economies, little is known about the impact of the entrepreneurship policy in developing countries. The purpose of this study is to examine the extent to which current insights into entrepreneurship policy are applicable to less developed countries, where market and institutional failures are more pronounced. However, there are notably few policy evaluation tools to evaluate the public financial support programs directed towards new firms in developing countries (specifically in Oman) and to gain insights into how these programs can promote venture performance. This study attempts to fill this gap by evaluating the impact of a government loan incentive program for venture performance in the context of a developing economy, the Sultanate of Oman, by comparing the growth capacity of financially “supported” new ventures with “non-supported” new ventures during their early stage of the firm life cycle, and also by exploring the reasons behind the stagnation of new ventures obtaining government financing support.

1.2.4 Definition of key concepts of the study

It is important to clarify some key terms of this thesis before explaining the scope of the study.

Entrepreneurship Policy: The definition and meaning of the entrepreneurship policy concept will be explained clearly in chapter 2. In this thesis, I will use the Stevenson and Lundstrom (2002) definition: “*policy measures taken to stimulate entrepreneurship, that are aimed at the pre-start, the start-up and post-start-up phases of the entrepreneurial process and designed and delivered to address the areas of Motivation, Opportunity and Skills with the primary objective of encouraging more people in the population to consider entrepreneurship as an option, to move into the nascent stage of taking steps to get started and to proceed into the infancy and early stages of a business*” (p.132). The focus of the present study will be from the startup phase and forward, and the pre-startup is out of the scope of this research.

Developing Countries: The World Bank classified countries into four income groupings: low, lower-middle, upper-middle, and high. Oman is ranked by the World Bank as a high-income developing country. The International Monetary Fund (IMF) classified Oman along with other Gulf Countries as a resource-rich developing country.

New startup firms: This thesis focuses on new entrepreneurial ventures that already have formal registration documents and are ready to meet marketable needs by offering or developing new and innovative products or services. Established firms are excluded from the scope of this thesis.

Foundation year: The date of the official firm registration at the governmental institutions. The survival rate is calculated up to three years from this date.

1.3 Research questions

This thesis is aimed at contributing to the literature of entrepreneurship policy in developing countries as there is a lack of research on the impact of such a policy (particularly the government financial policy) on promoting and enhancing the performance of new startup firms. Therefore, the aim of this thesis is to answer the following two main research questions:

1. *To what extent does EP policy affect the growth of new firms created in developing countries, such as the Sultanate of Oman?*
2. *What is the profile of the companies that show no growth, even though they received support from the government, in developing countries such as the Sultanate of Oman?*

These research questions determine the scope of my thesis. In the first key question: *To what extent does EP policy affect the growth of new firms created in developing countries such as the Sultanate of Oman?* and based on the theoretical background found either in entrepreneurship theory or entrepreneurship policy theory, I sought to understand: -

- a) Types of entrepreneurship policy and policy instrument support in developing countries that overcome barriers to new firm growth, and respond to financial market failures. In this respect I benefited from the growing body of literature that discussed this topic widely, for instance: Audretsch et al. 2007; Lucky, 2013; Neto, Santos, & Serrano, 2014; Pickernell et al., 2013; Stevenson and Lundström, 2002.
- b) The impact of government financial support on avoiding financial market failure by evaluating the treatment effect between supported and non-supported firms. I aim to formulate a systematic framework of evaluation procedures which can be used in the future by developing countries to evaluate any particular programs. My own study was aided by some previous empirical studies such as those of Almus, 2004; Boocock & Shariff, 2005; Girma et al., 2008; Koski & Pajarinen, 2013; Norrman & Bager-Sjögren, 2010; Oh et al., 2009; Zecchini & Ventura, 2009.

The result derived from this part of the study will be useful in i) providing evidence for the impact of government loan incentive programs on entrepreneurship in developing countries; ii) assessing the existence of additional benefits resulting from the implementation of a public financial program; and iii) offering suggestions for policymakers looking to improve the design and implementation of EP policy in developing economies. In that sense, the finding reveals that when I compare one subsample that benefited from the government financial support (the treated sample) with the other (the control sample), just by looking at descriptive statistics, we do not see much significant difference. However, when I used a more sophisticated technique

then the study shows a significant impact of EP policy on the growth of new firms created in developing countries. Consequently, this is the first important finding from this study.

The second key question is *what is the profile of the companies that show no growth, even though they received support from the government, in developing countries such as the Sultanate of Oman?*

The purpose of this question is to investigate: -

- a) The relationship between human capital and the stagnation of new ventures which received financial support from the government programs in developing countries. This part of the study will be based on institutional and human capital theories, and on configurationally analysis to better understand what stops firms from growing. Prior studies such as Jamali (2009) and Pergelova & Angulo-Ruiz (2014) can help to formulate the theoretical background of this study.
- b) The bundle of human capital or the causal conditions which can lead to a firm's growth in developing countries. Discussion found in Acs & Armington (2004), Davidsson & Honig (2003), Grilo & Irigoyen (2006) can provide the road map for this kind of analysis.

The finding can contribute to examining the paths of non-growth firms in terms of human capital, and in the context of developing countries, to better understand the relationship between public policy support and entrepreneur human capital. The finding can help also to examine whether the lack of growth is driven by bundles of presence or absence of human capital. Thus, this is the second important finding from this study.

1.4 Positioning the thesis in the current debate on entrepreneurship policy

There is ongoing debate in the literature regarding the effectiveness of entrepreneurship (EP) policy in supporting the development and growth of entrepreneurship in developing countries. My study positions its research questions in the current debate by looking at the effectiveness of EP policy and at why some beneficiaries face barriers to their progress.

The present thesis focuses mainly on evaluating government financial support in developing countries by adapting two widely used models. In addition, my main focus in this study is to explore the barriers to growth rather than the barriers to entry for new

startup firms, which is lacking in the existing literature. Therefore, the conceptual framework of the thesis presents two main streams for this study: the first is evaluating the impact of received government loan support (in the treatment group) and comparing the impact to non-supported firms (in the control group) by using the matching estimator technique; the second stream is expected to shed some light on the factors that prevent new firms from growing in developing economies despite the financial support they receive from public institutions. **Figure 1-1** presents the conceptual framework and research procedure map for my thesis, which positions the main arguments in the entrepreneurship policy literature.

1.4.1 Entrepreneurship policy to overcome barriers to new firm growth in a developing economy

Studies in the fields of entrepreneurship and industrial organizations have widely emphasized the positive impact that the creation of new firms has on generating jobs, stimulating innovation and improving productivity. It is well known that entrepreneurship policy has played a critical role in many national and sub-national regions by providing the systemic conditions that help not only to create but also to successfully develop new firms (González-Pernía, Arrizabalaga, Arancegui, & Legazkue, 2009). While examples from advanced economies abound, evidence on the impact of government policy on enhancing entrepreneurial activity in developing economies remain scarce (Ratten, 2014). The limited findings of the literature on this issue suggest that the entrepreneurship policy is a way of alleviating poverty and moving the economy towards higher levels of development through structural change (Girma, Görg, Strobl, & Walsh, 2008; Greene & Storey, 2010; Storey, 2003; van Praag & Versloot, 2007).

Two obvious lacunae in the field of entrepreneurship policy motivate the study of this topic. First, most findings are the result of empirical studies conducted in advanced countries. The main conclusions of these studies are not usually extendable and applicable to the market and institutional contexts of less advanced economies (Audretsch et al., 2007; Lingelbach et al., 2005). Second, policy on *scale-up* differs from policy on *startup*. Whereas most research on entrepreneurship policy deals mainly with the promotion and creation of new firms (i.e. policies to overcome barriers to market entry), the study of policies focusing on subsequent stages of the entrepreneurial process – venture survival and growth – remains largely ignored in the literature (Desai, 2009; Lundstrom & Stevenson, 2005).

Therefore, the impact of entrepreneurship policies designed to overcome barriers to venture survival and growth in developing countries is a topic that clearly demands further investigation (Lingelbach et al., 2005; Naudé, 2010).

The goal of this part is, therefore, to shed light on the debate about the effectiveness of a specific entrepreneurship policy by assessing a government loan support program that aims to overcome the credit-market constraints that obstruct venture growth in a developing economy. Indeed, policy makers target different market failures which inhibit entrepreneurship by designing and implementing a variety of (hard and soft) policies. In this study, I will focus on the financial market failure constraining venture growth in a developing context. Several studies suggest that credit constraints, imperfect financial markets, and inconsistent information lower the survival and growth prospects of new firms (Levitsky, 1997; Zecchini & Ventura, 2009). This difficult situation is exacerbated in developing economies, where such market (and institutional) failures are usually larger and more intense. The literature does not provide clear insights and advice on this important yet under-investigated issue.

This thesis sheds light on this part by evaluating the impact of a government loan program on new firm performance in the context of a developing economy, such as the Sultanate of Oman. In particular, I compare the growth capacity of new firms that have been “supported” by a government loan program against a matched sample of “non-supported” new firms during the early stage of their life cycle. I gathered data from three main sources: (1) a database of the SANAD program’s recipients from 2002¹ to 2011, obtained from the Oman Development Bank (ODB)²; (2) a database of registered businesses obtained from the National Center for Statistics and Information (NCSI), and (3) a survey specifically designed and conducted for the purpose of this study, which was addressed to a sample of treated and control cases. Accordingly, I only match treated firms that had survived for at least three years after the year of the treatment, meaning that out of the 138 treated firms, only 116 cases that have survived for three years were

¹ In 2002 SANAD program started signing contracts and disbursing loans.

² The SANAD program worked for around twelve years from the date of inception in 2001 before it was substituted with another program called *Al Raffid* fund in 2013.

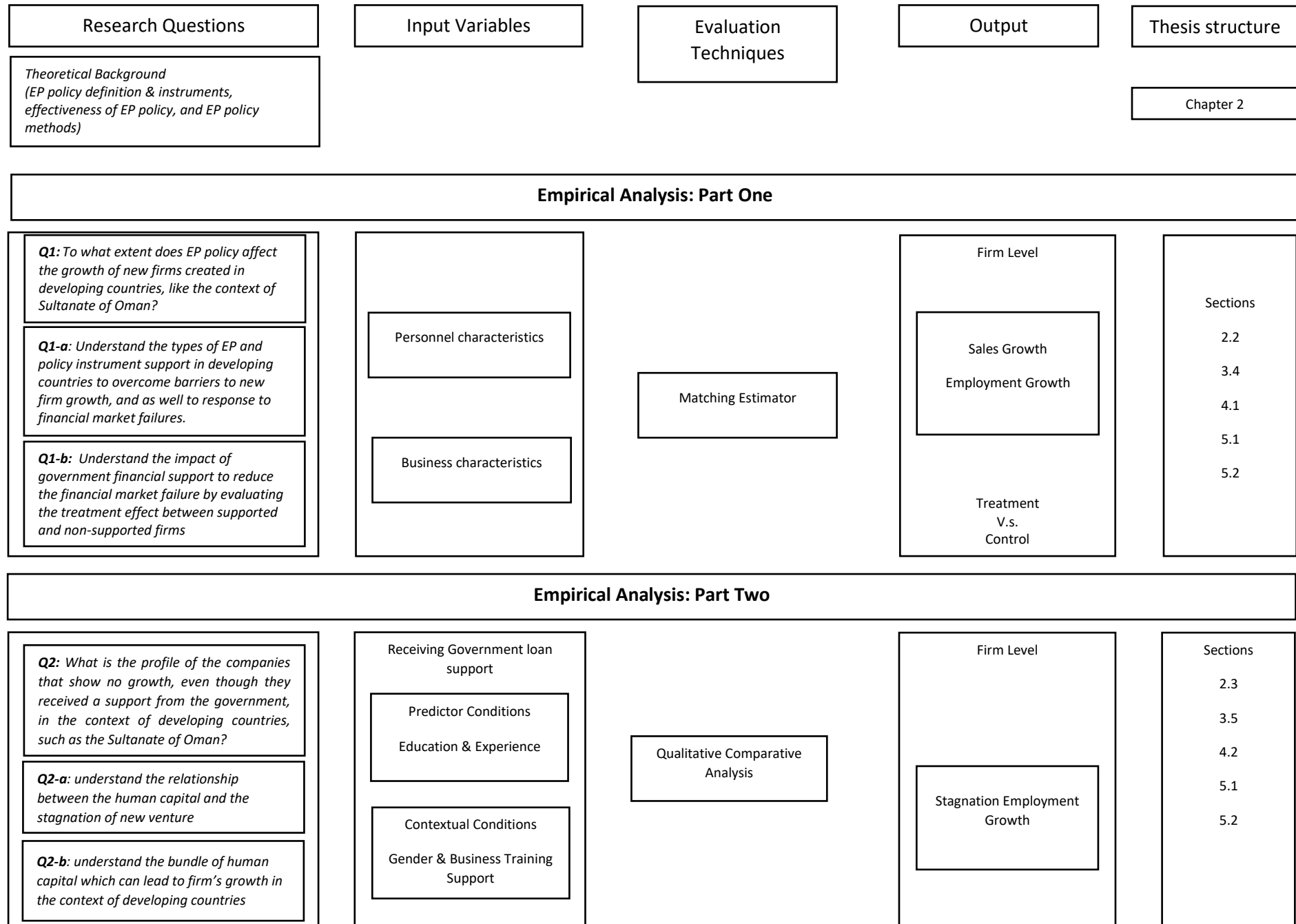


Figure 1-1: Thesis Conceptual framework

included in the sample, together with 135 control cases, for an overall sample of 251 cases. The results provide evidence that the use of loan guarantee schemes to alleviate market failures affecting the access to finance for new firms have a positive impact on the early stages of business growth.

1.4.2 Human capital explanations for the stagnation of new ventures in a developing economy

There is a plethora of studies on entrepreneurship policy from multiple perspectives. There is a research stream that investigates entrepreneurship policy as a mechanism to address financial market failures due to the problems of liability of newness of young ventures. Empirical evidence on the entrepreneurship policy suggests that government support through financing should be positively related to new firm growth (Koski & Pajarinen, 2013; Riding et al., 2007). Baumol (1990) argues that entrepreneurs can play some substantial role in shaping the supply of entrepreneurial activities, but there are a variety of other roles that can also influence entrepreneurship. These include government policy and the constructive environment. Receiving financial support from government programs is not sufficient to achieve firm growth. Human capital remains the most important factor in growth and success. Thus, a key research question in the field of firms relates to the bundles of conditions that restrain growth.

This issue has been extensively investigated with some contradictory findings (Pergelova & Angulo-Ruiz, 2014; van Praag & Versloot, 2007). Considerable attention has been paid to understanding entrepreneurial capital (tangible and non-tangible resources) that can shape the success of entrepreneurs, and enhance firm performance (Erikson, 2002). Evidence from empirical studies demonstrates the impact of firm and individual's characteristics, and entrepreneurial capital on business performance (Shaw, Marlow, Lam, & Carter, 2009).

Still many issues concerning the implication and effectiveness of entrepreneurship policy have not been studied and there is a need for further studies (Autio & Rannikko, 2016; Maria Minniti, 2008). While the effectiveness of entrepreneurship policy for venture growth has been broadly investigated in developed countries (Pergelova & Angulo-Ruiz, 2014; van Praag & Versloot, 2007), evidence remains scarce for the policy impact on new venture growth in less developed contexts (Park & Bae, 2004).

The thesis sheds light on this issue by disentangling the reasons behind the stagnation of new ventures obtaining government-financing support in the context of a developing economy (i.e., the case of Oman). The purpose of this study is, specifically, to understand what stops firms that received government loans from growing in developing countries, such as the Sultanate of Oman. I build on previous work on entrepreneurship policy, human capital and new-firm growth (Erikson, 2002; Shaw et al., 2009) to argue that providing small business loans may be a necessary, yet insufficient condition to achieve venture growth. This is because founders and recipients of the government financing support often lack human capital attributes to scale up their new businesses in disadvantaged contexts.

Therefore, this study seeks to explore the interplay between getting government support (financial and non-financial support) and the patterns of human capital, and their impact on firm performance by adopting the qualitative comparative analysis technique (QCA). Shaw et al. (2009) conclude that there is a need for further research to explore collectively common features between the business owners' characteristics (in terms of gender, age, work experience, etc.), investment amount and types of startup capital on one side, and business performance in the different contexts in which entrepreneurs establish their business.

In this research study I used a Qualitative Comparative Analysis (QCA) technique to understand the stagnation of new firms that received government financial support. Data was collected for the period 2002-2011 from a database created by the Oman Development Bank (ODB). The database included information for the beneficiaries of the government financial program known as SANAD and was used for the purpose of this study. I ran the QCA analysis for only Al-Batinah governorate in Oman. After designing the questionnaire, interviews were conducted with entrepreneurs who were recipients of loans provided by the SANAD support program. I obtained 32 responses from Al-Batinah region for new survived firms and used them in my analysis. Results of the study show that by using data spanning 10 years, for firms that received support from the SANAD program in Al-Batinah region, the absence of human capital is a core factor that stops firms from growing.

1.4.3 Main contribution

The main objective of this research work is to contribute to the debate on the effectiveness of entrepreneurship policy in developing countries. The thesis output is useful for researchers

and policy makers, either in the local context (i.e. Oman) or beyond, as a basis for further research in the future. This thesis has used two methodologies (i.e. *BME* and *QCA*), which are widely used in developed contexts to evaluate government support programs. I hope the developed-context strategies and process adopted in this study can be operationalized and generalized to other developing countries (probably in Gulf countries) and serve as a basis for further research for large quantitative studies.

This study makes three main contributions to the debate on entrepreneurship policy. First, entrepreneurship policy in developing regions is a research subject that demands more empirical work (Naudé, 2010). My study provides detailed evidence of the impact of entrepreneurship policy as implemented in Oman, a developing economy. In addition, the entrepreneurship literature has been biased towards the analysis of barriers to new firm entry as opposed to the study of barriers to survival and growth, as highlighted in the seminal work of Geroski (1995). This study underlines the relevance of entrepreneurship policy in overcoming the barriers to venture growth faced by entrepreneurs from developing economies, an issue largely neglected by the literature. Thus, this study explores and validates a refined version of the *bias-corrected matching estimator (BME)* method as a proven tool for the measurement of the entrepreneurship policy in the contexts of developing economies. Thus, this research suggests policymakers allocate government financial resources to new firms with the potential for future growth.

Second, this study contributes to existing entrepreneurship policy in developing countries by analyzing the reasons behind the stagnation of new ventures obtaining government-financing support in the context of a developing economy (i.e. the case of Oman). Naudé (2010) discussed two important gaps constrains our understanding of the role of entrepreneurship in developing countries: i) the “role and function of entrepreneurship is still relatively underappreciated in the field of development economics” due to limited theoretical formulation and economists do not consider entrepreneurship as a factor of development; ii) “the ‘institutional’ explanations for outcomes are often still treated as a ‘black box’” in terms of building institutions and understanding its obstacles (p.2). The second part of my thesis has filled this gap by showing the factors that prevent new, assisted firms from growth, and

by using the QCA methodology to reveal which profiles of entrepreneurs' human capital fail to achieve growth, and which individuals can benefit more from the government policies.

Third, the study provides evidence about the effectiveness of government support programs and the implications for policymakers in improving the design of such programs. Thus, the finding of my thesis suggests the need for policies to enhance human capital for entrepreneurs, and that disbursing government loans to reduce financial market imperfections may be ineffective if the skills and human capital attributes of the beneficiary entrepreneurs are not sufficient to stimulate venture growth.

Implications derived from the results suggest that the role of government policy in the entrepreneurial activity should not be limited to reducing financial market constraints for new firms. However, as Audretsch & Thurik (2001) noticed, the focus of government should also be on education, increasing skilled human capital, easing the mobility of workers from the public sector to the private, and facilitating the procedures and regulations involved in establishing new firms. In addition, it is a crucial for policymakers to improve the government institutions that promote the foundation and growth of entrepreneurial activities in developing countries.

1.5 Structure of the thesis

This thesis is organized into five chapters. Following this chapter, which presented my thesis and articulated my research problems and objectives, Chapter Two is organized into three main parts. The first part consists of a review of relevant studies and synthesis of existing knowledge in the field of entrepreneurship and entrepreneurship policy. The second part involves a review of the conceptual foundation for entrepreneurship policy in developing countries and the instruments used to overcome barriers to new firm growth. The third part offers the reader a brief idea about the debate in the literature regarding the impact of institutions and human capital on the firm's growth.

The third chapter describes the context (i.e. the case of Oman) and explains the data and methodology adopted. I begin by giving an overview of Oman's economy and describing the SANAD program. Then the research design and approach are explained.

The fourth chapter deals with the presentation of the findings and data analysis for my two main empirical studies. Finally, Chapter Five summarizes the theoretical and practical implications. It also addressed the study's limitations and the future possible research.

2 CHAPTER TWO: LITERATURE REVIEW

2.1 Theoretical overview of entrepreneurship and entrepreneurship policy

Several studies have drawn attention to the fact that entrepreneurship is the engine of economic growth in the areas of creating jobs, introducing innovation, facilitating the transfer of knowledge and technology, and improving the national GDP. For instance, Martin Carree & Thurik, (2005); Van Stel & Storey, (2004); Wennekers & Thurik, (1999) and many other scholars have provided in-depth explanations of the relationship between entrepreneurship and economic growth.

Recent discussion studies, in fact, give attention to more research that links entrepreneurship to entrepreneurship policy. If the entrepreneurship environment depends on the types of entrepreneurship activities needed for the economy, then the entrepreneurship policy seeks to find how to achieve those types of activities. Therefore, the significant objective of policy is to find conducive entrepreneurial environments that can innovate and compete in the global market.

A large and growing body of literature has investigated the aims of entrepreneurship policy in fostering economic growth (Audretsch et al., 2007); promoting the startups of new firms and continuing support to them (Thurik et al., 2013); identifying social problems and developing feasible solutions to them (Reinstaller, 2005); contributing to solving market failure (Carree & Thurik, 2003; Lenihan, 2011), and finally, moving the economy to a global and knowledge-based one (Gilbert et al., 2004).

In this chapter I am going to first highlight in brief the meaning of entrepreneurship and its policy concepts. This is followed by a discussion of the role of government intervention in reducing market and institutional failure for small enterprises.

2.1.1 Entrepreneurship: conceptualization & its role in the economic growth

In recent years, research in the concept of entrepreneurship has gained momentum by many researchers. A considerable amount of literature has been published to study the impact of entrepreneurship activities on economic growth. The literature on entrepreneurship shows a

verity of approaches in explaining this concept. In fact, as Audretsch (2012) says, entrepreneurship is “an academic field that is complex and heterogeneous with respect to approaches, methodologies and even the understanding about what exactly constitutes entrepreneurship” (p.755).

Numerous studies have attempted to explain the concept of entrepreneurship from different perspectives. For instance, and according to Grilo & Irigoyen (2006), entrepreneurship literature has evolved by studies into three core directions: 1) toward regional development (e.g. Audretsch & Keilbach, 2004) ; 2) toward industry (e.g. Carree & Thurik, 2005); and 3) toward the establishment of firms (e.g. Caves, 1998). The knowledge of the relationship between entrepreneurship and economic growth has also been recently investigated by many researchers (e.g. Acs & Szerb, 2007; Van Stel & Storey, 2004; Wennekers & Thurik, 1999; Audretsch & Keilbach, 2004). Thus, these bodies of literature attempt to explain the role of entrepreneurship activities in economic growth.

The definition of entrepreneurship is not clear, and an agreement has not been reached by scholars as to whether it is behavior to establish new firms, behavior to expand existing firms, or if it is more related to innovation. This leads to different views regarding the terms of entrepreneur and entrepreneurship. These terms have been defined in different ways, ranging from self-employment or new-firm creation (Reynolds et al., 2005), to firm level disposition (Lumpkin & Dess, 1996) and opportunity recognition (Shane and Venkataraman, 2000). The different views come from the fact that entrepreneurship is a “multifaceted phenomenon” (Low & MacMillan, 1988) and a highly “eclectic” subject (Lundstrom & Stevenson, 2005) which is exactly extracted from different theoretical frameworks, such as economic and management models. Therefore, several attempts have been made by scholars to define entrepreneurship in different ways, either based on individuals or firms, or on the aggregate level (Audretsch, 2012; Brockhaus, 1987; Cunningham & Lischeron, 1991; Iversen, Jørgensen, & Malchow-Møller, 2007; Shane & Venkataraman, 2000; Thurik, Stam, & Audretsch, 2013; Venkataraman, 1997). Furthermore, some literature has tried to shed light on the evolution of this concept and describe its historical development (Brockhaus, 1987; Long, 1983; Wennekers & Thurik, 1999).

Conversely, some studies indicate that the term entrepreneurship is not more than a combination of different thoughts. For instance, the work of Cunningham & Lischeron (1991) highlights the scope of entrepreneurship through six different schools of thought. Those schools are more related to entrepreneur characteristics and intuitive ability to startup or grow up a firm. The entrepreneurial skills and attitudes are the central focus of those schools. Therefore, the key limitation with these schools is that their attention is toward the individual level rather than the environment or the context surrounding the entrepreneur.

However, Bruyat & Julien (2001) discuss the two basic trends in the definition of entrepreneurship. The first one explains the entrepreneur as “the person who creates and develops new business of any kind” (p.167), whereas the second defines the entrepreneur as “an innovator” (p.167). A comprehensive definition for entrepreneurship can be found in Carree & Thurik (2003): “the manifest ability and willingness of individuals, on their own, in teams, within and outside existing organizations to perceive and create new economic opportunities” (p.4).

Several publications have appeared in recent years documenting that the definition of entrepreneurship is a challenge (Acs, Autio, & Szerb, 2013), and there is still great debate. Both the studies of Carree & Thurik(2003) and Wennekers & Thurik(1999) describe entrepreneurship as “an ill-defined, multidimensional concept”. In fact it is important for policymakers to understand the nature of entrepreneurship and its drivers before establishing the policies to suit it in order to know how to measure its performance. According to Aldrich & Martinez (2001), who support the argument of Low & MacMillan (1988), an evolutionary study of entrepreneurship is vital in understanding the variation of organization structures and how entrepreneurs can modify their organizations.

To this end, it is crucial to establish patterns to simplify understanding of the diverse meaning of entrepreneurship discussed in previous research. Accordingly, to the author’s knowledge, there are few publications available in the literature (e.g. Landström, 2005; Low & MacMillan, 1988; Stevenson & Lundström, 2002; Naudé, 2013; Acs, 2006) that address the issue of classifying the diverse definitions of entrepreneurship. For instance, Naudé (2013) identifies three broad categories of the entrepreneurship definition: 1) behavioral (in terms of the role of entrepreneurship in economic development and the risk and uncertainty

dimension of entrepreneurship) , 2) occupational choice between self-employment and wage employment and 3) synthesis definition which combines between behavioral and occupational views and related entrepreneurship to economic development .In contrast, Acs (2006) states that historically the entrepreneurship definition referred to two levels of meaning: owning or managing a business, and entrepreneurial behavior. I have used a new approach to classify the entrepreneurship definition into three main levels: individual; firm and the country or regional level, by defining different types of pattern for each level. I applied this approach to several definitions found in the literature. **Table 2-1** presents the proposed patterns of entrepreneurship definition in my approach.

Table 2-1: Patterns of entrepreneurship definition

No	Name of Scholar/s	Year	Entrepreneurship Definition	Classification	Patterns
1	J. S. Mill	1848	The main feature of the entrepreneur is risk-taking	Individual level	Uncertainty /Risk taking
2	Knight	1921	Link between conditions of uncertainty (supply & demand in the market) and risk taking as the main characteristics of the entrepreneur	Individual level	Uncertainty /Risk taking
3	Schumpeter	1934	Entrepreneurship is innovation. The entrepreneur can (1) develop new products or services, (2) develop new methods of production, (3) identify new markets, (4) discover new sources of supply, and (5) develop new organization	Individual level	Innovation / creative opportunism
4	Hayek	1945	The entrepreneur is the one who can reach unused resources in the market and maximize their use	Individual level	Market opportunities/ Entrepreneur characteristics
5	Mises	1951	The entrepreneur is the one who can compete in the market with low prices and earn high income	Individual level	Uncertainty /Risk taking
6	McClelland	1961	The entrepreneur can contribute at the level of society development and this depends on the societies' individual behavioral attitudes (e.g. norms and values)	Individual level	Market opportunities/ Entrepreneur characteristics
7	Hagen	1962	Entrepreneurship is the psychological factors and behavioral attitudes in establishing the attempt of the entrepreneur to start a business	Individual level	Market opportunities/ Entrepreneur characteristics
8	Baumol	1968	Entrepreneurship activities need certain conditions in society to maximize social wealth creation	Country or regional level	Environment conditions
9	Kirzner	1973	Identification of market opportunities is the fundamental function of the entrepreneur	Individual level	Market opportunities / Entrepreneur

					characteristics
10	Birch	1979	Entrepreneurship creates new jobs by establishing new startup firms which thus have an impact on regional development	Country or regional level	New startup firms
11	Peter Drucke	1985	The entrepreneur is a person with a new idea or product to exploit	Individual level	Market opportunities/ Entrepreneur characteristics
12	Low & MacMillan	1988	Entrepreneurship is a creation of new enterprise which leads to creating organizations	Firm level	Organization creation / innovative products
13	Lumpkin and Dess	1996	The firm that engages in an effective combination of autonomy, innovativeness, risk taking, pro-activeness, and competitive aggressiveness is entrepreneurial	Firm level	Organization creation / innovative products
14	Wennekers and Thurik	1999	Entrepreneurship activities have an impact on the regional economic growth (self-employment & GDP)	Country or regional level	New startup firms
15	Reynolds et al.	1999	Entrepreneurship is an attempt at new business or new venture creation such as self-employment, a new business organization or the expansion of an existing business, by an individual, a team of individuals or an established business	Firm level	Organization creation / innovative products
16	Stevenson & Lundström	2001	Entrepreneurs are people in the pre-startup, startup and early phases of business ownership	Individual level	Innovation / creative opportunism
17	Gartner and Carter	2003	Entrepreneurship is a role that the individual undertakes to create organization and define it as an organizational phenomenon	Firm level	Organization creation / innovative products
18	Kopple and Minniti	2003	Entrepreneurship is a dynamic process of change in which individuals, having in unusual degree certain personnel or psychological characteristics, undertake innovative activities	Individual level	Market opportunities/ Entrepreneur characteristics
19	Shane and Eckhardt	2003	Entrepreneurship is the sequential discovery, evaluation and exploitation of future goods and services	Individual level	Market opportunities/ Entrepreneur characteristics
20	Lowery	2003	Entrepreneurship is an economic system that consists of entrepreneurs, legal and institutional arrangements, and government	Country or regional level	Environment conditions

Source: own elaboration based on the definition adapted from several studies

For my study, I can give a synthesis definition for entrepreneurship as a social phenomenon in which all the institutions, governments and individuals play a role in enhancing the

creation of new firms which leads to creating new goods and services, expanding the existing firms, and enhancing the organizations' sustainability, innovation and development. The following section outlines the entrepreneurship theories that have influenced the theme of this concept.

In the literature, several theories have been proposed to explain the fact that entrepreneurship has a positive impact on economic growth. Indeed, the historical view of entrepreneurship's conceptual framework, theoretical explanation, and descriptive argument are extracted mainly from economic theories, growth models and industrial and management theories (Wong, Ho, & Autio, 2005). As has been widely attested to, by many researchers such as Freytag & Thurik (2007), Minniti (2005), and Low & MacMillan (1988), the three main scholars who have contributed to the literature of entrepreneurship are Knight (1921), Schumpeter (1934) and Kirzner (1973). Both Knight and Kirzner focused on the arbitrage of the market and the ability of the entrepreneur to capture the opportunity. Therefore, the conceptual theories that link entrepreneurship and economic growth can be adapted from two main models: the neoclassical model of economic growth and the endogenous growth model. However, the way of establishing accurate theoretical models for entrepreneurship is "circumscribed" (Low & MacMillan, 1988) by the models that can be applied to it from other "eclectic" adaption fields.

The earlier studies of entrepreneurship were focused on entrepreneur characteristics and cultural background as the driving factors for entrepreneurship activities (Low & MacMillan, 1988). In more recent studies, this perspective has been changed to studying the social context and the environment conditions as determinants of entrepreneurship. Thus, Shane (2000) proposes that the nature of entrepreneurial behavior falls into three school of thought: neoclassical equilibrium theories, psychological theories and Austrian theories. The neoclassical theory contributes to entrepreneurship literature by assuming that "(1) everyone can recognize all entrepreneurial opportunities, and (2) fundamental attributes of people, rather than information, determine who becomes an entrepreneur" (Shane, 2000, p.449). To be precise, neoclassical economics focuses on "markets and prices as the mechanisms that allocate scarce resources to produce the goods and services that satisfy (unlimited) consumer wants" (Audretsch & Link, 2012, p.7). So, based on this theory, entrepreneurs should search

for alternative ways to reach equilibrium and enable them to also use the scarce resources available in the market. This means that all the opportunities are equally distributed for everyone, and depend on the entrepreneur's characteristics to capture the opportunity. Furthermore, Grilo & Irigoyen, (2006) urge that the neoclassical theory has provided "a framework for studying self-employment decisions" (p.306) in the sense of pointing out a useful insight into the role of entrepreneurship in the economy in terms of job creation. Alternatively, psychological theories focus on people's attributes, personal characteristics and the willingness of the entrepreneur to identify the opportunity as the main determinant for entrepreneurial activities. On the other hand, the Austrian theories have criticized the equilibrium theories and they believe that the opportunity information is the key element for entrepreneurship to exist rather than the entrepreneur's characteristics. So far, achieving the perfect market under the equilibrium theory has not been accomplished in current economies, and this is one of the drawbacks of this theory (Eckhardt & Shane, 2003). Therefore, Shane (2000) argues that prior knowledge and the experience of the entrepreneur are necessary to discover opportunities by recognizing the value of information (Ardichvili, Cardozo, & Ray, 2003).

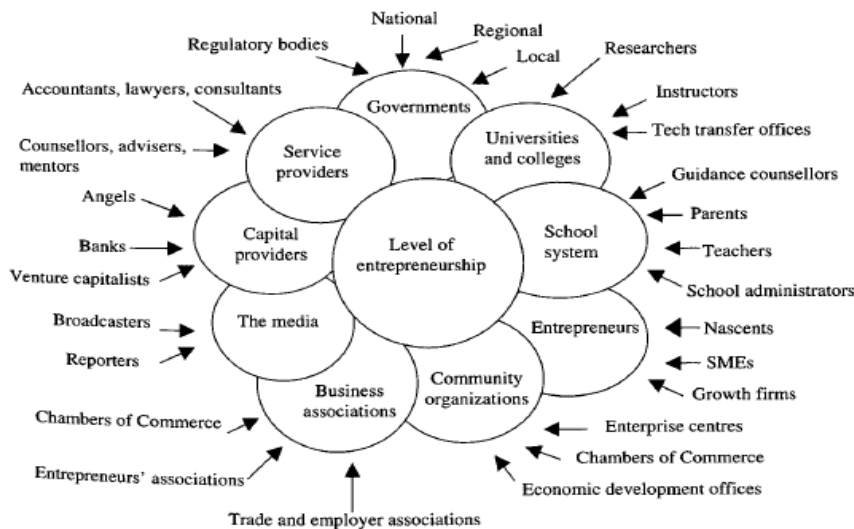
The endogenous growth model is based on the Schumpeter view, which emphasizes that economic growth can be reached by innovative entrepreneurship through introducing new inventions in terms of technological advancement and R&D (Carree & Thurik, 2003). This model, as a result, implies that policymakers should invest in education, knowledge and human capital (Audretsch & Keilbach, 2004) in order to promote the level of entrepreneurship among individuals.

Therefore it is clear that the theoretical perspective of entrepreneurship theory is adapted from different views, and the way of choosing any theory depends on the research approach adopted. Hence, the theoretical thought obtained from these theories has an impact on shaping policies to promote entrepreneurship activities. Now I will move on to discuss the entrepreneurship system and process.

Different stakeholders of individuals, institutions and organizations shape the entrepreneurship process, and they work as a system to enhance the level of entrepreneurship activity in any society (Lundstrom & Stevenson, 2005). Each of the drivers in this process

should be part of a network, because they cannot depend merely on a potential entrepreneur to perform activities without looking to other drivers. **Figure 2-2** shows the scope context that constitutes the entrepreneurship system. This network implies the importance of policy as a key element which can effectively impose the actions between different elements. The study of entrepreneurship according to Stevenson & Lundström, (2007) is “the study of dimensions of the entrepreneurial process and the behaviors and practices of the total system that lead to the emergence of entrepreneurial activity in a society” (p.98). However, this model suggested by Lundstrom & Stevenson (2005) is not applicable to all nations, and there is no empirical study that measures the link between its elements.

Figure 2-2 : The entrepreneurship system



Source: Lundstrom & Stevenson (2005, p.270)

In fact, there is a relationship between the entrepreneurship process and the nature of entrepreneurial opportunities. In the literature, some scholars have indicated this connection from different perspectives. For instance, Eckhardt & Shane (2003) have drawn attention to the role of opportunities in the entrepreneurial process by designing a framework for entrepreneurship opportunity-based approaches. This framework consists of discovery, evaluation and exploitation of entrepreneurship opportunities. Furthermore, the key contribution of the opportunity-based perspective is its assumption that much of the entrepreneurial process is out of the control of the entrepreneur. For example, in the case of financial resources, this framework can overcome the information asymmetric problems in

the entrepreneurial process and search for the financial resources in the organization exploitation process.

On the other hand, the work of Alvarez & Barney (2007) reveals that there are two significant theories which can explain how entrepreneurial opportunities are formed: discovery theory and creation theory. They claim that opportunity may exist in society and there is a need for someone to discover it, or it may be created by the actions of entrepreneurs. **Table 2-2** summarizes the conceptual aspects of each theory's views.

Table 2-2: The difference between discovery and creation opportunities theories

	Discovery Theory	Creation Theory
Rationality	Opportunities exist as objective phenomena, then the task of ambitious entrepreneurs is to discover these opportunities and then exploit them	Instead of searching for the existence of opportunity, entrepreneurs creating opportunities might be engaged in an iterative learning process that could ultimately lead to the formation of an opportunity
How to discover or create opportunity?	Using data collection to discover the opportunity and by using quick strategy to catch opportunity before others	Spend a great deal of time and energy developing a single, comprehensive and complete business plan
Based on	<ul style="list-style-type: none"> • Individual's prior knowledge and experience • The industry or market that can enable that individual to combine information in new ways to discover opportunities 	<ul style="list-style-type: none"> • kinds of resources and capabilities an entrepreneur and an entrepreneurial firm accumulate over the opportunity enactment process • social psychological enactment processes • the heterogeneous of individuals, teams, firms, and organizations
Financial sources	External capital sources, bank & venture capital	Bootstrapping, friends and families
Nature of decision making context	Risky	Uncertain

Source: Own elaboration based on the work of (Alvarez & Barney, 2007)

Over the past 20 years, there has been a large volume of published studies describing the role of entrepreneurship in economic growth. Entrepreneurship has an impact on society, by contributing to economic growth, decreasing unemployment, increasing the tax base, and improving consumer wellbeing (Kaynak, Ajami, & Bear, 2013). Recent studies have

investigated the impact of entrepreneurship on economic growth in terms of innovation, as studied by Wong et al. (2005), to create more jobs (as investigated by Acs & Armington (2004), Blanchflower (2000) and Parker (2009)), to enhance productivity growth in the economy as identified by van Praag & Versloot (2007) & Carree & Thurik (2003), and to enable technology transfer and knowledge spillover, as stated by Acs, Audretsch, et al. (2013) and Braunerhjelm, Acs, Audretsch, & Carlsson (2010).

Furthermore, several studies have investigated the impact of new firm generation on regional development. Recent studies have shown the relationship between new firm generation and employment growth, which have an impact on economic growth (Fritsch & Mueller, 2008; Reynolds, Miller, & Maki, 1995; André van Stel & Suddle, 2008). In particular, the regional policies and the legal system in any country play a vital role in influencing the growth of entrepreneurship activities (Acs, 2006; Acs & Szerb, 2007). Therefore, it is essential to recognize the government as an important driver in stimulating economic growth through creating and improving institutions which can facilitate and improve entrepreneurial activities in the region (Méndez-Picazo, Galindo-Martín, & Ribeiro-Soriano, 2012; Nystrom, 2009). This is a subject that, according to literature, needs further research.

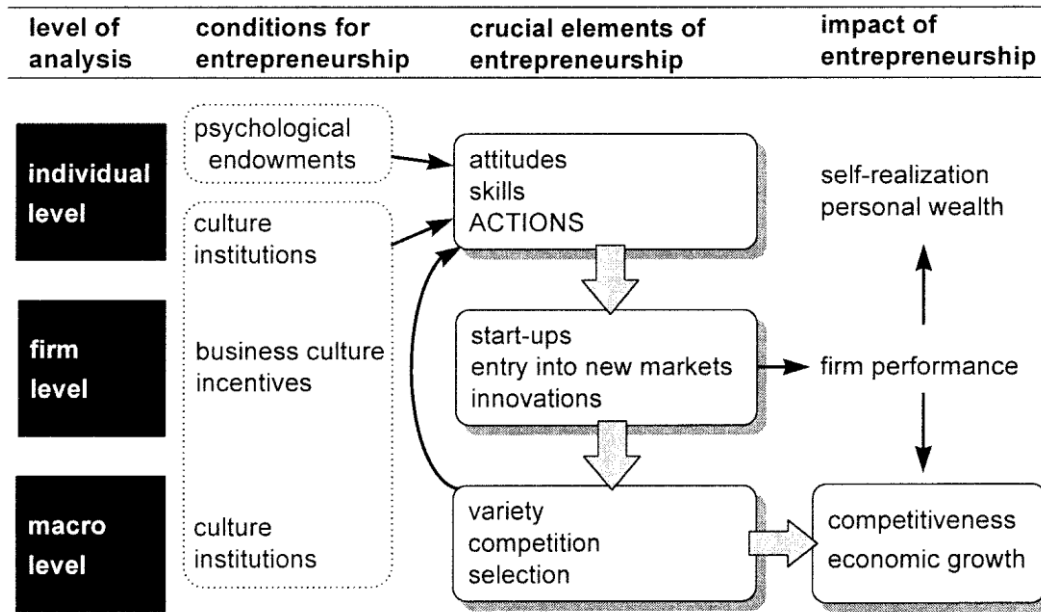
The measures of entrepreneurship can be drawn from two levels: the micro level, including individuals and firms, and the macro level containing the national economies. According to Iversen et al. (2007), the relevant measurements of entrepreneurship activity can be based on the self-employment rate, innovative activities, business ownership rate, entry and exit rates, and performance measures (e.g. growth and survival). Alternatively, one of the most famous projects to measure entrepreneurship activity across the world is *The Global Entrepreneurship Monitor (GEM)*. The GEM is a comprehensive report designed to indicate entrepreneurship activity across the world and assess the role of entrepreneurship in national economies. However, there are still some countries which are not involved in the GEM project.

Although there are numerous theoretical arguments and much empirical evidence to support the positive relationship between entrepreneurship and economic growth, the degree of this association seems to be different among countries (Freitag & Thurik, 2007). According to Naudé (2013) “evidence on whether entrepreneurship matters for economic growth is not

straightforward” (p.5). This is due to several variable factors such as infrastructure, culture, education, motivation and opportunity that can influence the entrepreneur in each study context. In addition, it is important to analyze the link between entrepreneurship and economic growth within the appropriate territory or region instead of giving a general overview. Therefore, the mixed result found by empirical studies in investigating the link between entrepreneurship and economic growth reflects the various aspects of the conceptual framework and the different levels of measurement indicators. As a result, it is difficult to measure and operationalize entrepreneurship either at the individual level or at the aggregate level (Iversen et al., 2007; Wennekers & Thurik, 1999).

Attention is paid by some scholars to analyzing conditions in which entrepreneurship is able to promote economic growth in any context. The level of entrepreneurship among countries is different. Several empirical studies have appeared in recent years documenting that specific skills and characteristics of potential entrepreneurs as well as environment conditions and the political system can shape the level of entrepreneurial activities (Wagner & Sternberg, 2004). In that sense, Boschma & Fritsch (2009) try to understand the relationship between creativity and regional growth. They point out that creative people can make a better contribution to the economy as they “generate more innovations, have a higher level of entrepreneurship, and attract creative businesses” (Boschma & Fritsch, 2009, p.393). Similarly, Wennekers & Thurik, (1999) develop the conditions framework that shapes the link between entrepreneurship and economic growth, as shown in **Figure 2-3**. These conditions at the micro level are those such as cultures and individual psychology, and at the macro level they may be more related to institutions and incentives that support the growth of entrepreneurship activities (Carree & Thurik, 2003). However, a key limitation to this framework is the lack of empirical evidence that support its concepts, and also the failure to address how the legal systems and entrepreneurship policies intervene in this network.

Figure 2-3: Wennekers & Thurik, (1999) framework: linking entrepreneurship to economic growth

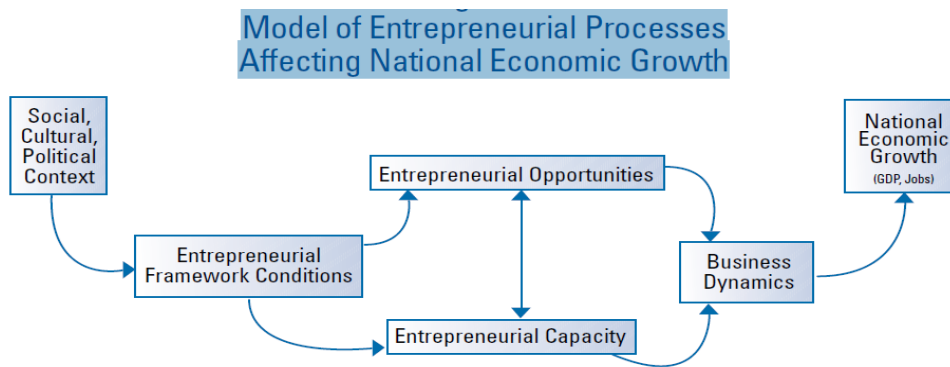


Source: (Wennekers & Thurik, 1999)

Accordingly, the focus of the study by Reynolds, et al., (1999) is to explain the role of the entrepreneurship process in economic growth, as presented in **Figure 2-4**. This work reveals that entrepreneurial activity is shaped by certain factors called entrepreneurial framework conditions, which consist of social, cultural and political contexts. Therefore, the level of entrepreneurship activity is affected by the level of opportunity and the interaction with entrepreneurial capacity – motivation and skills – which then has an impact on the number of business startups. Thus, more firms will be established and more new jobs will be created, all of which have an impact on the growth of the economy. However, Levie & Autio (2008) criticize this model for its lack of theoretical grounding when the model explains the environment conditions and the link between the national conditions and the individual opportunity. It is well known that the national contexts are not the same, and the established business activities at the national level vary across countries. In my opinion, the government plays a significant role in modifying and changing the entrepreneurial environment (i.e. social, culture, institution, politics, and so on), specifically in developing countries. This can be done either by supporting the general national conditions (open external market, labor markets, institutions, financial markets, etc.), and entrepreneurial conditions (financial,

government policies, government support programs, education and training, access to local markets, culture, norms, etc.) (Levie & Autio, 2008). Therefore this module is not applicable in the same manner for all developed and developing countries.

Figure 2-4 : Entrepreneurial processes model



Source: Reynolds, Hay, & Camp, (1999)

A number of scholars also have pointed out the importance of incentive structures between the pertinent institutions in the government and the motivation to potential entrepreneurs (Davidsson & Henrekson, 2002). For instance, this interlink can be achieved through improving the institutional rules and policies regarding the labor market, taxation, and administration procedures, and the entrepreneurial environment in areas of culture, education and behaviors. Job security legislation is an essential regulation to reduce employee mobility. To this point, there is still a lack of a comprehensive framework that can analyze all elements that shape entrepreneurial activities in all regions of the world. However, not all the elements are equally important. In this study, I will focus only on one element, which is the policy. Policy is a significant factor in entrepreneurship theory and plays a key role in promoting entrepreneurial activities. It is widely discussed in entrepreneurship literature and empirical research. Hence, the following part highlights in brief the policy definition, policy instrument, policy evaluation approaches and financial policy tools.

2.1.2 Policy concept and tools

Policy plays a crucial role in promoting entrepreneurship in the economy, as it can motivate and influence individuals and organizations to play a significant role in entrepreneurship

activities. According to Wennekers & Thurik (1999), public policies play a significant role in “promoting macroeconomic stability, diminishing inequality [in] universal primary and secondary education, [and establishing] a reliable legal framework conducive to competition and international trade” (p.40). Similarly, Stevenson & Lundström (2001) declare that there is a huge need for entrepreneurship policy in order to remove “barriers to business entry and exit, influencing opportunities to start a business and stimulating entrepreneurial capacities and preferences” which enable entrepreneurial activities to play a role in economic growth. All in all, a critical research on entrepreneurship policy is important, as stated by Wennekers & Thurik (1999) who argue that “economic growth is a key issue both in economic policy making and in economic research” (p.27). Therefore, entrepreneurship policy must be adapted to meet different economic conditions of countries.

From the theoretical perspective, there are several ways to look for a policy definition. First of all, the World Book Dictionary defines policy as a plan of action; a way of management." In other words, some scholars define policy as “a planning process” in the way that policymakers “can provide creative inspiration for policies, a way of translating community values into action proposals, and a powerful means to communicate to a broad public and rally support” (Neufville & Barton, 1987, p.181). Alternatively, some studies look to policy as a decision making process that guides or addresses any identified concern, objectives or problems in the public society (Torjman, 2005). Therefore, the intention of policy is usually to “address certain problems and therefore to achieve a certain outcome” for public society (Versluis, Keulen, & Stephenson, 2011, p.11).

The term public policy is used to describe a government decision. According to Schneider & Ingram, 1990, public policy “attempts to get people to do things that they might not otherwise do” (p.513). Another effort was undertaken by Versluis et al. (2011) to define public policy as “governmental functions” in the areas that “governmental regulation or intervention is justified” (p.12). So, public policy indicates the rationale of government intervention and action to accomplish the ultimate benefits for national economic and social welfare.

In that sense, some studies (e.g. Howlett, 2011; Torjman, 2005) have attempted to classify policy into four different categories: substantive and administrative policy, vertical and horizontal policy, reactive and proactive policy, and current and future policy. For instance,

the substantive and administrative policy is more concerned about “legislation, programs and practices that govern the substantive aspects of community work” (Torjman, 2005, p.2) and the administrative procedures to implement these action policies.

Hence, most economist agree that policy should not be narrowed to the meaning of “fixed settings for the policy instrument” or “mechanical formula” (Taylor, 1993, p.198). It should instead have a broad definition by way of responding to any change in the economic or organization system. Moreover, policies should be a contingency response to future needs and not be restricted just to the start time of a venture.

Subsequently, policy and politics are very interrelated terms. In some studies, they link the policy actions to the politics target. “Politics refers to the process by which a group of people determine who gets what, when and how” (Versluis et al., 2011, p.13). Therefore, a major interest of policy is to solve a problem once it has “arrived” and is undergoing process through legislation systems. In that sense, the main stage before adopting any policy is to define the problem and then search for a solution to this problem through the policy process. According to Stringer & Richardson (1980), policy makers have three main objectives when they are in the process of designing policies: they “attempt to solve the “real” underlying problem, or to reduce the conflict between competing interests (consensus seeking), or in order to manage the content of the political agenda” (p.23). One of the significant problems in economies nowadays is the government failure to optimize the economy and ensure the economic wealth of its citizens. Looking ahead to policy mechanisms and policy tools can reduce that kind of problem.

In recent years, a great deal of literature has been devoted to the study of policy instruments or policy tools that can be used by government to promote economic growth and social welfare (Linder & Peters, 1989). Policy tools, according to (Schneider & Ingram, 1990), can be defined as “techniques the government uses to achieve policy goals” (p.527). At the same time, Howlett (1991) defines such tools as enabling a government to “implement their public policy objectives” (p.2). Therefore, the purpose of policy tools is to enhance actions and decisions to achieve policy aims.

In order to understand the meaning of policy instrument, it is also necessary to know the different types of policy tools. Schneider & Ingram (1990) identify five types of policy tools that can be used by government to facilitate policy implementation, either “by providing

authority, incentive or capacity; by using symbolic & hortatory proclamation to influence perception or values; or by promoting learning to reduce uncertainty” (p.514). For instance, in terms of capacity, it is assumed that an individual has a lack of information, skills and resources, but these deficiencies can be corrected by policy. Similarly, incentive and learning tools can be used to promote the utility benefit and the learning shortage of an individual in order to achieve the policy goals. The choice of policy tools by the government depends on different factors such as the preferences of citizens and society, or the political system of the country (Howlett, 1991; Schneider & Ingram, 1990). **Table 2-3** presents some examples of policy instruments that have been widely used by some governments.

Table 2-3: The sample of policy instruments

Cash Grants	Govt.-Sponsored Enterprises	In-kind transfer
Loan Guarantee	'Tax Break'	Fee/charge
Certification/Screening	Govt. Provision	Fine
Administered/Contract	Quota	Prohibition
Quality Standard	'Jawboning'	Public Promotion
Information/demonstration	Procedural 'guideline'	Insurance
Loan	Licence/permit	Price Control
Public/Investment	Franchise	

Source: (Linder & Peters, 1989) as cited in (Howlett, 1991)

One of the key stages in the policy cycle is the evaluation step which comes after the policy problem is identified, and the policy is formulated, approved, and implemented. There are different types of evaluation, and the work of Versluis et al., (2011) has attempted to draw a distinction between two of the types. The first one is based on actors involved in the policy evaluation who ask specific questions. Three essential categories of actors can be distinguished by their main evaluation aims, as shown in **Table 2-4**. The questions refer to different points of time: “*ex ante*” is used for asking questions in the future; “mid-term” is used for question during the implementation process; and “*ex post*” is used after carrying out the policy. However, the academic research is more focused on the “*ex post*” process to understand how policy is carried out, the outcome of policy, and subsequently how to improve it in the future. Therefore, the main aim of policy evaluation in academic literature is to learn about “the performance of policy instruments, the extent of public support, the obstacles during the implementation, or the articulation of goals” (Versluis et al., 2011, p.214).

Table 2-4: Types of evaluation

Evaluation Type	Aim / Focus	Undertaken by
Administrative	Examines efficient delivery, determines value of money (value of budget), the achievement of priorities and goals, managerial performance, respect for democratic procedure	Government (Commission) or by specialized executive agencies, private consultants, think-tanks, banks
Political	Attempt to label a policy as a success or a failure based on preferences and ideology often with calls for terminations or change; neither systematic or technically sophisticated, can be biased, impartial	All actors with interests in political life
Judicial	Examines issues related to how the program is implemented, assesses legality of government action and codes of administrative conduct	Judicial courts

Source: Versluis et al.(2011), p. 211

On the contrary, the second evaluation type is based on specific and measurable indicators in order to evaluate the output reach, the result or the overall impact of policy, as indicated in **Table 2-5**.

Table 2-5: Policy evaluation indicators

Indicators	In real terms ...	Effectiveness	Efficiency
Output	What is built, produced or organized; often what one buys with the money; what is visible or tangible?	Actual v. planned output	Output v. cost
Result	How this leads to change behavior, activity, organization, beliefs	Actual v. planned result	Result v. cost
Impact	The overall effect (reduction, increase, improvement) on policy targets/ objectives	Actual v. planned impact	Impact v. cost

Source: based on inspiration and discussion in (Ekins & Medhurst, 2006, p.487 ; Versluis et al., 2011, p.222)

In this regard, a comparison between the actual and planned output, result and impact, and financial cost indicates the effectiveness of a policy program (Ekins & Medhurst, 2006). Indeed, the main purpose of academic evaluation is to learn about the performance of policy instrument and the extent that policy has achieved its initial objectives and goals.

There are substantive financial instruments and mechanisms used by government to encourage some actors or individuals to take part in achieving the government policy goals. Such tools can be either direct or indirect cash transfer of government resources. The direct cash-based incentives can be grants and subsidies, or in a form of cash equivalent, such as government procurement preferences and loan guarantees. The indirect cash transfer may be tax incentives or favorable tax treatment (Howlett, 2011). More explanations of these financial instruments can be found in Table 2-6. Most governments apply similar financial policy instruments through allocating a provision of fund or government financial programs in their annual budget to enhance or promote certain policy goals.

Table 2-6: Government financial policy tools

Type of financial tools	Example	Aim / Focus
Cash based financial tools	Grant, subsidies, user fees	Direct cash transfer of treasure resources to support public purposes
Tax or royalty based financial instrument	Tax incentive, tax credit & excise tax	Indirect transfer of cash which serves as an incentive to target groups, individuals, organizations or firms to undertake activity receiving favorable tax treatment
Cash or tax equivalent financial tools	Preferential procurement to some groups, government procurement subsidies, favorable insurance and loan guarantees, voucher for public services, sales of state assets below market prices	Less direct use of government resources and also provide additional benefit to policy targets. The government can act, for example, as the guarantor of loans to banks which would otherwise reject or allow certain groups to purchase specific goods and services

Sources: own elaboration drawing on discussion in (Howlett, 2011).

The following section highlights in detail the definition of entrepreneurship policy (EP policy) and its rationale and role in enhancing the growth of entrepreneurial activities.

2.1.3 Entrepreneurship policy: definition, role and instruments

Since the 1990s, great academic effort has been devoted to studying entrepreneurship policy. Such policy consists of actions, planning processes and decisions that are taken by government to stimulate more entrepreneurial activities at an individual level or regional level. The consensus in existing entrepreneurship literature is that people are likely to

become entrepreneurs if they gain motivation, opportunity and skills. According to Stevenson & Lundström (2002), the government should take action through the policy to emphasize these elements to people in different stages of business ownership, including early, pre-start up, and final phases.

Several studies explain the meaning of entrepreneurship policy in two different ways: the narrow or micro-level definition, and the broad or macro-level definition. The narrow definition, for example, can be found in the study of Tsai & Kuo (2011) who have seen that entrepreneurship policy is an instrument to “encourage individuals to become entrepreneurs and provides service support and necessary resources to foster successful entrepreneurs” (p.8343). Therefore, this definition is more targeted to supporting potential individuals who will become entrepreneurs in the future. The broad definition of entrepreneurship policy considers individuals and the entrepreneurship process as the main elements in fostering entrepreneurial activities. However, the government policy actions and planning process will not achieve the policy goals unless personal behavior, environment conditions and country contexts are all suited to creating the culture of entrepreneurship in any community. The evidence shown in Acs & Szerb (2007) indicates that government policy aimed at promoting entrepreneurship or influencing relevant factors can be effective only in the long run. This is due to the cultural embedding and perceptual variables that can also be the main drivers for entrepreneurial activities. Indeed, most government authorities around the world have rapidly changed their strategies toward encouraging and facilitating entrepreneurship activities. For instance, OECD countries have addressed the importance of entrepreneurship as an engine for economic growth, and they have taken several actions over the last decade to design policies that foster entrepreneurship activities. Therefore, as Gilbert, Audretsch, & McDougall (2004) stated, entrepreneurship policy is likely to emerge as one of the most popular instruments for economic growth.

For the purpose of this research, I will use the Audretsch & Beckmann (2007) definition of entrepreneurship policy as “measures intended to directly influence the level of entrepreneurial vitality in a country or a region” (p.43). In other words, this definition emphasizes encouragement of the potential entrepreneur to act effectively by creating environment conditions that stimulate innovation and entrepreneurship. However, the

challenge of finding a comprehensive definition of entrepreneurship remains, possibly due to “circumscribed” entrepreneurship models – as discussed earlier – or to the “eclectic” academic discussions of entrepreneurship.

The increasing attention to entrepreneurship in the beginning of the last century and up to now, has led many governments to design policies to influence the growth of entrepreneurship societies through individuals, industries and the environment. In 1990, entrepreneurship policy emerged as a new economic strategy to enhance growth and stimulate the climate of entrepreneurship activities (Audretsch & Beckmann, 2007). Recent studies, in fact, give attention to more research that links entrepreneurship to entrepreneurship policy. So far, entrepreneurship is a process requiring action (McMullen & Shepherd, 2006) to promote its role in the economy. Thus, government political activities and public policy have an impact on the entrepreneur and entrepreneurial activities. As mentioned earlier, the core goal of entrepreneurship policy is to; foster and regulate entrepreneurial actions that can motivate people to start and grow their business, enhance entrepreneurship skills and education, and create an opportunistic environment to enable potential and talented entrepreneurs to access resources. Alternatively, McMullen & Shepherd (2006) conclude that the focus of entrepreneurship policy nowadays should be directed toward motivation, which is extracted mainly at the individual level, and also toward opportunity, which is influenced by the environment. Therefore, the significant objective of policy is to find conducive entrepreneurial environments that can innovate and compete in the global market.

The past decade has seen the rapid development of EP policy research aimed at shedding light on the impact and importance of policy measures and action to stimulate startup activities. **Table 2-7** shows the main studies on EP policy. This subject is an emergent field and we do not know much about it. Although the number of publications on this subject have increased (around 70% of published papers have appeared in the last decade), most of the studies have been conducted in developed countries, so we still know little about this subject in developing countries. Further details on the advancement of literature reviews for this field can be found in **Appendix 2**.

Table 2-7: Main studies on entrepreneurship policy

Journal	Example of studies in Entrepreneurship Policy	Example of studies in access to capital / startups financing & other non-financial instruments	Example of studies evaluated government program / subsidies / loan / incentive – financial policy instrument
Journal of Business Venturing (JBV)	(Clarysse, Wright, Lockett, Van de Velde, & Vohora, 2005; Davidsson & Honig, 2003; Kirchhoff & Phillips, 1988; O'Connor, 2013; Rotger, Gørtz, & Storey, 2012)	(Cassar, 2004; Cumming, 2007; Cumming & MacIntosh, 2006; Honig, 1998; Hustedde & Pulver, 1992; Leleux & Surlemont, 2003)	(Riding & Haines, 2001; Roman, Congregado, & Millán, 2013)
Entrepreneurship Theory and Practice (ETP)	(Desrochers & Sautet, 2008; Kirchhoff, Newbert, Hasan, & Armington, 2007; Kuratko, 2005; Lundström et al., 2014; Majumdar, Moussawi, & Yaylacicegi, 2014; Maria Minniti, 2008; Parker, 2008; Patzelt & Shepherd, 2009; Woolley & Rottner, 2008)	(Audretsch & Keilbach, 2004; Bruns, Holland, Shepherd, & Wiklund, 2008; Marlow & Patton, 2005)	Not found
Strategic Entrepreneurship Journal (SEJ)	(Cumming, Sapienza, Siegel, & Wright, 2009)	(Paik, 2014)	Not found
Journal of Small Business Management (JSBM)	(Dana, 1997; Dennis, 2011; Eshima, 2003; Fischer & Reuber, 2003; Prasad, Vozikis, & Ariff, 2006; Rideout & Gray, 2013; Tambunan, 2005)	(Ayayi, 2004; Coleman, 2000; Shepherd, 1999; Tagoe, Nyarko, & Anuwa-Amarh, 2005)	(Armstrong, Craig, Jackson, & Thomson, 2014; Berger & Frame, 2007; Craig, Jackson, & Thomson, 2007, 2009; Lee, Sohn, & Ju, 2011)
Small Business Economics (SBE)	(Acs & Szerb, 2007; Bruce & Mohsin, 2006; Elston & Audretsch, 2011; Foreman-Peck, 2013; Fritsch, 2008; Fritsch & Mueller, 2008; Gilbert, Audretsch, & McDougall, 2004; Leyden & Link, 2013; Mason & Brown, 2013; Mueller, van Stel, & Storey, 2008; Nyström, 2013; Shane, 2009; Andre van Stel, Carree, & Thurik, 2013; van Praag & Versloot, 2007; Van Praag & van Stel, 2013; van Stel & Suddle, 2008; (Van Stel, Storey, & Thurik, 2007)	(Brancati, 2015; Craig, Jackson, & Thomson, 2008; Heo, Sohn, & Ji, 2014; Honjo & Harada, 2006; Köksal & Orman, 2015; Neuberger & Rähke-döppner, 2015)	(Bechri, Najah, & Nugent, 2001; Blumberg & Letterie, 2007; Chandler, 2012; Cowling & Mitchell, 2003; Garcia-Tabuenca & Crespo-Espert, 2010; Kang & Heshmati, 2008; Koski & Pajarinen, 2013; Kuo, Chen, & Sung, 2011; Oh et al., 2009; A. Riding et al., 2007; Zecchini & Ventura, 2009)
Entrepreneurship & Regional Development (ERD)	(Huggins & Williams, 2011; Jayawarna, Jones, & Macpherson, 2011; Michael & Pearce, 2009; Murdock, 2012; Preuss, 2011; Ribeiro-Soriano & Galindo-Martín, 2012)	(Lee & Drever, 2014; Sara & Peter, 1998)	(Felsenstein, Fleischer, & Sidi, 1998; Pergelova & Angulo-Ruiz, 2014)
International Small Business Journal (ISBJ)	(Carter, Mwaura, Ram, Trehan, & Jones, 2015; Curran, 2000; Mason, 2009; Robson, Wijbenga, & Parker, 2009)	(Cowling, Liu, & Ledger, 2012; Hernandez-Canovas & Koeter-Kant, 2008, 2011; Xiang, Worthington, & Higgs, 2014)	(Boocock & Shariff, 2005; Greene, 2002; Mole, Hart, Roper, & Saal, 2009; Norrman & Bager-Sjögren, 2010)

Source: Own elaboration

Research on EP policy has been conducted by scholars in different ways. The majority of studies can be divided into those at macro level, which look at the national policies that have an impact on entrepreneurial activities or on supporting the generation of new small firms (e.g. Acs, Autio, et al., 2013; Desrochers & Sautet, 2008; Hart & Scott, 1994; Huggins & Williams, 2011; Murdock, 2012), or those at micro level which compare the performance outcomes of supported and unsupported firms.

Similarly, it has been suggested by Lundström et al. (2014) that there are two distinct focuses of EP policy research. The first describes the policy, or reviews the policy regulation in each nation based on certain comparative variables of different policy instruments (e.g. Lundstrom & Stevenson, 2005). In contrast, the second is an evaluation approach that attempts to evaluate the impact of individual policies or programs in terms of their specific objectives (e.g. Oh et al., 2009; Rotger et al., 2012; Yusuf, 2012), such as the impact of government financial support or the influence of business assistance and training in the performance of startup activities.

On the other hand, Audretsch (2014) identifies five domain or types of EP policy research papers. The first one is referred to as the underlying force paper, which involves identifying the link between entrepreneurship and economic growth that is conducive to achieving a particular policy goal. The second type attempts to understand what actually influences entrepreneurial activities and if it can be interrelated to the policy objectives. The third type of paper examines the impact of particular policy or analyzes certain policies that are conducive to increasing the level of startup activities. Meanwhile, the fourth type of EP policy research paper focuses on analyzing a group of policy instruments and providing recommendations that could be considered by policymakers to enhance entrepreneurial activities. Finally, the fifth domain of policy research is the policy evaluation paper, which provides an assessment or evaluation of the impact of a particular policy on a specific policy target. More details about the scope, focus, measurable indicators and the analysis level, as well as some examples of studies for each paper's domain, are provided in **Table 2-8**. Therefore, some categories of EP policy studies, for example the fourth and fifth type, are more interesting to policymakers than to entrepreneurship scholars.

Table 2-8: The domain of entrepreneurship policy research

Type of entrepreneurship policy paper	Category of entrepreneurship research	Aim / Focus	Measurable indicators	Analysis level	Example of studies
1) Underlying force paper (what is the outcome of entrepreneurship which is relevance for policy?)	Understanding the impact or the outcome emanating from entrepreneurial activities	Identifies the link between entrepreneurship & economic performance by probing whether this link is driven by policy concern	Four main performance measures; employment creation, innovation activity, productivity & economic growth, & utility levels of individuals	Regional or national level	(Acs & Mueller, 2008; Caliendo & Künn, 2014; Carod, Solís, & Bofarull, 2008; Fritsch & Mueller, 2008; A. van Stel & Suddle, 2008)
2) Underlying force influence level paper (what generates or impedes entrepreneurship?)	Understanding the conditions or characteristics that generate or impede the entrepreneurial phenomena	Identifying what actually influences the entrepreneurial forces (e.g. conditions, characteristics or factors) that are conducive or linked to policy goals	Business ownership rate, human capital and knowledge conditions	Regional or Individual or firm level	(Acs & Armington, 2004b; Davidsson & Honig, 2003; Van Praag & van Stel, 2013)
3) Policy impact paper (which instrument will enhance more?)	Understanding the impact or the outcome emanating from entrepreneurial activities	Examines the impact of particular policy (e.g. US Small Business Innovation Research) on entrepreneurial activity	Performance variables such as employment creation or economic growth	Individual or firm level	(Aldridge & Audretsch, 2010; Link & Scott, 2009)
4) Instrument recommendation paper (which particular instrument can best be utilized to attain policy target?)	More interest and concern to policy making community than to entrepreneurship scholars	Provides a focus on and analysis of an actual instrument or group of instrument (like funds, incubator or science & technology park) that have been used or could be used to implement the policy	Technology, spin-offs, universities productivity, innovation and R&D	Regional or national level	(Chapple, Lockett, Siegel, & Wright, 2005; Clarysse et al., 2005)
5) Policy evaluation paper (evaluation for particular policy instrument)	More interest and concern to policy making community than to entrepreneurship scholars	Provides an assessment or evaluation of the impact of particular policy on a specific policy target & policy cost	Economic additionality, financial additionality, cost analysis	Individual or firm level	(Boocock & Shariff, 2005; Foreman-Peck, 2013; Norrman & Bager-Sjögren, 2010; Oh et al., 2009; Riding et al., 2007)

Source: own elaboration drawing on discussion in Audretsch (2014)

Furthermore, Audretsch (2014) mentioned three categories of entrepreneurship research which aimed in particular at understanding the entrepreneurial phenomenon. Those three categories deal with; 1) what actually constitutes the entrepreneurial phenomenon; 2) conditions, factors and characteristics that generate or impede the phenomenon, and 3) the impact of particular policy on enhancing entrepreneurial activities. In this regard, the EP policy research can best suit the second and the third types of entrepreneurship research. **Table 2-8** points out also the classification of each EP policy research paper to the suitable type of entrepreneurship research categories.

In the literature, several studies have explained the rationale of EP policy and the role of public policy intervention. The primary reason for policy intervention is the failure in the market of entrepreneurial activities (Stevenson & Lundström, 2007). Market failure arises when “private markets discriminate against the project” (Felsenstein et al., 1998, p.153). The following section is going to discuss the rationale of EP policy from three perspectives: market failure; supply of entrepreneurs; and entrepreneurial economy.

Market failure

Recent evidence suggests that government authorities use public funds to enhance entrepreneurial activities in the economy, and to reduce market failure (Minniti, 2008; Rotger et al., 2012). According to Felsenstein et al. (1998), government intervention through financial or non-financial policy instruments can reduce market discrimination and asymmetric information for small firms. The attempt by government to deal with the market failure for small firms can be accomplished through supply side policy instruments, such as subsidized infrastructure and preparation of land and site location, training and wage subsidies, technology transfer, and easing access to financial capital. On the other hand, the government can also use the demand side instruments such as stimulating the local demand and open market globally.

In this regard, Stevenson & Lundström (2007) stated that the intervention of public policies is to justify and treat the market failures that arise for four main reasons: information asymmetries, uncompetitive market structure, shortcomings in the supply of debt and credit to small firms and other types of business development services such as training, and finally the systematic failures of market to allocate resources to new entrepreneurs and small firms. Alternatively, some studies pointed out that the main role of entrepreneurship policies is to

stimulate entrepreneurship activities in regions with low levels of startup activities, as well as addressing discriminations against minorities like women or disabled people (Caliendo & Künn, 2014; Fritsch & Mueller, 2005; Stevenson & Lundström, 2007).

The policy and organization literature argued that a new firm is more likely to fail than an older firm; which is called the *liability of newness*. Therefore, the survival of older firms may be due to their having more experience in innovation, production and workforce, and have access to information about customers, vendors, technology and knowledge, than younger firms have (Sørensen & Stuart, 2000). On the other hand, the greater risk of failure for new startup firms might be because they have “dependence on the cooperation of strangers, have low levels of legitimacy, and are unable to compete effectively against established firms” (Hannan & Freeman, 1983, p.692). In other words, the challenge associated with newness can be in terms of learning about the business environment and the legitimacy required to operate the business, as well as knowing the way of access to finance sources, customers, suppliers and other resources (Wiklund, Baker, & Shepherd, 2010). However, the high rates of demise for new firms might be due to the *liability of smallness*, whereby the small size of an organization may contribute to its failure. **Table 2-9** summarizes the market failure types that may face entrepreneur and the policy actions that may be taken to address that issue.

Supply of entrepreneurial activities

However, the second view argued that the main aim of EP policy is to increase the supply of entrepreneurs (Lundstrom & Stevenson, 2005), thus increasing the level of entrepreneurial activities, which in turn serves as a mechanism to achieve high levels of economic growth. This argument is based on the evidence from many empirical studies that have revealed the relationship between entrepreneurship and economic growth in terms of job creation, innovation, productivity and reducing unemployment (Acs, 2006; Freytag & Thurik, 2007; Reynolds, Hay, & Camp, 1999; van Praag & Versloot, 2007; van Stel, Carree, & Thurik, 2005). Therefore, because of these anticipated outcomes from entrepreneurship, many governments seek to undertake the EP policy as a means to foster entrepreneurial activities (Audretsch, 2009; Rotger et al., 2012). However, some scholars agree that the aim of enterprise policy is to alter the behavior of potential entrepreneurs and solve some limitations or inability issues in personal characteristics (Green & Storey, 2007).

Table 2-9: Market failure types and policy instrument

Market failure type	Liability type	Policy response tool	Policy instruments
Credit constraint (information asymmetries in getting finance)	Liability of Smallness	Financing	Enhance offering several financial instruments like; creating government subsidies, microfinance schemes & loans funds; or by attracting venture capital & angel investment ;or by giving loan guarantee to get finance from banks or financial institutions; or by reducing the collateral requirement; or finally by support the R&D & innovation expenses
Tax asymmetry	Liability of Smallness	Taxation	Adapting tax system or incentives favorable to small firm & entrepreneur, reducing the level of local fees, spreading the liability of tax payment,
Uncertainty of the environment	Liability of Newness	Regulation	Regulate policies aimed at the enhancing the learning (training or plan development) about business environment, suppliers, customers, resources, and local & global demand.
Systematic failures of market	Liability of Newness	Regulation	Regulate policies aimed at the; internationalization of entrepreneurial ventures in terms of tax tariff, export guarantee & competition protection; allocation part of government venders & government procurements to entrepreneurs; and access to local market from foreign competition
Entry barriers	Liability of Newness	Regulation	Regulate reform to; ease business creation procedures ; reduce the transaction cost (one shop station); create of government institution that support entrepreneur like incubator & science park; transfer technology and link between universities and private sector in term of facilitating the knowledge spillover & commercialize ideas

Source: Own elaboration based on discussion in Wiklund et al., (2010) and Sørensen & Stuart, (2000)

Entrepreneurial economy

On the other hand, the debate about the role of EP policy is continuing and some scholars stated that the EP policy is an important tool to stimulate the entrepreneurial economy instead of the traditional managed economy. For instance, Audretsch & Thurik (2001) suggested that the emergence of entrepreneurial economy is a response to globalization aspects, which is due to the competitive advantage among countries as well as to the revolution of telecommunications and microprocessors that are targeted to reduce the cost of location, information and capital, as well as shifting to more knowledge based activities.

Similar views are held by Audretsch (2009) who proposed that the emergence of entrepreneurship policy is driven from two opposite directions: the failure of the traditional policy instrument corresponding to the neoclassical model of economic growth that gives more efforts to physical capital and labor as the engine of economic growth, and the failure of the knowledge based activities corresponding to endogenous growth theory which give more emphasis on investment in knowledge capital, human capital and intellectual property as the new policy instruments. Therefore, the knowledge itself is not sufficient to generate the diversity and commercialize new ideas that are the driving force of economic growth (Audretsch & Keilbach, 2004). However, according to Acs & Szerb, (2007), entrepreneurship can contribute to economic growth by “permeating the knowledge filter and commercializing ideas that would otherwise remain uncommercialized” (p.112). In fact, entrepreneurs do not always have enough knowledge to take advantage of the opportunities that they find, so their startups might fail (Acs & Storey, 2004). Therefore, there is a need for more effort from entrepreneurship policy to give entrepreneurs access to sufficient information that can support them in formulating and growing their new startup firms, which in turn can take the responsibility of commercializing ideas and contribute to economic growth by enhancing employment creation and competitiveness in global market.

The Managed and the Entrepreneurial Economy

Previous studies were undertaken to understand how entrepreneurial economy policy framework differs from the managed economy regarding the fostering of entrepreneurial activities. (Audretsch & Thurik, 2001; Murdock, 2012). For instance, growth economic policies in managed economies are shaped by competition policy, regulation and public ownership, whereas entrepreneurial economic policy creates opportunity for more knowledge based economic activities by stimulating the environment to support them. Furthermore, the financial policy in entrepreneurial economies is geared towards more risk capital or venture capital that can combine different financial sources in order to manage uncertainty in entrepreneurial activities. Therefore, the key role of government policy in entrepreneurial activities is to focus on education, increase the skills of human capital, ease the mobility workers from the public to the private sector, and facilitate the procedures and regulations of establishing new firms (Audretsch & Thurik, 2001). **Table 2-10** shows the trade-off in terms of policies framework differences between the managed and the entrepreneurial economies.

Table 2-10: Trade-offs in managed and entrepreneurial economies

Group	Trade-offs	Managed economy	Entrepreneurial economy
Underlying forces	1	Globalization	Localization
	2	Continuity	Change
	3	Jobs or high wages	Jobs and high wages
	4	Stability	Turbulence
Underlying environment	5	Specialization	Diversity
	6	Homogeneity	Heterogeneity
Firm function	7	Control	Motivation
	8	Firm transaction	Market exchange
	9	Competition and co-operation as substitutes	Competition and co-operation as complements
	10	Scale	Flexibility
Policy	11	Regulation	Stimulation
	12	Targeting output	Targeting input
	13	National policy	Local policy
	14	Low-risk capital	Risk capital

Source: adapted from (Murdock, 2012)

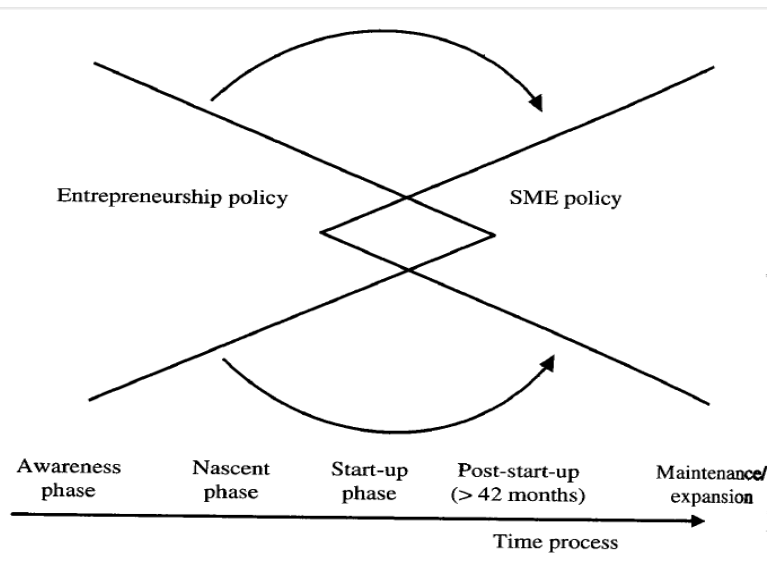
So far, EP policy focuses on the breadth of policy orientation and instruments for startups. It has a more comprehensive policy target and objectives for potential entrepreneurs than a small business policy which is more focused on firm growth and improvement. In that sense, EP policy is concerned with encouraging more people to start their own self-employment, as well providing opportunities, motivation and skills to support their potential businesses. Furthermore, it greatly emphasizes the founding of an entrepreneurship climate rather than creating merely a business climate to expand existing SME. In addition, EP policy is designed to stimulate higher levels of entrepreneurship activity in the economy by facilitating the new startup business. In contrast, SME policy is concerned only about the organization level of the firm without looking to other parties that can influence startup rate or performance. More explanation about the difference between SME policy and EP policy can be found in **Table 2-11** , based on the discussion in Lundstrom & Stevenson (2005).

Table 2-11: Difference between SME policy and EP policy

Characteristics	Traditional SME Policy	Newer EP Policy
Outcome	Firm growth, productivity growth	Growth in entrepreneurial activity (i.e. in the number of business owners and firms)
General goal	Create a “favorable business climate” (e.g. tax regime; market place frameworks; reduced red tape)	Create a “favorable entrepreneurial climate and culture” (e.g. few barriers to entry, promotion of entrepreneurship in society)
Specific objective	To help individuals firms modernize, expand or improve competitiveness	To encourage more people to start their own business and provides opportunities for them to learn about the entrepreneurial process and develop the necessary skills
Focus	On firm rather than individuals	On individuals rather than firms
Stage of business cycle	Primary focus is support after the business has actually started	Support is offered in the nascent stages as well as during the critical first years of startup
Clients groups and targeting	Existing firms (often) target high growth sectors or high growth firms (i.e. “picking winners” approach)	Nascent and new entrepreneurs, targets the general population and (often) segments within it (e.g. women, youth). Generally no sector targeting.
Policy priorities	Reduce red tape and paper burden for existing SMEs.	Reduce procedural, regulatory, and taxation barriers to business entry.
	Improve access to financing.	Facilitate access to micro-loans, seed capital and other startup financing.
	Improve SME access to information (provide business, economic market, government regulatory and program information).	Improve access to startup information and advice, entrepreneurial know-how.
	Facilitate SME’s access to domestic and international markets (e.g. tariff reductions, exports subsidies)	Facilitate networking activities and exchanges to promote peer-learning, partnering and dialogue

Source: Adapted from Lundstrom & Stevenson,(2005, p. 53)

All in all, the emphasis of EP policy, as shown in **Figure 2-5** , is on the early stage of awareness, nascent, startup and early post-start up phases, while SME policy mostly covers the startup phase to the maintenance and expansion phase of venture (Lundstrom & Stevenson, 2002, 2005). However, the role and the appropriate type of policy to be adopted by the government, either SME or EP policy, depends mainly on the market failure that public policy aims to address, as well as on the phase of entrepreneurial or SME process. On the other hand, it is still difficult for some governments to define their targets as suitable for EP policy, SME policy or both of them.

Figure 2-5 : The interface between entrepreneurship policy and SME policy

Source: Stevenson & Lundström (2002, p.106)

Recent development in entrepreneurship policy literature has suggested different types of policy instrument to enhance policy targets. So far, the link between entrepreneurship and economic growth has encouraged many policymakers to use certain policy instruments to support the survival and growth of small firms (Gilbert et al., 2004; Hart & Scott, 1994; Huggins & Williams, 2011; Murdock, 2012; Pergelova & Angulo-Ruiz, 2014; Thurik et al., 2013). A significant challenge for policymakers is therefore to recognize the most vital policy instrument that can influence entrepreneurial activities and then guide the decision making department in the government to take the suitable action and process (OECD, 2008).

Governments must make more effort to improve policy framework if they wish to transfer from managed economies to entrepreneurial economies which leads to greater levels of entrepreneurial activities and economic growth (Murdock, 2012). One of the significant attempts by the government to foster entrepreneurial activities is by easing access to finance. The government can reduce credit constraints and levels of asymmetric information for entrepreneurs by adapting several financial instruments like mutual credit guarantee, microfinance, and credit assistance programs (Minniti, 2008). In addition, the other common type of entrepreneurship policy instrument is that of enhancing tax incentives to encourage more individuals to become entrepreneurs.

So far, however, different policy frameworks have been developed in the EP policy literature. One of these is the Lundstrom & Stevenson (2005) framework which consists of six policy

types regarding entrepreneurship: promotion, education, environment, financing, business support, and strategies for specific groups. **Table 2-12** shows in detail the policy objectives and policy instruments that should be adopted for each policy type.

Table 2-12: Entrepreneurship policy types

Type of Policy	Policy objectives	Examples of policy instrument
Entrepreneurship Promotion	Increase awareness of entrepreneurship; foster an entrepreneurial culture	Sponsorship for different activities like television and media programs, entrepreneurship-related conferences & award programs
Entrepreneurship Education	Increase emphasis on entrepreneurship in the education system	Enterprise education in schools & universities programs; development of teaching resources; professional development for teachers; & significant budget allocation
Entrepreneurship Environment	Ease entry, early stage survival and growth, and exit by lifting administrative and regulatory burdens	Simplifying the process of starting the business, reduce barriers, adjusting laws related to competition, labor issues & taxation
Entrepreneurship Financing	Increase the supply of financing to new entrepreneurs and early stage firms	Reduce the transaction cost and procedures; reduce the risks that banks take in lending to small firms; improve access to finance like loan programs & starter funds; and increase the flow of equity capital
Entrepreneurship Business Support	Increase the amount and quality of business support to nascent and new entrepreneurs	Business support in terms of providing assistance, training and advice, incubators and R&D fund
Strategies for specific groups	Increase the startup rates of under-represented groups in the society or to increase the number of innovative entrepreneurs	Special programs to encourage entrepreneurship among women and specific targeted groups; increase their business ownership; incubators for techno-starts

Source: own elaboration drawn from discussion in (Lundstrom & Stevenson, 2005, pp.60-112)

On the other hand, Acs & Szerb (2007) suggested another policy framework that can enhance the link between entrepreneurship and economic growth. The framework has four main categories: policies relating to global economy, policies relating to national level, regional policies to promote entrepreneurship, and finally policies that primarily affect entrepreneurs.

Therefore, this policy framework for entrepreneurial activities induces policymakers to maintain the main forces that can develop entrepreneurship in the long run by giving more equal attention to policies relating to entrepreneurs in the national and global market. **Table 2-13** shows in detail the policy instrument and the main focus of each policy category.

Table 2-13: Policy framework for an entrepreneurial economy

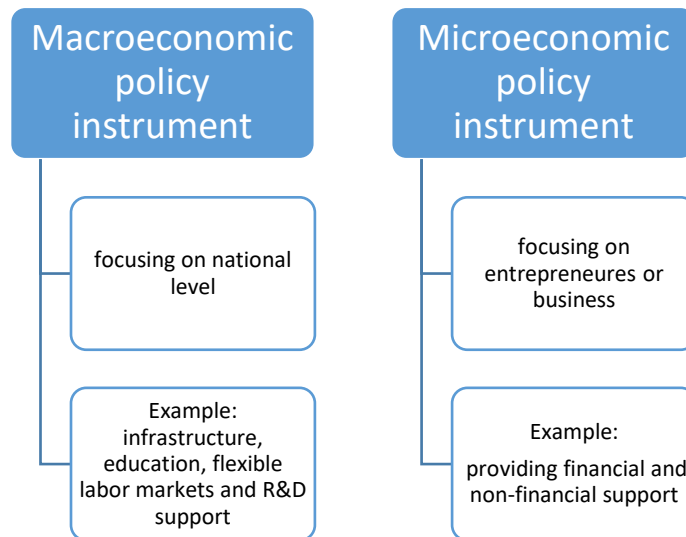
Policy category	Policy instrument	Policy aim / Focus
Policies relating to global economy	Trade Policy	Reduce the barriers to the movement of goods and services across national borders.
	Immigration Policy	Place more emphasis on educational background of potential immigrants and prevent the entry of criminal and threatening individuals.
	Access to foreign technology	Attract more investment in Foreign Direct Investment from multinational enterprises
Policies relating to national level	The Fiscal Budget	Grow the federal budget by increasing revenue and reduce future spending especially on entitlement programs.
	Education	Provide strong education system and also the right incentives to reward innovation and highly educated people.
	Science and Technology Policy	Support R&D which can in turn encourage entrepreneurs to discover new ideas and commercialize them.
	Litigation and Regulation	Facilitate the formulation and growth of new business
Regional policies to promote entrepreneurship	Attract firms	Build the facilities and infrastructure in particular areas that can attract firms; offer special tax breaks or other financial facilities in a city or state to encourage firms to locate new plants
Policies primary affect entrepreneur	Easing Business Formation	Provide the facilities and inexpensive regulation to entrepreneurs to formulate their business (e.g. one-stop shops).
	Ensuring Access to finance	Create financial system conducive to business formation and growth (e.g. credit card facilities, venture capital, angel investors, and debt market).
	Appropriate Protection of Intellectual Property	Give entrepreneurs legal protection for their ideas through intellectual property laws (patent, copyright, and trademark).
	Tax Policy	Provide a tax system that is likely to promote entrepreneurial activities while adequately funding government programs and promises.

Source: own elaboration based on discussion in Acs & Szerb (2007, pp113-119)

Consequently, the work of Lundström et al. (2014) showed that the entrepreneurship policy instrument can be divided into two categories, as illustrated in **Figure 2-6**: macroeconomic

instruments which focus on the national level, and microeconomic instrument that target entrepreneurs and business. Alternatively, the microeconomic policy can also be separated into hard support (e.g. grant and loans) and soft support (e.g. education, business advice and training) (Rotger et al., 2012).

Figure 2-6: Types of entrepreneurship policy instrument



Source: own elaboration draws from a discussion in (Lundström et al., 2014)

One major theoretical issue that has dominated the field of EP policy in recent years concerns the effectiveness of EP policy in stimulating entrepreneurial activities which in turn generate a high-level impact on economic growth. Furthermore, empirical evidence has emerged that offers contradictory findings about the impact of policy instruments in startup firms' performance and growth (Pergelova & Angulo-Ruiz, 2014; van Praag & Versloot, 2007). Therefore, Arshed et al. (2014) argue that the focus of enterprise policy research should be shifted from issues relating to implementation, monitoring, and evaluation to exploring the reasons behind the ineffectiveness of EP policy in previous years .

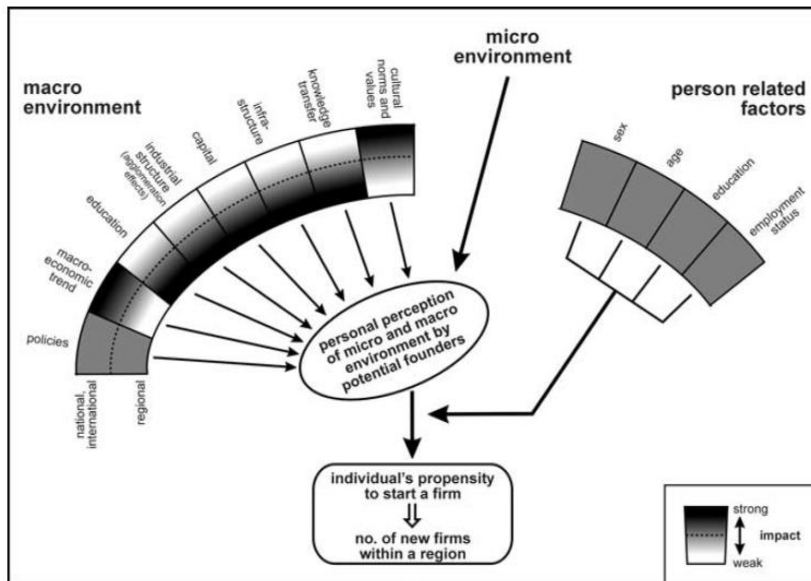
In that sense, the debate among scholars and policymaker has arisen currently about the target of EP policy: whether it should encourage more startups firms, or support the existing growing firms. Pickernell et al. (2013) state that there is a “debate about both the purpose and practice of entrepreneurship policy, particularly in terms of new and young firm growth” (p.2). Consequently, two controversial views have been found in the literature concerning

this debate among scholars. The first view is that public policy should support establishing new firms in the economy (Brulin, Svensson, & Johansson, 2012; Heirman & Clarysse, 2004; Wiklund, et al., 2011), whereas the second view reflects the need for public policy to motivate the growth and the survival of existing young firms and stop supporting the startup ideas (Hoffmann, and Junge, 2006; Shane, 2009) .

In discussing whether government support should be targeted to startups, growth firms or both of them, Mason & Brown (2013) believe that startup firms are not the source of economic growth or job creation, and they claim that encouraging more people to start businesses will not enhance economic growth. Similarly, Shane (2009) does not support the argument for encouraging startup business and claims it is a bad policy. He argues that “Encouraging more and more people to start businesses won’t enhance economic growth or create a lot of jobs because startups, in general, aren’t the source of our economic vitality or job creation” (p.4). On the other hand, Hoffmann and Junge (2006) contend that the best way to enhance economic growth in the EU is to increase the number of startups and to generate more high growth firms.

Although, the individuals’ decision to startup a business is shaped by both elements of micro and macro conditions, policies do not have a strong impact on the level of entrepreneurial activities, in contrast to other factors. The work of Wagner & Sternberg (2004) reveals that public policy can only influence conditions at the aggregate level rather than at the micro level condition, and the impact of policies even at regional or national level is lower than in other macro environment conditions. **Figure 2-7:** illustrates the relationship between the macro and micro conditions in shaping the potential of entrepreneurs to start a business.

Therefore, the aim of entrepreneurship policy should not just legislate to encourage or enhance entrepreneurship activity in the economy, but go beyond this by taking into account the needs and concerns of particular societies and citizens and the impacts their policies are likely to have on them (e.g. on conserving ecosystems). The opinion of Reinstaller (2005) is that “Policy entrepreneurship identify social problems and develop a policy vision about what feasible solutions to these problems might be” (p.1382). This leads us to the discussion in the final section.

Figure 2-7: Macro and micro entrepreneurship environment

Source: adapted from (Wagner & Sternberg, 2004)

The following section will highlight the evaluation frameworks that have been used in previous empirical works. In addition, this it will outline the evaluation problem and point out some key limitations in evaluation approaches.

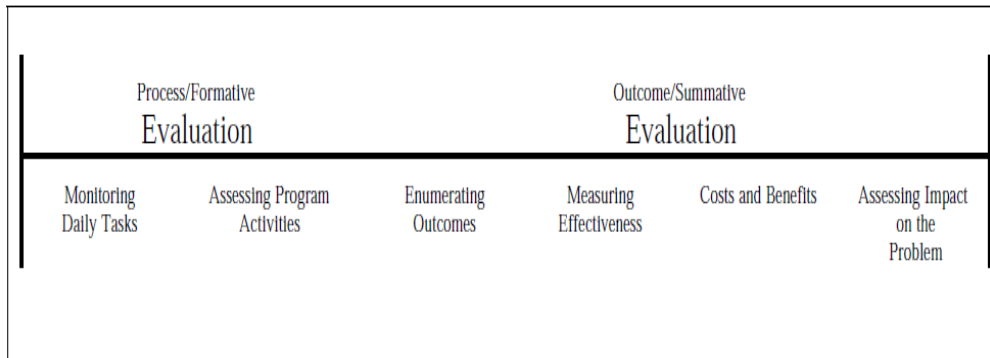
2.1.4 Entrepreneurship policy measurement and evaluation

Evaluation has become a critical concern in policymaking processes and a key component of the policy cycle. It can be defined as “the process that seeks to determine as systematically and objectively as possible the relevance, efficiency and effect of an activity in terms of its objectives, including the analysis of the implementation and administrative management of such activities (Papaconstantinou & Polt, 1997, p.10).

In fact, empirical studies have classified two main types of evaluation systems: summative (outcome) evaluations, that focus on policy performance at the final stage, and formative (on-going) evaluations that attempt to collect and analyze data throughout the policy action lifecycle (Bartik & Bingham, 1995; Magro, 2011). For instance, as illustrated in **Figure 2-8**, Bartik & Bingham (1995) propose a model for evaluating economic development programs that comprises two evaluation categories: the first one is called process, or formative evaluations, and the other is outcome impact, or summative evaluations. The six steps

illustrated on the continuum represent different tasks of evaluation since they are started from the simplest form of evaluation, monitoring daily tasks, to the more complex, assessing impact on the problem.

Figure 2-8: Evaluation types and tasks



Source: Adapted from Bartik & Bingham (1995)

Therefore, the main purpose of evaluation is to assist policy or decision makers in assessing the effectiveness of policies and government programs, as well in helping government to analyze where it can put more efforts in order to obtain the optimal benefits from the policy goals and improve policy implementation and formulation. In that sense, many governments have taken the action to conduct an evaluation of their implementation of policies and programs in order to “establish whether or not policy has contributed to correcting or ameliorating the problem it set out to resolve” (OECD, 2008, p.17).

It should be noted that there is a difference between the terms monitoring and evaluation. If the aim is to measure how successful the policy is in terms of cost and benefit, and of total output generated from the investment in certain EP policy, then this is called monitoring (Norrman & Bager-Sjögren, 2010). This implies that the evaluation of any EP policy schemes depends on the recipient’s view and also on the description of the program input and output costs and benefit (Storey, 1999). However, this method of analysis has a number of limitations and fails to provide a concrete view of the real impact.

On the other hand, the result of evaluation of EP policy should be related to the “outcome of a counter-factual, which ideally consists of a group of firms similar to the ones treated in all respects except the treatment” (Norrman & Bager-Sjögren, 2010, p.603). In fact, the purpose

of defining two groups of firms (the treated and the control) is to eliminate the systematic bias in the estimation of the impact of certain policy instruments on recipients. The impact can be measured by analyzing the difference in program impact in terms of performance between supported and non-supported firms. Thus, evaluation does not rely on recipients' opinions only, but also on causal inferences from non-recipients.

One question that needs to be asked, however, is whether the previous studies and methodologies are effective to evaluate the impact of EP policy. As a consequence, there has been a growing body of literature in recent years deliberating the matters of evaluation and the difficulty in measuring the impact of policy, such as in studies like Arshed et al. (2014); Greene (2009); Green & Storey (2007); Murdock (2012); van Praag & Versloot (2007). Indeed, the different evaluation methods have generated different evaluation evidence regarding the impact of supporting programs for new and small enterprises.

Thus, some scholars have declared the failure in evaluation of enterprise programs. As noted by Storey (2003), the main failure of evaluation of enterprise programs is in ignoring the "characteristics of program participants" as they compared input (e.g. the firm or the individual) to output (e.g. number of startups and survival growth) to assess the attribution of particular programs (Green & Storey, 2007). This means that the evaluator will build the result only upon the beneficiaries' opinion.

However, most of the previous studies do not take into account the perception of the beneficiaries from these support programs and they only focused their analysis on the output of these programs in terms of their outreach, profitability, sustainability and other financial indicators (see examples of this type of study in Bartik & Bingham, 1995; Bradshaw, 2002; Westley, 2002). Therefore, the recent trend in evaluation literature has been toward estimating the additionality or incrementally of the program (see examples of this type of study in Boocock & Shariff, 2005; Riding et al., 2007) instead of focusing the assessment merely on the policy output.

Furthermore, one of the key weaknesses of the previous studies that was depending on few measures like job creation or employment change to give evidence about the impact of policy on startup firms rather that point out the whole impact or the indirect impact of policy intervention (Acs & Storey, 2004). The impact of policy may be beyond this limit and

perhaps has an indirect impact. For example, the existence of government financial support could excite a lot of job seekers to think about establishing an enterprise and to exploit opportunities and resources available in the market.

Difficulties arise, however, when an attempt is made to implement the policy recommendation or the implication of the study. As is well-known from previous research, entrepreneurship is a process with multiple actors that can in turn shape entrepreneurial activity in any region (Audretsch et al., 2007; Hoffmann, and Junge, 2006; Lundstrom & Stevenson, 2005; Reynolds et al., 1999; Wennekers et al., 2005; Wennekers & Thurik, 1999). In spite of much research recently presented on the conceptual and theoretical aspects of the entrepreneurship academic field, there is still insufficient comparison of theoretical and experimental evidence.. As concluded by Aldrich & Martinez (2001), “My challenge is to generate theoretically derived hypotheses, develop measures, collect longitudinal data, and apply state of the art statistical techniques” (p.53) when discussing new perspectives of entrepreneurship research. So far, the theoretical explanation is not enough to address and understand the role of entrepreneurship activities, and to explain the effectiveness of policy schemes (Robson et al., 2009). It is also essential to understand policy objectives and targeted groups before conducting any evaluation.

Many previous evaluation studies have relied on databases such as the World Business Environment Survey (WBES), the Global Entrepreneurship Monitor (GEM) project, and statistical data obtained from government officials and international institutions (e.g. the IMF and World Bank). The work of Marcotte (2013) provides an overview and an analysis of existing entrepreneurship indexes with respect to their conceptual and methodological dimensions. Indexes include GEM, EIM COMPENDIA database, GEINDEX, WBGES, and OECD-Eurostat. In the case of developing countries, these data can help the researcher to better understand the level of entrepreneurship activity to some extent; however, not all developing countries have participated in GEM reports, or other international kind of indexes to evaluate entrepreneurial activities.

In the following part of this study, I am going to discuss in details the status of entrepreneurship policy in developing countries and how EP can overcome the barriers of new firm growth in these contexts.

2.2 Entrepreneurship policy to overcome barriers to new firm growth in a developing economy

A growing body of entrepreneurship literature has investigated the rationale behind government intervention and entrepreneurship in terms of influencing entrepreneurship (Leo Paul Dana, 1987, 1993); fostering economic growth (Audretsch et al. 2007); promoting the growth of new firms (Thurik et al., 2013); identifying and solving social problems (Reinstaller 2005); contributing to solving market failure (Carree & Thurik 2003; Lenihan 2011); and moving the economy forward towards a more global and knowledge based economy (Gilbert et al., 2004). The literature on entrepreneurship policy is broad and with mixed findings. A general overview of the scope of entrepreneurship policy studies (EP policy) is provided in **Appendix 3**. For simplicity, My study can classify the growing body of EP policy into several broad categories: studies that are focused mainly on the theoretical framework of EP policy, studies that underlie policy forces either in national level or micro-level contexts, studies that evaluate the impact of EP policy from a government-support perspective, and studies on the provision of non-governmental services and assistance.

The accomplishment of high rates of new firm survival and growth is one of the main objectives of entrepreneurship policy. It is well known that economic growth can be enhanced by enlarging the pool of startup firms and multiplying the number of young high-growth ventures, or *gazelle* firms (Hoffmann and Junge, 2006; Iversen et al., 2007; Solomona & Davis, 2012). Audretsch et al., (2007) posit that “the main objective of entrepreneurship policy is to foster economic growth and job creation by stimulating new business startups in particular, and the development of an entrepreneurial economy in general” (p.11). Other scholars argue that policy makers should support young firms during the first four years of their existence to establish positive survival and growth paths (Stevenson & Lundström, 2002). Indeed, all these claims defend the general idea of Reynolds, Storey, & Westhead (1994), that government policies can help encourage and promote entrepreneurship. However, are such policies actually effective in developing economies?

The entrepreneurship policy literature has long questioned the usefulness of entrepreneurship policy and government support programs for firm creation (Lucky, 2013; Neto et al., 2014; Pickernell et al., 2013). Government policies and instruments have an impact action on

supporting entrepreneurs and promoting entrepreneurship in the society (Leo Paul Dana, 1993). However, Mason & Brown (2013) claim that a general and generic promotion of entrepreneurship might be a poor policy choice; moreover, Shane (2009) adds that “[encouraging more and more people to start businesses won’t enhance economic growth or create a lot of jobs because startups, in general, aren’t the source of our economic vitality or job creation” (p.142). Norrman and Bager-Sjögren (2010) argue that government programs have been recognized as unable to generate either a positive impact or any contribution to the economy. Moreover, Meager, Bates, & Cowling (2003) find no evidence that government programs had any impact on labor market outcomes or on young people’s entry into self-employment (i.e. entrepreneurship).

Certainly, the literature on entrepreneurship policy presents contradictory conclusions. To a large extent, this seems to be related to findings based on the application of non-comparable entrepreneurship policy programs to different geographical contexts and to different time periods (Pergelova & Angulo-Ruiz, 2014; Storey, 2014; van Praag & Versloot, 2007). Undeniably, the effect of entrepreneurship policy is not uniform across countries, and the magnitude of its varied impacts is debatable. Because new firm owners often lack the entrepreneurship-promoting conditions (i.e. skilled human capital, financial resources, policy incentives, etc.) that are prevalent in developed countries (González-Pernía, Jung, & Peña, 2015; Ramadani, Rexhepi, Abazi-Alili, Beqiri, & Thaçi, 2015), My thesis argues that it is misleading to extrapolate inconclusive lessons on entrepreneurship policy from advanced economies and apply them to developing regions.

An important reason for government intervention supporting new and small firms is that such firms face the so-called “liability of newness” (Hindle, 2006; Stinchcombe, 1965). This arises when new firms lack the legitimacy necessary to succeed in uncertain market environments and have difficulty in accessing funding sources (Felsenstein et al., 1998; Sørensen & Stuart, 2000; Wiklund et al., 2010). The World Bank (2014) identified a significant shortage of domestic credit offered by private financial markets to entrepreneurs in developing countries compared with that offered to entrepreneurs in developed economies. Furthermore, banks normally provide loans to small firms at high interest rates, as banks estimate the risk factors as being too high (Bradshaw, 2002). Besides, new firms face a dearth of ability in acquiring finances from external sources due to the lack of collateral documents and minor recovered credit. The venture capital in developed countries is well

organized and the entrepreneur has different sources of funding than in developing countries where the external finance markets are not yet developed (Hisrich, Petković, Ramadani, & Dana, 2016). Woertz, (2012) argues that the banking and financial sectors, in general, in the Gulf Cooperation Countries (GCC) show a paucity of credit for small enterprises. Thus, these firms encounter more difficulties in acquiring bank finance than in other parts of the world. The magnitude of asymmetric information and lack of liquidity is greater in developing economies, and policy makers commonly address this sort of problem. Whereas in more advanced economies, financial markets face different problems which have to do with the incentive of business angels and venture capitalists for investing in innovative startup firms. In this case, policy makers design tax incentives and similar support programs to overcome such problems.

New ventures in developing countries face many other institutional obstacles, including poorly functioning judicial systems, poor legal enforcement, tax system and weak protection of property rights (Ayyagari, Demirguc-Kunt, & Maksimovic, 2014; Kamei & Dana, 2012; Ratten, 2014). Government administration and bureaucratic procedures involve unusual costs and delays, which typically harm more young ventures than older and larger firms. Inefficient bureaucracy, restrictive labor regulations, and poorly educated workforces are some of the most problematic reasons for not doing business in developing countries (Blanke, Hanouz, Mia, Geiger, & X, 2009). Moreover, informal markets contribute to a large percentage of the economic activity of these regions. This leads us to hypothesize that these regions require policies that support young and small firms in order to fundamentally address other market and institutional failures.

In an attempt to summarize the aforementioned arguments, policies fall into two main categories (Lundström et al., 2014): macroeconomic instruments, focused on the national level (in terms of infrastructure, education, flexible labor markets and R&D support), and microeconomic instruments that target entrepreneurs and their businesses in terms of financial support (e.g. grants and loans) and non-financial support (e.g. advice and training). Of course, other criteria that are also used to classify entrepreneurship policy must be acknowledged (Audretsch & Elston, 2004; Audretsch & Beckmann, 2007; Bartik, 2002; Lerner, 2002; Storey, 1999; Yusuf, 2012). Likewise, a policy can be classified as either “*hard*” (i.e. finance-related) or “*soft*” (i.e. technical support measures that can develop or

enhance the skills and capabilities of the entrepreneurs). Lelarge, Sraer, & Thesmar (2010) distinguish public support programs as *direct* subsidies (i.e. direct loans with low interest rates or cheap equity financing) and *indirect* subsidies (i.e. loan guarantee schemes). Solomona & Davis (2012) explained in detail the “National Priorities and National Strategic Planning Framework” to support the growth of entrepreneurship activity by government and private organizations.

For the purpose of this part of the study, a common instrument of entrepreneurship policy addressing a major market failure in developing economies consists of easing access to finance. Government authorities can reduce credit constraints due to information asymmetry by employing several financial instruments, such as mutual credit guarantees, microfinance and credit assistance programs (Minniti, 2008). Furthermore, government and public lending institutions can allocate credit to entrepreneurs by providing direct loans (loan guarantees in cooperation with the private sector), interest subsidies, tax-exempt status, and so on (Gale, 1991; Howlett, 2011). My study concentrates on a government loan support program that helps entrepreneurs in scaling up new ventures.

A key entrepreneurship policy action to overcome financial market failure is the use of government loan incentives that aim at relaxing liquidity constraints and enhancing venture performance when entrepreneurs lack physical (collateral) assets, legitimacy and the trust of lenders (Blanchflower & Oswald, 1998; Colombo, Croce, & Guerini, 2010; Román, Congregado, & Millán, 2013; Roy, 2010). A government direct loan usually carries a below-market interest rate and offers a grace period for the first year of the loan; in exchange, the recipient must prove solvency with collateral documents. Examples of fostering entrepreneurship through loans include the programs launched by Canada Small Business Financing (CSBF), US Small Business Innovation Research (SBIR), Prince’s Trust in the UK, Khalifa Fund in the United Arab Emirates, and the Kuwait National Fund for SMEs development, just to name a few.

Riding et al. (2007) found that recipients of government loan programs show significant greater firm growth than the growth of non-recipients. Koski & Pajarinen (2013) support this view and show that there is a positive relationship between government financial programs and the employment growth of new ventures during the first three years after receipt of loan support. Likewise, Caliendo & Kritikos, (2010) and Meager et al. (2003) found that

government support schemes were highly effective for job creation, especially among the young population. Lelarge et al. (2010) concluded that a loan guarantee program significantly impacted the growth of newly created firms in France, as the program enabled them to hire more employees. More precisely, only fast-growing new firms (i.e. not all new firms) contributed to job creation and revenue growth. This finding supports the argument made by Wong, Ho, & Autio (2005) that fast-growing firms – or “gazelles” – contribute most to economic growth.

In contrast, several other studies show that government loan support programs do not always accomplish their objectives, perhaps because of problems that arise during implementation of the loan programs. Levitsky (1997) notes that many government credit support programs fail because of time-consuming and inefficient claim procedures. Occasionally, the beneficiaries of the loan misuse it (i.e. for unintended purposes). Not only might the recipients of public financing use their support non-productively (Jaffe, 2002), but they might also default at higher rates (Vogel & Adams, 1997; Zecchini & Ventura, 2009). Indeed, policy makers often focus on certain types of firms. Van Stel & Storey (2004) emphasize that government support programs frequently target new firms with low economic impact (e.g. hairdressing, vehicle maintenance, window cleaning activities).

Overall, these mixed findings cast doubt on the effectiveness of public financial support in promoting entrepreneurship, not only in advanced economies but also in developing regions. Because the nature, form and magnitude of market and institutional failures are different in developing regions, the implementation and impact of entrepreneurship policy should also be different in these contexts. As formal financial markets for new ventures (e.g. seed capital, angel investing, venture capital) are almost non-existent in less advanced economies, government loan support programs become highly relevant and become the main – if not the only – option for overcoming market and institutional failures to facilitate venture growth. Therefore, the successful implementation of such programs would, in turn, contribute to positive economic (and social) impact. Following this rationale, I propose the following two hypotheses:

H1: In a developing economy, *new firms that benefit from government loan support programs are more likely to experience sales growth than those without such loan support.*

H2: In a developing economy, *new firms that benefit from government loan support programs are more likely to experience employment growth than those without such loan support.*

In the following part of this thesis, I am going to discuss the role of institution and the power of government policies and entrepreneurial institutions in influencing entrepreneurial activities, particularly in developing contexts. Furthermore, there is a discussion of the profile of human capital and its role in supporting the entrepreneur to grow.

2.3 Human capital explanation for the stagnation of new ventures in the context of a developing economy

Entrepreneurship levels, employment and economic growth differ among countries (van Stel et al., 2005). This could be due to different institutions and economic policies that drive these differences in self-employment and enhance the level of entrepreneurship among countries (Gohmann, 2012). Institutions represent the “set of rules that articulate and organize economic, social and political interactions between individuals and social groups” (Ribeiro-Soriano & Galindo-Martín, 2012, p.861) in terms of government policies that can influence the likelihood of individuals becoming self-employed. Jamali (2009) discussed the usefulness of institutional theory, and the use of this theory to explain multi institutional constraints faced by entrepreneurs, specifically in the context of developing countries. He described the theory as “a relevant theoretical lens in the context of entrepreneurship research” (p.246). Furthermore, Pergelova & Angulo-Ruiz (2014) reviewed the debate in the literature regarding the usefulness of institutional theory and the impact of legitimacy on a firm’s growth. In that sense, Gohmann (2012) found that regulatory institutions can influence self-employment which can emphasize to policy makers the importance of these institutions in supporting entrepreneurs. He stated that the relationship between entrepreneurship and institutions “depends on the effects of institutions on the costs and benefits of being or becoming an entrepreneur” (p.298). Accordingly, the functioning of markets and institutions is not uniform across countries, and as a result, the effectiveness of entrepreneurship policies differs widely across different economic and institutional contexts.

In fact, policy environment has an impact on shaping entrepreneurship activities. Baumol (1990) distinguished between the productive, unproductive, and destructive entrepreneurship activities which resulted from the different policy mechanisms provided by the government. The aim of Baumol's (1990) study was to analyze the role of institutions and its objectives in shaping the effectiveness of entrepreneurship policy. The study of Baumol argued that the supply of entrepreneurship activity varies among societies because of their allocation to productive activities such as innovation, and unproductive activities, such as rent seeking or organized crime. Therefore, according to Baumol (1990) the “rules of the game” or in other words “the role of formal institutions” can determine whether the entrepreneur is going to engage in productive or unproductive entrepreneurial activities (Murdock, 2012).

Minniti, (2008) supports this argument and points out that entrepreneurship is a tool for economic growth but the policy environment can influence the productive and non-productive entrepreneurial activities through influencing “the relative incentives and payoffs” provided by the economy to such activities (p.781). In Minniti, (2008) the view is that government policies and entrepreneurial institutions have the instruments and tools that can boost some entrepreneurship activities and diminish others. This means that government policy has the power to inspire the growth of entrepreneurship through institutions (Naudé, 2010).

Furthermore, understanding and exploring different contexts with different methodology, and specifically for developing countries, is important to capture different levels of analysis of the factors that prevent entrepreneurial success (Henry, Foss, & Ahl 2015; Jamali 2009). Despite the increasing government policies and initiatives that support the capacity of entrepreneurship, there is little evidence of the impact of these programs on entrepreneurship growth (Minniti, 2008; Murdock, 2012). Mair & Marti (2009) contend that “One of the most prominent factors that prevent many developing countries from advancing along the road towards a market economy is the nature of their institutional fabric” (p.420). That means there is an absence or a presence of weak or failing supporting institutions that can foster the development of entrepreneurship in developing countries. What has been observed in many previous studies is that the “institutional entrepreneur” plays an important role in supporting or constraining the development of a market and environment which enable the growth of entrepreneurs (Mair & Marti, 2009, p.421). Therefore, Murdock (2012) suggests the need for

supportive institutions that encourage the development of entrepreneurship activities and can help to create entrepreneurial. Thus, through government policies and initiatives, entrepreneurship activities and capacity could be increased.

Accordingly, the power of the government in influencing the productive entrepreneurial activity is likely to be different among contexts. Therefore, the government needs to adopt different policy mechanisms such as financing, taxation, trade and labor market regulations, and innovation incentives that are suitable for each economic region and can be able to meet different local contexts (Minniti, 2008). Indeed, many governments have tried to promote entrepreneurship through launching some programs that support startups in order to reduce their credit constraints that resulted from the imperfect financial markets and information asymmetries (Felsenstein et al., 1998; Levitsky, 1997; Maria Minniti, 2008; Zecchini & Ventura, 2009).

An important reason for government intervention to support new ventures is that they face the so-called “liability of newness” (Stinchcombe, 1965). A large share of the failure risk faced by new firms appears to stem from the newness of the business and the legitimacy needed to succeed in uncertain market environments. Therefore, the older firms may have more experience in innovation, production, workforce and in access to information about customers vendors, technology and knowledge than the younger firms (Sørensen & Stuart, 2000) which can give the older firms higher chances of survival in contrast to new firms. Likewise Söderblom, Samuelsson, Wiklund, & Sandberg (2015) show that government subsidy is an important support mechanism to solve the weaknesses of new ventures associated with the “liability of newness”.

Some scholars argue that flexible government intervention that adapts to the context contributes favorably to diminishing the negative impact of market failures and asymmetric information faced by entrepreneurs in financial markets (Felsenstein et al. 1998; Minniti 2008). Alternatively, credit guarantee programs are one of the most effective policy instruments used by many governments worldwide, and seem to provide momentum for the promotion of many entrepreneurial activities (Green, 2003). Banks normally provide loans with high interest rates to small firms, as banks find the risk too high (Bradshaw, 2002). However, Murdock (2012) found that business regulation has a negative impact on the

entrepreneurial activities, and it is necessary to ease business entry regulations in order to spur entrepreneurial development.

Access to financial resources is crucial for firm growth, job reallocation, and exit (Cooley & Quadrini 2001). Several studies have emphasized the remarkable role of government public support programs in facilitating firm growth. Therefore, government loan incentives are aimed at relaxing liquidity constraints and enhancing venture performance when entrepreneurs lack physical assets (which serve as collateral for loans), legitimacy, and trust from lenders (Blanchflower & Oswald, 1998; Colombo et al., 2010; Román et al., 2013). Sarder, Ghosh, & Rosa (1997) suggest that financial and non-financial assistance can help firms increase growth in sales and employment.

Government support loans are an important means to pay for the costs of more production and hiring more people, which in turn increases the size of new firms. In the US, for instance, Bradshaw (2002) showed that firms receiving loan support could generate more jobs than those without. In the UK, Cowling & Siepel (2013) found that entrepreneurial firms that are able to access public loan support programs achieve higher performance in terms of improved sales, job creation, and exports. However, in Japan, Uesugi et al. (2010) found that government loan programs can increase the availability of loans to small firms, while there is no impact on ex-post performance after receiving the funds.

The process of launching a startup business requires many different skills and resources (Yusuf, 2012). The limited internal resources such as human capital and finance for entrepreneurs makes it necessary for the government to provide some schemes to treat the asymmetric information and credit constraints for new businesses. Entrepreneurs often face obstacles in accessing sources for funding and meeting new customers, suppliers, and other stakeholders (Wiklund et al., 2010). Some scholars agree that the aim of enterprise policy is to alter the behavior of potential entrepreneurs and solve some limitations or inability issues in personal characteristics (Green & Storey, 2007). In fact, entrepreneurial failure could be increased by the inability of entrepreneurs to meet the aims and objectives of any government initiatives pertaining to policies (Kasabov, 2016).

Although young firms can act as important engines of change in developing countries, they face multiple market related and institutional challenges such as availability of skilled human

capital, financial sources, and policy incentives which seem to promote entrepreneurship in developed countries (González-Pernía et al., 2015). Similarly, Ayyagari, Demirguc-Kunt, & Maksimovic (2014) argue that small firms in developing countries face many institutional obstacles such as limited access to sources of financing, poorly functioning judicial systems and legal enforcement, and weak property rights protection. Furthermore, a recent survey conducted by the World Bank (2014) showed a significant shortage in domestic credit provided by private financial markets to entrepreneurs in developing countries compared to the situation in developed countries.

Human capital – as widely discussed in previous literature - is more related to knowledge and skills in the form of education and experience (e.g. managerial, commercial and technical experience) that an entrepreneur possesses (McGuirk, Lenihan, & Hart, 2015). In fact, knowledge is an important factor in entrepreneurial activity (Murdock, 2012). Therefore, the likelihood of people in becoming entrepreneurs is influenced by their access to financial capital and human capital (Cetindamar et al., 2012). For instance, Söderblom et al. (2015) observed that received government financial support and entrepreneurial human resources positively impact the performance of new ventures.

In the last few years there has been a growing interest in understanding the impact of entrepreneurial human capital on business survival and success (Acs & Armington, 2004; Davidsson & Honig, 2003; Grilo & Thurik, 2005). **Appendix 4** presents some selected research papers which have studied firm and entrepreneur characteristics. Prior empirical evidence shows that entrepreneurs with high levels of education, training and experience can perform effectively, and they may be better able than other entrepreneurs to gather and analyze information and make decisions. (Davidsson & Honig, 2003; Forbes, 2005). In the same manner, Ganotakis (2012) studied the human capital of a firm's founders, and reported that entrepreneurs with high levels of education, managerial and commercial skills have a significant impact on the firm's performance. Quite recently, considerable attention has been paid to studying the relationship between human capital and demographic characteristics on the startup firm's success and growth (Wiklund, Patzelt, & Shepherd, 2009).

Furthermore, studies have emphasized how gender can influence and shape firms' operations and performance (Henry, Foss, & Ahl, 2015; Shaw et al., 2009; Wagner & Sternberg, 2004). As Al-Sadi, Belwal, & Al-Badi, (2013) point out, the Arab world has its own outlook on the

involvement of women in business activities. Al-Sadi et al. (2013) show that the most common barriers that affect women entrepreneurs are “financial support, knowledge to collaborate, access to technology, industrial support, pressure to achieve, interacting with males, training opportunities, information on opportunities, and the time for training” (p.72). However, the findings of Bardasi et al. (2011) reveal that gender discrimination has no relationship with access to finance. Coleman (2000) pointed out that women entrepreneurs were less likely to have access to external capital (e.g. banks loans), and lenders were more concerned about firm size than with gender discrimination. Sara & Peter (1998) reported that gender difference is one of the important factors that affect the financing process and later firm performance. They found that male entrepreneurs use significantly higher amounts of capital than women when starting their business. Some studies also indicate that women entrepreneurs have limited access to consumers in the market, and to government procurement agencies, in contrast to male entrepreneurs (Bates, 2002). Furthermore, there are different cultural factors associated with the entry to self-employment between men and women, particularly in skilled service fields (Bates, 2002).

Entrepreneur education and its relation to firm success, have been gaining importance in prior studies (Cooper, Gimeno-Gascon, & Woo, 1994; Robinson & Sexton, 1994; Storey, 2002). The literature has mixed evidence about the impact of higher education on entrepreneurial activities, as some scholars found that higher education has a significant impact on the quality of self-employment, while others find an opposite result (Acs & Armington, 2004; Murdock, 2012). For instance, Bates (1995) found that a highly educated entrepreneur is the one who is likely to enter self-employment and gain high wealth. Honjo, Kato, & Okamuro (2014) reported that the higher levels of education among startup founders are positively associated with actual R&D investment. The converse argument is that formal education does not appear to be a determinant for business success and survival (Davidsson & Honig, 2003).

Some scholars have pointed out the importance of business training and advice for the success and survival of new businesses. Han & Benson (2010) state that advice and support for entrepreneurs in their financial decisions are important factors for better managing the firm and gaining access to financial resources. Mole, Hart, Roper, & Saal, (2008) argued that the demand for public support services substantially depends upon the characteristics of the

entrepreneur (for instance, gender and ethnicity) and their firm characteristics (the legal status, firm size, etc.). However, Bennett (2008) suggested that most entrepreneurs use external business advice rather than public support advice, and there is evidence that business advice provided by the private sector is effective and can help entrepreneur penetrate markets.

A review of the literature reveals that formal education does not have an impact on the success of the firms. Yet more specific training and managerial experience should have more influence on the new firms (Acs & Armington, 2004). According to Haber & Reichel, (2007), managerial experience plays the strongest role in contributing to new venture performance.

The support system (i.e. from public or private sectors) exists to help entrepreneurs solving their capital and resources constraints. Consequently, Prantl (2008) found that entrepreneurs can receive significantly more assistance from government programs than others if they are well-educated, older (i.e. they are expected to have more work experience, more wealth and less risky projects), and if they are in teams of entrepreneurs (i.e. they possess higher human capital in terms of education and experience). Furthermore, Fatoki & Asah (2011) confirm that firm and entrepreneurial characteristics have an impact on access to debt capital. For instance, entrepreneurs' demographics, personal property, building network with financial institutions, and their ability to provide collateral to access debt capital, as well the firm's age, location and size, seem to influence access to external capital.

Research on small firm performance indicates the importance of training and owner skills as core factors for business success (Lerner & Almor, 2002; Mas-Tur, Pinazo, Tur-Porcar, & Sánchez-Masferrer, 2015). Alternatively, some studies show that some entrepreneurs are engaged in continuous learning from others, and they prefer "informal and in-house" learning over formal learning (inside institutions or workshops or taught courses), and this learning takes place after starting their business (Martin & Halstead, 2003). Literature suggests that training and enterprise education courses should positively enhance entrepreneurial activities and performance; however, this relationship is still unclear (Honig, 2004).

In developing countries, the training courses and entrepreneurship training offered by the government are not enough if entrepreneurs do not acquire formal high school or university

education. Therefore, each country should provide customized entrepreneurship education, which may differ from one country to another country in the way that it allows fostering of future entrepreneurship (Lee, Lim, Pathak, Chang, & Li, 2006). The work of Nichter & Goldmark (2009) shows that the owners and workers in small enterprises in developing countries have a low level of education. Furthermore, women own and operate the majority of these small enterprises (mostly in service sectors) in developing countries, and they face numerous obstacles and credit constraints in trying to achieve firms' growth (Nichter & Goldmark, 2009).

In this part of the study, I am going to use proposition instead of hypothesis because I shall analyze the set of characteristics that describe the profile of some individual firms that faced obstacles to growth. According to Whetten (1989), the "primary difference between proposition and hypothesis is that proposition involves concepts, whereas hypothesis requires measures" (p.491). The study's proposition is linked to some human-capital-related characteristics like education, and experience of business creation. Since I am going to use the Qualitative Comparative Analysis (QCA) technique, proposition is more fitting to this method than hypothesis. For instance Mas-Tur et al. (2015) and Ordanini, Parasuraman, & Rubera (2014) have used proposition in QCA analysis. The principle role of QCA is to examine the "set-theoretic relationships between causally relevant conditions and a clearly specified outcome" [and...] "then interpreted in terms of necessity and/or sufficiency" (Schneider & Wagemann, 2010; p.3). Accordingly, from this discussion, I can draw the following proposition.

Proposition 1: Different (or specific) combinations of human capital related to factors such as little formal education or experience, and little government soft support, can contribute to firm stagnation.

2.4 Summary of chapter 2

In this chapter I tried to discover what the research (theory) says about my research topic in entrepreneurship policy; how the research was carried out (methodology) in terms of evaluating the impact of government policy instruments study; and finally, what the gap is that my research intends to fill in terms of evaluating the impact of government support

programs in developing countries to overcome the barriers experienced by new firms. This chapter is mainly focused in highlighting the literature in the following areas:

1. In the first part, I discussed the general overview and research issues in the field of entrepreneurship and entrepreneurship policy. I started by establishing patterns of conceptualizing the concept of entrepreneurship based on definitions found in previous studies. In this study, the view of entrepreneurship is closely related to social phenomenon in which all the institutions, governments and individuals play roles in enhancing the creation of new firms which lead to creating new goods and services, expanding existing firms, and enhancing organizations' sustainability, innovation and development. Then I explained the policy concept, its tools and instruments, and the different methods to evaluate the policy. After that came a discussion of the entrepreneurship policy in two different aspects: narrow or micro-level definition, and the broad or the macro-level definition. Finally, a review of different evaluation frameworks that have been adapted in previous empirical works has been explained in this chapter. I focused on explaining the difference between the terms 'monitoring' and 'evaluation'.
2. I have done an extensive literature review on entrepreneurship policy by looking at many papers and empirical studies, some of them published in top journals in the field of entrepreneurship. A well developed and enhanced literature review for around 100 published papers in top seven journals from 1990 to March 2015 on government support has been provided in this chapter. I can classify the studies in EP policy into four main areas: 1) studies constituting the conceptual framework of EP policy; 2) studies underlying policy forces at the national level (macro-level studies); 3) studies underlying policy forces in startups (micro-level studies); 4) studies focused on government support programs (evaluation studies); and 5) studies highlighting the role of non-government support. My work in this thesis aims to understand the impact of government support on overcoming the barriers to growth of new firms in developing countries.
3. The review of literature in entrepreneurship policy in developing countries reveals that new startup firms need support from the government to reduce their market and

- institution failure. The discussion of the literature in this part resulted in: i) understanding the “liability of newness” and “liability of smallness” of new firms, ii) understanding the effect of government intervention in response to financial market failure of new firms, iii) types of policy instruments used by government in developed and developing countries, and the usefulness of these kinds of entrepreneurship policy instruments, and iv) the impact of government financial support. I aim from this review to understand the theoretical background to understanding the impact of government loan support in developing countries in the performance of new firms.
4. I performed a detailed review of the extant entrepreneurial characteristics and entrepreneurial environment literature in order to build the theoretical framework to understand what stops the growth of firms that receive government program loans. Human capital conditions are linked with institutional (i.e. government) support to explain how they can act as impediments to growth.

3 CHAPTER THREE: THE CONTEXT AND METHODOLOGY

3.1 Description of the context

Developing countries face the problem of increasing unemployment since the population who are of working age is growing. The public sector cannot provide job opportunities to that group as this sector is already reaching saturation. In that sense, the private sector can be the key to ingesting a portion of the growing number of the population of working age (Farzanegan, 2014).

Entrepreneurship is the engine for many prospective changes in the economies of developing countries nowadays. The biggest companies in the GCC are owned by the states or governments and most of the SMEs are family-owned private sector companies. Most of the family companies in the world have gone public, while in the GCC they are still owned and managed by family enterprises (Woertz, 2012). In that sense, Farzanegan, (2014) concludes that there is a negative relationship between countries with dependence on oil rents and the new business formation density. Most of the entrepreneurship in developing countries is “necessity entrepreneurship” and not opportunity-driven as there are “no better choices for work” (Reynolds, Bygrave, Autio, Arenius, & Monitor, 2004, p.2).

The income of the GCC countries is not equal, and it can be seen from **Table 3- 14** that the Kingdom of Saudi Arabia (K.S.A) and the United Arab Emirates (UAE) are the wealthiest countries. In fact there are still some nationals in GCC countries with limited human capital, and there is a future challenge for those countries in terms of building competitive knowledge-based economies (Wilson, 2012).

The population in GCC countries rose from 29.9 million in 2000 to 50.3 million in 2014 (GCC - STAT, 2014). All GCC members enjoy high GDP per capita ratios compared to other countries in the world, and GDP per capita ranking is between US\$ 20,486 to 94,807 (see **Table 3- 14**). “They enjoy high growth in their economies mainly due to a boom in oil and natural gas revenues” (Youngs, 2013, p.1). In addition, Youngs (2013) believes that GCC states survived during the financial crisis due to their financial reserves gained from high oil prices during the mid-2000s. The GCC have accounted for 33.2% of the total oil reserved in the world (GCC - STAT, 2014).

Table 3- 14: Economic and demography indicators in GCC countries

Countries	GDP (2014) (Million USD)	GDP (2014) per capita in USD	Mining and Quarrying contribution to GDP (2014) in %	Population (2014)
UAE	688,189.6	48,336	34.6	8,264,070
Bahrain	62,548.4	25,750	24.7	1,314,562
K.S.A	1,145,594.4	24,252	39.5	30,770,375
Oman	126,927	20,486	47.6	3,992,893
Qatar	286,200.5	94,807	51.1	2,216,180
Kuwait	261,084.8	43,445	60.5	3,767,415

Source: (GCC- STAT, 2014)

The competitiveness of GCC countries is due to increased demand for oil resulting in increased oil and gas revenue, which leads to an overall improvement in economic growth (Wilson, 2012). International analysis of competitiveness is important for policy makers in the GCC in revealing the weakness and the lack of policies in certain fields, as well as the strengthening and improvement by policy intervention. According to the Global Competitiveness Index (GCI) prepared by the World Economic Forum (WEF) and the Doing Business Index (DBI) produced by the World Bank, **Table 3-15** presents benchmark data for each Gulf country indicators from these indexes.

Based on Hawkins (2006), the competitiveness concept can be classified into four broad themes, “internal market competitiveness”, “external price competitiveness”, “external cost competitiveness”, and “measures of competitiveness based on growth fundamentals” (p.2). Therefore, and according to GCI, Qatar and Saudi Arabia were internationally competitive at rank position 11 and 18 respectively in 2013. The UAE also ranks quite well at 24, while Oman, Bahrain, and Kuwait are less internationally competitive. Oman is not internationally competitive in comparison to Qatar and Saudi Arabia.

Table 3-15: International competitiveness benchmarks for Gulf Countries

Global Competitiveness Index in 2012 - 2013 (World Economic Forum), 144 countries		Doing Business Index in 2013 (World Bank), 185 Countries	
Rank	Country	Rank	Country
11	Qatar	22	Saudi Arabia
18	Saudi Arabia	26	United Arab Emirates
24	United Arab Emirates	40	Qatar
32	Oman	42	Bahrain
35	Bahrain	47	Oman
37	Kuwait	82	Kuwait

Source: World Economic Forum (2013) & World Bank (2013)

A recent survey conducted by the World Bank in 2013 indicated that entrepreneurship activity in the Middle East & North Africa (MENA) region is still at the lowest level in comparison to other regions in the world. **Table 3-16** indicates that the business-entry density (per 1000 people, ages 15-64) in MENA is lower than Sub-Saharan Africa (SSA). Furthermore, the MENA region shows a significant shortage in domestic credit provided by the private financial sector, in contrast to other areas in the world. The high-income countries produce around 7 times more new business entries than those in the MENA region (World Bank, 2014).

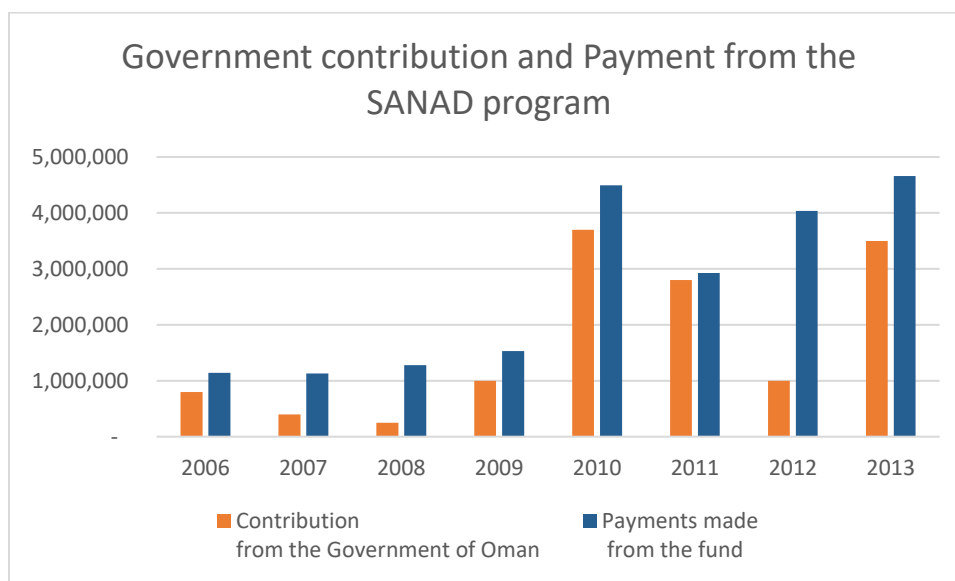
However, there is no reliable evidence that the government support programs in Gulf countries are efficient and have meet their goals. Much has been invested in these funds. For instance, the Khalifa Fund in the UAE was established in 2007 and started with a total capital investment of AED 300 million (EUR 73 million), (Khalifa Fund, 2013). The Kuwait National Fund for SMEs development was established in 2013 with allocated capital worth KWD 2 billion (EUR 5 billion), (KUNA, 2014).

The SANAD program fund in Oman allocated an initial OMR2 million (EUR 4 million) as the starting capital, and in 2010 the government contribution increased to OMR3.7 million (EUR 8.6 million). **Figure 3-9** illustrates the financial movements of the SANAD fund from 2006–2013 based on the Oman Development Bank (ODB) annual reports. However, the new label fund Al- Raffd in Oman, launched in January 2014 by Royal Decree (6/2013), has allocated OMR100 million (EUR 232 million) for the fund capital.

Table 3-16: Entrepreneurial activity around the world

Indicators / World	Business entry density per 1000 people, ages 15-64 (2004-2012)	Time required to start a business (days)	Domestic credit provided by financial sector (% of GDP, 2012)
Low and middle income	1.86	28	103.6
East Asia & Pacific	1.34	40	141.5
Europe & Central Asia	2.19	12	62.6
Latin America & Carib	2.38	41	73.6
Middle East & N. Africa	0.55	21	37.4
South Asia	0.25	16	71.1
Sub-Saharan Africa	2.09	27	77.8
Euro area	6.75	13	153.3

Source: World Bank (2014)

Figure 3-9 : Capital contribution from the government of Oman and payments made by the fund from 2006-2013

Source: Own elaboration based on ODB annual reports (2006-2013)

Gulf countries have been investing in R&D which has thus had a positive impact on the economy in terms of building knowledge which can consequently increase productivity growth and the flow of spillover from academic institutions to the industrial market. However, to illustrate the extent to which knowledge-based economies invest in R&D, it is important to know the extent of the contribution of GDP on R&D in each country. Unfortunately, there is still no reliable database indicating the total share of GDP in R&D expenditure in Gulf countries (Wilson, 2012). In fact the expenditure of GDP on R&D “is likely to be below 0.3 percent in each Gulf State except K.S.A [Kingdom of Saudi Arabia] where it is likely to be about 0.5 percent” (Wilson, 2012, p.272).

Indeed, there is an international benchmark for some economic and social indicators, such as the Prosperity Index which is published by Legatum Institute, and the Global Innovation Index provided by Cornell University, INSEAD, and the World Intellectual Property Organization (WIPO, a specialized agency of the United Nations). The Prosperity Index (PI) ranks countries according to their performance in eight indexes including the economy, entrepreneurship and opportunity, governance, education, health, safety, freedom and social capital (Legatum Institute, 2015). One of the indication pillars in the PI is entrepreneurship and innovation. Unfortunately, Legatum Institute produces PI for only three Gulf countries and Oman is not included in this report. **Table 3-17** presents the entrepreneurship and opportunity index for United Arab Emirates, Kuwait, and Kingdom of Saudi Arabia.

An alternative innovation index for the six Gulf States can be found in the Global Innovation Index (GII). The aim of the GII is to “shed light on the factors leading to the excellence of innovation hubs, such as the role of local ‘champions’ (large corporations), the availability of funding for the development of startups, and the importance of path dependency” (Cornell University, INSEAD & WIPO, 2013, p.7). **Table 3-17** provides the PI ranking for Gulf countries. Based on the 2013 GII, United Arab Emirates and Saudi Arabia ranked better than other GCC countries. However, “Gulf States, generally, are not internationally competitive with respect to innovation” (Wilson, 2012, p.276).

Table 3-17: Prosperity and Global Innovation Indexes for Gulf Countries 2013

Entrepreneurship and Opportunity index ranking for Gulf countries among 142 countries		Innovation Index Ranking for Gulf Countries among 142 countries	
The 2013 Prosperity Index		The Global Innovation Index 2013	
Rank	Country	Rank	Country
26	United Arab Emirates	38	United Arab Emirates
33	Kuwait	42	Kingdom Saudi Arabia
46	Saudi Arabia	43	Qatar
		50	Kuwait
		67	Bahrain
		80	Oman

Source: (Cornell University, INSEAD & WIPO, 2013; Legatum Institute, 2013)

Oman is faced with several kinds of challenges to fostering entrepreneurship development: regulatory and administration issues, macroeconomic and market conditions, labor regulatory market, education and training, financial infrastructure, R&D infrastructure, society culture, and limited entrepreneurship support programs (Al-Shanfari, 2012). However, we still do not know the real situation of entrepreneurship policy after Oman began promoting entrepreneurship and enhancing entrepreneurship activities. There is a lack of studies that evaluate any kind of entrepreneurship policy implemented in Oman, despite the introduction of support programs.

Oman, like other Gulf countries, depends on oil and gas as the key resources for economic growth and development. The government through its vision for “Oman’s Economy: Oman 2020”, tries to reduce the oil and gas contribution to the GDP and increase the non-oil sector contribution. The high increase in the population rate, as well the dependence of government on oil revenue, limited economic diversification, and more dependence on foreign labor, lead to political and economic problems (Williams, Knight, & Rutter, 2015). According to IMF, Oman will need to create 45,000 new jobs each year to reduce unemployment (Oxford Business Group, 2013) and to meet the increasing numbers of jobseekers from the youth population .

The government's economic development policy emphasizes the need for the expansion of non-oil sectors such as agriculture, fishing, industry, tourism, natural gas and mining to diversify the economy (Riphenburg, 1998). Self-employment is also a key element of public policy in Oman as it contributes to job opportunities and substitutes the shortage of jobs in the public sector. The oil and gas sector dominates economic activity and represents 51.6 per cent of the country's GDP³, and the aim of the government is to reduce this contribution to 22% by 2020. This puts the economy at potential risk: "in the short run, the economy is not generating enough jobs for Omani nationals, while in the long-term, oil reserves will decrease and their exploitation costs will grow against a backdrop of oil price volatility" (UNCTAD, 2014, p.7).

As a result of this limited economic diversification, the increase in population of Oman over the last years has led to an increase in national unemployment, especially among young people (Williams et al., 2015). Indeed, according to the International Monetary Fund (IMF), the Omani economy needed to create 45,000 new job positions each year from 2013 onwards in order to integrate the increasing numbers of jobseekers from the youth population into the labor market (Oxford Business Group, 2013).

Studies by the World Bank, IMF, and other experts have indicated that Oman should encourage and foster the policies of entrepreneurial activities and a work ethic, encourage the training of the native work force, eliminate monopolies by foreign investors in many commercial and industrial sectors, and eliminate the public sector deficit (Cordesman, 1997). There are many challenges and obstacles related to the legal and regulatory framework in Oman faced with the development of entrepreneurship in terms of lengthy government procedures and difficulties facing the one-stop-shop system. The banking system in Oman has invested little capital for lending to small enterprises. It has a poor record of lending to enterprises, and contributing to long term financing. It also has costly bank credit and securities (collateral) required for obtaining bank credit because of the high risk associated with these enterprises. All of this increases the obstacles of getting access to finance by small firms (Al Barwani, Al Jahwari, Al Saidi, & Al Mahrouqi 2014; MONE 2002).

The labor market's nationalization programs support and enhance the growth of startup activities which are widely found in developing countries. For instance, Oman has been

³ From all revenues sectors for the Oman government in 2015, the oil and gas sector itself contributed around 84% of the revenue (NCSI 2015).

pursuing the State's Five Year plan (started in 1996), and one of its core objectives is to reflect the problem of unemployment and start the process of implementing what is called “*Omanization*” policy in order to replace expatriate workers with skilled and qualified national labor (Swailles, Said, & Fahdi, 2012, p.357). This nationalization policy was launched in 2000, and was supported by the “SANAD” (“Support”) program policy.

To deal with all these obstacles, the government, through its development plans, strives to increase the provision of direct and indirect support for the private sector to promote its investments and increase its contribution to GDP. The expected outcome of the SANAD program was to contribute a key policy in enhancing the role of the private sector for the objective of increasing its contribution to the GDP and providing employment for the Omani labor force under the vision of Omanization.

However, there has not been any evaluation conducted for the effectiveness of the SANAD program since its inception, and it is essential to conduct a review for this program in order to improve and increase the efficiency of other implemented programs (Khan & Almoharby, 2007). According to a report titled “Entrepreneurship Education, Oman” issued by UNESCO-UNEVOC, there is a need for re-evaluation of all the government programs supporting entrepreneurship in Oman, and further developments in the programs’ designs are required⁴. Historically, Oman was very active in trade routes to India, China and East Africa. It dominated the trade in the Indian Ocean and exported different types of commodities like dates, clothes, jewelry and many others to different ports in the world. Therefore, entrepreneurship and trade in Oman is not new.

Supporting entrepreneurship and innovation are important keys to Oman's future, and Oman will need action to enhance and stimulate its economic growth and maintain economic stability during the coming decade. Therefore, the government of Oman has paid attention to support the growth of entrepreneurship activities for purposes of economic diversification, creating job opportunities, innovation, and contribution to the GDP. The starting point of government strategy to effectively support the startups and development of the private sector was from the State's Five Year Plan strategy.

⁴ Access to this report can be via:

http://www.unevoc.unesco.org/fileadmin/user_upload/pubs/Entrepreneurship%20education%20-%20Oman.pdf
[Accessed date 06/04/2017]

All the previous five years plans reflect the need to support the private sector and entrepreneurs to contribute actively to economic development. For instance, the 1996-2000 plan requires major government expenditure to support the cost of privatization and to increase the share of the private sector in the national GDP. The plan's objective states that it is intent on "encouraging domestic and foreign private investment and increasing the private sector share of total investment in the plan to 53.3%" (MoE, 2005, p.27). The Fifth Five year development plan (1996-2000) aimed also to increase the non-oil sectors' share in GDP to 68.8% by the end of the year 2000 as part of its economic diversification strategy.

Alternatively, the Sixth Five Year development plan (2001-2005) was closely connected to the previous plan in motivating the local private sector and furthering its role in the national economy (MoE, 2005, p.65). One of the main objectives for private sector development in the Sixth Five Year plan was to enhance its role to be the "main source of securing remunerative employment opportunities for citizens" (MoE, 2005, p.167).

The sixth five-year development plan (2001-2005) relies very much on enhancing the role of the private sector to increase its contribution to the GDP and provide employment for the Omani labor force. To achieve these goals, the plan focused on the improvement of the legal and structural framework, provision of a suitable incentive system, improvement of financial and banking sectors, improvement of infrastructure, and development of human resources.

The long term development strategy for the period 1996–2020 aims – as stated in the fifth six-year plan – for "achieving sustainability of development during the period (1996-2020) through striving to realize economic stability and fiscal balance, and introducing substantial changes in the national economy's structure to diversify the production base, further the private sector role in the national economy, and develop the human resources" (p.26). The GCC economy is heavily dependent on foreign labor and mainly on cheaper labor coming from South and East Asia (Burke & Bazoobandi, 2013) as shown in **Table 3-18**.

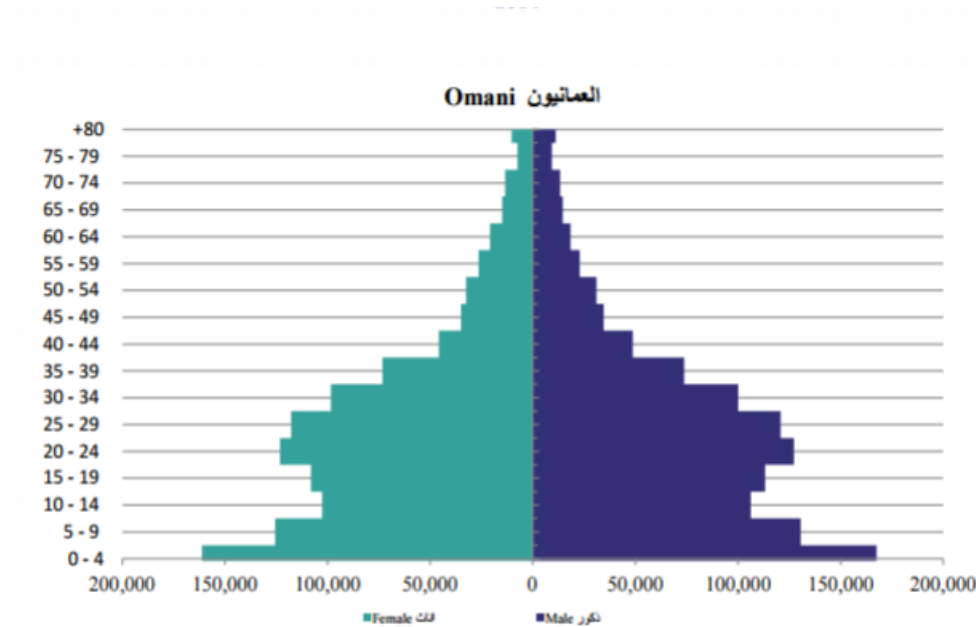
Table 3-18: Labor force in GCC by nationality and sector in 2014

	Public Sector			Private Sector		
	Citizens	Non-citizens	Total	Citizens	Non-citizens	Total
UAE*						
Bahrain	42,954	8,148	51,102	87,632	450,190	537,822
K.S.A	3,406,116	242,437	3,648,553	1,520,068	5,899,052	7,419,120
Oman	196,919	36,053	232,972	197,510	1,510,393	1,707,903
Qatar	73,312	125,913	199,225	17,425	1,464,973	1,482,398
Kuwait	288,322	188,801	477,123	36,752	1,460,575	1,497,327

Source: (GCC - STAT, 2014)

* No information available in 2014

Like other Gulf countries, Oman faces a problem of a growing population rate and foreign labor. According to NCSI, (2015), the total population of Oman was 3,992,893 in 2014, of which 2,260,705 (57 %) were native Omanis, and 1,732,188 were expatriates. The population growth was around 4% per year. In 2014, around 35% of the population was under 15 years old, and around 18% between the ages 20–34 according to NCSI (2015) estimates. Figure 3-10: shows the demographic construction of Omanis and foreigners.

Figure 3-10: Population pyramid

Source: NCSI, (2015)

Figure 3-10: the population's age group of 20-24 demands more jobs. The total number of young men reaching job age (20-24 years) increased from 124,000 in 2011 to 127,000 in 2014. Male children of four years or less increased from 112,000 in 2007 to 139,000 in 2011, and to 167,000 in 2014 according to NCSI.

According to the World Bank report on jobs in Oman, the age group of 15–64 made up 76% of the total population in 2014. Furthermore, according to Al Barwani et al., (2014), 40% of the workforce in Oman is employed in SME firms with less than 5% consisting of Omanis, while the contribution of SMEs to the GDP is between 15% to 20%. Based on the Oxford Business Group (2014) report, more than 90% of all registered firms in the Sultanate of Oman fall into the SME category, though their combined contribution to GDP is only around 15%. Most of these small-scale businesses are rated by the Public Authority for Social Insurance as being micro-enterprises, with 78% of companies in Oman employing five people or fewer, between them accounting for just 10% of total employment nationwide. Based on statistics from the Public Authority for Social Insurance, the total number of Omanis working in the private sector by the end of 2013 was estimated at 181,860, compared to 1,527,241 expatriates working in the private sector (NCSI, 2014). This means that the portion of Omanis working in the private sector is much smaller than that of the expatriate workforce. The employment statistics in 2013 indicate also that around 65% of the Omani workforce working in the private sector received between OMR 225 to 300 (Euro 552-737) which implies that most of national workforce in the private sector is working in low level jobs. Furthermore, the statistics show that around 36% of expatriate workers have only a primary or lowest education level.

Apart from that, the country's labor force is substantially composed of expatriates. According to the National Centre for Statistics and Information (NCSI) of Oman, around 44% of the total population in 2015 is made up of expatriates, which shows the country's high reliance on foreign labor. Omani employees only represent around 13.2% of total employment in the private sector (NCSI, 2015). The total Omani workforce registered with the public Authority for Social Insurance increased from 87,064 in 2004 to 181,860 by the end of 2013 (NCSI, 2014).

The high dependence on low-cost expatriate labor led to “growing tensions over jobs between native Omanis and the foreign work force” (Cordesman, 1997, p.140). Many

business markets today in Oman are managed by a cluster of foreign investment which poses a competition problem for Omani investors. Before 2011, there was a gap between Omani workers in public and private sectors in terms of benefit packages. The high increase in the population rate, the dependence of government on oil revenue, the limited economic diversification, and dependence more on foreign labor, created a political problem. This is exactly what happened in Oman in the “Arab Spring” of 2011.

The entrepreneurship sector in Oman is still young and it should grow substantially to contribute to the economic growth. The government of Oman is providing incentives for potential entrepreneurs by establishing two main institutions classified by financial support (i.e. by establishing the SANAD program (later Al-Raffd Fund), and non-financial support (i.e. by establishing the Public Authority for Small and Medium Enterprises Development). In addition, Oman has encouraged potential entrepreneurs by allocating public financial support through loans disbursed from the Oman Development Bank.

Many challenges and obstacles related to the legal and regulatory framework in Oman are faced by the developing private sector, as pointed out by the 6th Five Year Plan (p.169), issued by the Ministry of Economics. These are lengthy government procedures and difficulties facing the one-stop-shop system; certain laws, such as tax and land laws, and the absence of a law against monopoly, and a lack of legislations related to consumer protection. Before 2001, the incentive system and support for private sector was less attractive to domestic investment compared to that of neighboring countries (6th plan). In addition, poor contribution by banks to long term financing, and the high cost of bank credit and securities (collaterals) required for obtaining bank credit increased the obstacles for the private sector. Furthermore, other obstacles were related to infrastructure (e.g. transportation, postal services, releasing commodities), human resources (e.g. education, training, labor unions), low productivity, limited size of local markets, hidden trade by foreign workers, low quality of some non-oil Omani exports, and a weak private sector data base concerning its scope and activities (6th plan).

In order to deal with all these obstacles, the government, through its development plans, strives to increase the provision of direct and indirect support for the private sector to promote its investments and increase its contribution to GDP. Studies by the World Bank,

IMF, and other experts have indicated that Oman should encourage and fostering the policies of entrepreneurial activities, encourage the training of the native work force, a work ethic, eliminate monopolies in many commercial and industrial sectors by foreign investors, and eliminate the public sector deficit (Cordesman, 1997).

One of the crucial problems for ownership of business in Oman is that most of those businesses are managed by expatriates, and the Omani nationals are simply only agents for them. In fact this system has a number of economic ramifications in terms of growing the hidden economy, increasing remittances (money transfer) outside Oman, pressure in the local labor market, and other drawbacks for small national investors (Al Barwani et al., 2014).

Furthermore, there is a lack of human capital skills in terms of management and administration skills, marketing, and technical limitation. Alternatively there are different institution obstacles facing startups and small entrepreneurs in Oman, such as “lack of coordination, overlaps, and absence of common goal and objectives among existing incubators” (Al Barwani et al., 2014, p.29). The government financial support was based on the low cost of funding under a loan schemes program. However, the low cost of capital for entrepreneurs takes priority overlong term lending to startups and SMEs by commercial banks (Al Barwani et al., 2014).

With reference to *Sih Alshamkhat* Symposium decisions in January 2013 to support and enhance entrepreneurship in Oman, and the Symposium assessment of the implementation of *Sih Alshamkhat* decisions in 2015, I can summarize the entrepreneurship policy as presented in **Table 3-19**. I followed the Lundstrom & Stevenson (2005) framework to summarize these policies and decisions.

Despite a growing difference in policy instruments and tools as seen in **Table 3-19**, there is still a lack of application and activation of these policies in reality. A review of these policies found that there is a huge support from the government to improve the entrepreneurship environment in Oman, and to improve the institutions’ supporting enterprises, and reducing the market failure of startups. In fact, the effective policies and institutions must be evaluated regularly in order to modify them accordingly (Al Barwani et al., 2014).

3.2 SANAD program

To test my hypotheses, I focused on the SANAD (Self-employment and National Autonomous Development) program in Oman. The program was launched in 2002 and stopped at the end of 2013 when it was renamed by royal decree (No 6/2013) and restarted with new schemes at the beginning of 2014. By the end of December 2011, the program was financially supporting 2,955 projects, and the total loans amounts disbursed amounted to RO13,820,003 (around €32,284,931) (Ministry of Man Power, 2012). The total number of beneficiaries was 3,445, and 50 percent of them were female. The government agency which is responsible for managing the fund portfolio, disbursing the loans and following up the collection and other legal procedures, is the Development Bank of Oman. The role of the bank is to disburse loans to entrepreneurs based on the recommendations of the SANAD Fund Administration and then follow up the payment of installments and take necessary legal procedures to collect loans from beneficiaries.

Table 3-19: Types of entrepreneurship policy in Oman

Type of Policy	Policy objectives	Examples of EP policy instrument and tools adapted by Oman government
Entrepreneurship Promotion	Increase awareness of entrepreneurship; foster an entrepreneurial culture	<ul style="list-style-type: none"> • Adopting and implementing a program to train public sector employees who are directly involved with the private sector, to enhance their entrepreneurial thinking, improve their dealings, and facilitate and develop procedures related to small and medium enterprises to achieve the best services to enable these institutions to perform their developmental role • Allowing government staff to obtain sabbatical for a period not exceeding 4 years without pay for the management of their business • The allocation of an annual award at a high level aimed at small and medium-sized enterprises and all supporters. • Broadcast a variety of interactive information programs to promote a culture of entrepreneurship through TV and media channels
Entrepreneurship Education	Increase emphasis on Entrepreneurship in education system	<ul style="list-style-type: none"> • Provide a course in entrepreneurship for students in various institutions of higher education, and support the implementation of student activities in cooperation with the private sector in the field of entrepreneurship.

		<ul style="list-style-type: none"> • Include entrepreneurship in school curricula and educational programs and use modern methods to instill an entrepreneurship mindset in young people
Entrepreneurship Environment	Ease entry, early stage survival and growth, and exit by doing administrative and regulatory burdens	<ul style="list-style-type: none"> • Launch online new firms registration to reduce the time it takes to register a business (one-shop-station). • Review the laws governing competition, prevent monopoly and declare bankruptcy to protect small and medium enterprises. • Issue Small and Medium Enterprises law
Entrepreneurship Financing	Increase the supply of financing to new entrepreneurs and early stage firms	<ul style="list-style-type: none"> • Increase the credit facilities and the loan support provided by Al Raffd Fund. • Review the policies, laws and procedures of financing in accordance with the policies aimed at the development of small and medium enterprises. • Increase credit facilities to small and medium enterprises through commercial banks across a range of measures, including the allocation of a ratio of 5% of commercial loans to small and medium enterprises • Founded the Ibtikar Development Oman company (Innovation Oman). The aim of establishing this company is to invest in innovation and to provide equity capital. The initial capitalization of OMR 50 million will be used to invest in startups and also to attract international companies that will utilize the Sultanate of Oman's natural and human capital and benefit Oman directly with knowledge transfer and development.
Entrepreneurship Business Support	Increase the amount and quality of business support to nascent and new entrepreneurs	<ul style="list-style-type: none"> • Establishment of Riyada (Public Authority for Small and Medium Enterprises Development with a mission to provide technical support and consultancy services for enterprises. • The allocation of suitable land plots in various governorates of the Sultanate to build business centers and incubators for small and medium enterprises or to be invested by enterprises. • Allocate 10% of government procurement and tenders for small and medium enterprises • Encouraging companies owned by the government by at least 40% of its capital on the allocation of part of the value of total purchases and tenders for small and medium enterprises. • Enable entrepreneurs to establish their own clubs to refine their experiences and promote the exchange

		of experiences among themselves
		<ul style="list-style-type: none"> • Establishment of an Innovation Center under the umbrella of the Research Council to transform ideas and innovations into products and businesses
Strategies for specific groups	Increase the startup rates of under-represented groups in the society or to increase the number of innovative entrepreneurs	Still there are no special programs to encourage entrepreneurship among women and specific targeted groups in Oman.

Source: own elaboration based on the Decisions from Small and Medium Enterprise development symposium (Sih Ahamkhat 2013), and the follow-up and evaluation symposium (2015)⁵.

To overcome this challenge and diversify the economy towards non-oil industries, the government of Oman has implemented a national policy (known as Omanization) in order to replace expatriate workers with skilled and qualified national labor (Swales et al., 2012). Fostering the creation and growth of new firms by Omani citizens is part of this nationalization policy to create job opportunities. To this end, the SANAD program was launched in 2001 by the Ministry of Manpower to provide loan guarantee support to help Omani entrepreneurs develop and grow their new businesses (Ministry of Man Power, 2012). Finance constraints faced by entrepreneurs are common in Oman because the banking system does not devote enough financial resources to lend to small and new firms. Moreover, competition among financial organizations in Oman is limited, the cost of loans is expensive, and the collateral demands from banks are high due to the uncertainty associated with new (usually small) firms (Al Barwani et al., 2014). The study of Al Barwani et al., (2014) reveal that funds for Omani entrepreneurs come from the following sources; 56 percent from personal, family, or both; 20 percent borrow from family and friends and only 18 percent borrow from banks and other financial institutions. This indicates that the capability of finance institutions in Oman to give loans or to share the venture capital with entrepreneur is still limited. Therefore, in order to reduce finance constraints and foster entrepreneurial initiatives, the SANAD program aims to help young jobseekers establish self-employment

⁵ More details about decisions concluded from Small and Medium Enterprises Development Symposium (2013 and 2015) can be found in <https://riyada.om>.

projects by granting them loans to develop and grow new small firms so that they become an important source of the Omani national income and employment (Ministry of Man Power, 2012).

The rationale of the SANAD program lies in “promoting entrepreneurship among young Omanis and boosting employment through the support of SMEs” (Oxford Business Group, 2013). The SANAD program offered different types of supporting schemes based on the mechanisms of training, rehabilitation, financing and follow-up technical and administrative aspects.

The financial instrument used under the SANAD scheme consists of disbursing a soft loan after the establishing of a new firm by the beneficiary, provided that the beneficiary meets some conditions. Thus, in order to receive support from the SANAD program, a beneficiary must meet three main conditions: (1) the new firm has to be fully owned by an Omani national previously registered as a jobseeker in the Ministry of Manpower; (2) the funds must be devoted solely to the business project owned and managed by the beneficiary; and (3) the entrepreneur should hire only national employees, with foreign workers allowed to be hired only under certain conditions. So, the expected impact of the program is focused on employment creation through entrepreneurship, which makes it proper for the analysis of the effect of government loan support on new firm growth.

The SANAD program started grant loans of RO5,000 (around €11,500) to be settled in seven years, including one year as a grace period. Apart from the focus on financial support, the SANAD program also offers training services and technical and administrative follow-up. However, in 2009 the decision was taken by the SANAD program to raise the ceiling of loans to OMR50,000 per project in areas of production and services. An extra 2% as a management fee is added to the principle capital with a maximum of 7 years to repay the loan. More details about the terms and conditions for financing is presented in Appendix 5.

According to the Oman Development Bank (ODB) annual report, by the end of December 2014, 2,325 projects had still not completed yet their installment schedule. Furthermore, the total outstanding amount of these projects reached around OMR13 million in 31/12/2014 and presented around 70% of the total principle disbursed. However, among projects having completed their allowed repayment time, there was a total outstanding amount of OMR921,236, presenting around 7% as a default rate. Moreover, according to the ODB

report there are more than 650 projects classified as loss or doubtful credit, and half of them were for projects financed from 2002-2007. This means that there is a huge amount of unpaid loans which cannot therefore be recycled to help other entrepreneurs. In addition, the default rate is high because the Development Bank deals with small and medium enterprises which have a high risk. Based on the ODB, the default rate for the fund portfolio dropped from 60% in 2004 to 9% in 2014 for loans exceeding ten years in repayment (Oman Daily, 2015). This is due to the assessment of new application projects by some experts who pass judgment on credit decisions, and also because of teams visiting and following all financed projects to determine if those projects need any further help or guidance to repay their installments. **Table 3-20** shows a summary of outstanding amounts for projects financed from the public support program.

The ODB faced a critical problem in recovering the repayment installments as around 70% of projects financed from 2002–2007 were closed. On the other hand, the beneficiary from the SANAD loan has to be managing and working in the business full-time, and also has to meet the condition levels of employing national manpower. All these reasons and more, concerning competition, individuals' characteristics, labor market and economic conditions, have an impact on the growth and survival of financed firms.

Table 3-20: Overview of outstanding balance in 31/12/2014 for projects financed from SANAD program

No. of outstanding projects	2,325
Total disbursed amount (RO)	17,772,891
Total repaid principle (RO)	5,281,144
Total outstanding balance (principle plus fees) (RO)	12,991,593
Total outstanding for projects completed the grace time of repayment (2002-2007) (RO)	921,236
Default rate	7 %
No. of projects in loss or doubtful credit classification	652

Source: (Oman Development Bank, 2014)

Self-employment is a key element of public policy in Oman as it contributes to job opportunities and substituting the shortage of jobs in the public sector. Professor Michael

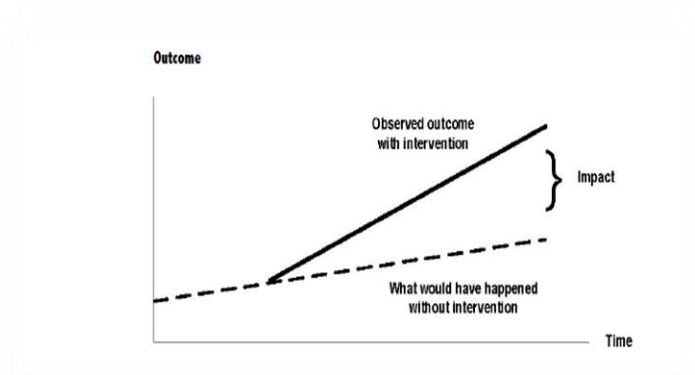
Porter in his special lecture on “Competitiveness and Economic Development: Implications for Oman”, delivered in Oman in 2004, advised that there is a real need for fostering private sector entrepreneurship and business formation in Oman (Khan & Almoharby, 2007). In addition, Porter also identified some limits on entrepreneurship development in Oman, and pointed out that “government employment is secure and highly attractive, deterring skilled employees from entering the private sector” (Khan & Almoharby, 2007, p.386). This implies there is a need for government policy to support the culture of entrepreneurship, reduce the barriers to entering the market, and reduce the difference in benefits and career incentives between the government and private sectors.

In addition to SANAD, there were different direct and indirect supporting programs founded to promote the development of enterprises in Oman, such as the Oman Development Bank loans, incubator facilities at Knowledge Oasis Muscat, equity funding by Youth Fund, and the small entrepreneur development facilities offered by Shell program (*Intilaaqah*). The SANAD scheme is the leading government program that supports the Sultanate’s entrepreneurs and it is focused on the growth of new firms. The program also supports the government vision in its tendency to create jobs and encourage innovation.

3.3 Research approach and design

The main issues in conducting evaluation for policies supporting startup business are defining the counterfactual groups of comparisons, properly conducting the matching between treatment and control group, and eliminating the selection bias. The following sections outline each of these issues in brief.

The fundamental process when evaluating the impact of government policy is to compare the actual impacts of assistance and non-assistance on new firms (Oldsman & Hallberg, 2004), or what is call it the counterfactual impact. In other words, the main purpose of the evaluation is to match the performance of the program participants with that of non-participants (Morris & Stevens, 2010). In turn, the difference between the actual changes and the counterfactual is called the additionality impact or the policy impact (Lambrecht & Pirnay, 2005; Storey, 1999) as illustrated in **Figure 3-11**. One of the major problems in evaluation is ensuring that the counterfactual is estimated in a reliable way (Greene, 2009). Therefore, the randomization process is a way to ensure the reliability of estimation by defining two different groups: treatment and control groups.

Figure 3-11 : The impact of intervention

Source: Adapted from (Oldsman & Hallberg, 2004)

Several approaches have been used to evaluate policy impact, ranging from using straightforward techniques like monitoring and asking a participant's opinion, to using a more comprehensive and analytical approach (Lambrecht & Pirnay, 2005; Rotger et al., 2012). Alternatively, Storey (1999) proposes the “six steps” model for evaluating the impact of public policies designed to support small businesses in developed economies. This framework analyzes policies in six steps to assess whether they achieve the objectives of the government program. The model is divided into two main processes: monitoring, which relies upon the recipients' perspective, and evaluation, which attempts to represent the counterfactual between the recipients and non-recipients. The description of each step's objective is shown in **Table 3-21**.

Table 3-21 : Storey (1999) model for entrepreneurship policy evaluation

Process	Rationale	Steps	Purpose	Indicators
Monitoring	Relies upon the view of the recipients of the policy. It is limited to observing & recording input and output impact	1) Take up of schemes	Accounting & legal function	Beneficiary number, size, distribution, public expenditure ,etc.
		2) Recipients' opinions	Asking participants' opinions	Training provided, subsidies, loans, administrative procedures
		3) Recipients' views of the difference made by the assistance	Additionally provided by the assistance or the influence of assistance in the performance	Additionally (displacement) in terms of jobs created, sales, profit, growth, survival
Evaluation	Counterfactual In order to improve policies & learning about the impact of policy	4) Comparison of assisted with non-assisted firms in terms of their performance	Comparison between control group & assisted group	Comparison factors in terms of employment creation, productivity growth and survival rate
		5) Matching	Identify specific groups with same characteristics	Appropriate comparison
		6) Taking account of selection bias	Taking account of sample selection	Important to use statistical techniques. Taking account of overestimate & underestimate of sample selection

Source: own elaboration draws from discussion in Storey (1999)

However, adapting this framework is not simple, since steps five and six are the most difficult stages. For instance, Lambrecht & Pirnay (2005) used only steps from one to four to evaluate the public support provided to small businesses. They concluded that “Perfect ‘matching’ (on the basis of age, sector, ownership and geography) is very difficult, and observed differences in performance between the beneficiaries of external consultancies and the ‘match’ firms may also reflect the presence of unobservable” (Lambrecht & Pirnay, 2005, p.95).

In that sense, there was a suggestion to add two more steps to the analytical framework of Storey (1999) in order to control the selection bias which is the core problem in policy evaluation, as well as simplifying the matching process. The two additional steps involve: step seven which is the use of propensity score matching for better control of sample selection. While the step eight involves full experimental methods with random assignment (Greene, 2009).

One of the key assumption is made in the matching approach is using arbitrary selection criteria (Cziráky, Tisma, & Pisarovic, 2005) in order to reduce the effect of selection bias. According to Oldsman & Hallberg (2004), the main challenge in evaluating the impact is to “estimate the effect of programs after netting out extraneous factors that affect outcomes” (p.151). In that sense, it is essential to consider these factors that may influence the estimation of the real impact on those firms that have benefited from the government support. These factors could be some features that are related to the individual’s characteristics, such as the capital investment, or they may also be related to the country’s business environment rules and regulations, such as labor policies. Similarly, there is a need consider the potential sample population who will participate in the study. It is unfair to compare between two groups of firms whose characteristics or survival rates are too different.

Analysis of the treatment and control groups may be affected by the bias error due to the use of non-random sampling and non-experimental techniques to evaluate the impact of government intervention. As a result, it is difficult to estimate accurately the impact of government policy because of the technical problems involved in constructing the sample and choosing the more highly performing firms (Storey, 1999). According to Heckman (1979), sample selection bias can arise for two reasons: “self-selection by individuals or data being investigated, [and] second sample selection decision by analysts or data processor” (p.153). For instance, comparing the impact of training programs for different labor markets can introduce the selection bias for the population sample. Therefore, the failure to find proper comparable groups for participants and non-participant is one source of selection bias (Heckman, Ichimura, Smith, & Todd, 1998).

Different authors have measured the impact of EP policy in a variety of ways depending on the level of analysis and the adapted approaches. The following two sections will deliberate

the debate among different studies regarding the methodologies and types of measures used for EP evaluation.

Varieties of studies seek to address a range of measures to evaluate the impact of EP policy for new and small enterprises, either by firm or region. Indeed, performance measures or additionality – either financially or economically – are the usual indicators for evaluating the impact of policy at firm level. According to Iversen et al. (2007), researchers and politicians are more interested in measuring the success of entrepreneurs in terms of growth and survival.

Appendix 6 illustrates some examples of measures used in selected studies to evaluate the impact of government programs on the performance of supported firms. Alternatively, literature suggests various variables that can be used to evaluate the impact of policy intervention on regional development in terms of firm generation and employment growth. However, an alternative measure which has been used recently in some studies is the ratio of new growth businesses to the total number of businesses existing in the economy (Audretsch & Fritsch, 2002; Iversen et al., 2007). This measure indicates the number of new startup firms at regional level. Audretsch & Keilbach (2004) define startup rate as “the number of startups in the respective region relative to its population, which reflects the propensity of inhabitants of a region to start a new firm” (p.954). In addition, literature points to other indicators. For instance, van Stel & Suddle (2008), Mueller et al. (2008), and Fritsch & Mueller (2008) used employment change and growth as the outcome variable to investigate the impact of new business formation on regional development.

However, literature suggests that various factors influence the outcome results of the earlier mentioned measures. For example, human capital, the availability of financing, entrepreneurial characteristics, unemployment rate, population density and growth, and industrial structure significantly influence regional variation in new firm birth, as well as the performance impact of entrepreneurial activities (Florida, Acs, & Lee, 2004).

Furthermore, the survival rate is also one of the common ratios which has been used to indicate the “proportion of firms that are still active after a specific time period” (Iversen et al., 2007, p.36). For instance studies like Meager, Bates, & Cowling (2003); Oh et al., (2009); Prantl, (2008) and Rotger et al. (2012) have used this measure to calculate the survival rate that can be influenced by the policy. In addition, several studies (e.g. Kang &

Heshmati, 2008; Norrman & Bager-Sjögren, 2010; Riding et al., 2007; Zecchini & Ventura, 2009) have used also the employment change as an alternative measure to indicate the economic additionality impact of policy schemes. To date, various methods have been developed and introduced to measure the impact of government support programs and policies on individuals and firms. Saadani, Arvai, & Rocha (2011) make an attempt to differentiate between various types of methodologies that have been used widely by researchers to investigate the additionality impact of policy. In most recent studies, the evaluation of EP policy is measured in four major analytical techniques as illustrated in **Table 3-22**. Each has its advantages and drawbacks. However there are also different types of methodologies found in literature but not widely used because of complexity and cost - for instance, the randomized experiment approach (see Kang & Heshmati, 2008 and Saadani et al., 2011).

Yet, some studies in the field of entrepreneurship policy evaluation have adopted different types of methodologies in their analysis in order to provide robust impact estimates. For instance Lelarge, Sraer, & Thesmar (2010) have used three different types of methods: ordinary least squares, difference in difference, and quasi-natural experiment. The same is done by Zecchini & Ventura (2009) when they compare their results found by descriptive statistics to results from the difference in difference technique.

Table 3-22: Alternative approaches to evaluate the impact of EP policy and the findings of selected studies

Approach	Description	Example of a study	Key finding	Additionality
Interviews	Asking beneficiaries whether was possible to obtain fund without government support. It is simple to get participant judgment and opinion but the response answers are highly subjective and do not reflect necessarily the reality.	(Boocock & Shariff, 2005)	The financial additionality of the credit guarantee loan scheme to SMEs is very low (+ 37% on average).	Additionality
Descriptive Statistics	Using different measures of descriptive statistics to estimate the additionality impact of the policy intervention. It can be done by comparing the sales or productivity in the treatment group before and after the intervention. This method doesn't use any probability function. Its drawback is that it does not provide an accurate estimate.	(Craig et al., 2008)	Find a positive and significant correlation between the average annual level of employment in a low income market and the level of a guaranteed loan.	Significant Additionality
Propensity score matching (PSM)	This method is one of the types of quasi-natural experiment methods. It is based on defining two different groups: treatment group who have used the policy instrument; and control group who have not. The aim is to estimate the probability of treatment on the non-treated group in order to evaluate the counter-factual causes between the two. This method faces the problem of self-selection and also the difficulty of finding actual comparable matching variables.	(Oh et al., 2009)	The government scheme has a significant impact on supported firms by maintaining their size in terms of sales and employment, and increasing their survival rate, but it does not help firms to increase their R&D and productivity.	Significant Additionality
Difference in Difference (DID)	DID is one of the popular estimator to evaluate the effect of public interventions and it is also one of the types of quasi-natural experiment methods. Simple comparisons of pre-treatment and post-treatment outcomes for those individuals exposed to a treatment are likely to be estimated by using different outcome variables between periods of time	(Zecchini & Ventura, 2009)	The main role of the scheme is in its effectiveness of reducing SMEs' borrowing cost and easing their financing constraints	No Significant Additionality

Source: Own elaboration (Part of the methodologies definition has been adapted from Saadani et al. (2011) & Abadie (2005))

Furthermore, finding appropriate data for the treatment and the control group is one of the key restrictions in conducting the evaluation in a proper way (Morris & Stevens, 2010). According to Storey (2014), the advanced econometric approaches “require considerable data comprising ‘panels’ of firms over a number of years. This is vital for new and small firms since so many firms have a short ‘life’ and some have periods of rapid growth followed by collapse” (p.24).

However, all the previously mentioned methods have strengths and weaknesses. It is essential to consider several factors in terms of their complexity and cost before choosing any method to evaluate the impact of government intervention. For example, experimental designs or quasi-natural experiment approaches, like the propensity score matching and the difference in difference, provide strong evidence of causality, but may be costly, and their process difficult to manage (Oldsman & Hallberg, 2004). Therefore, these approaches seem to be expensive (Green & Storey, 2007) in the sense of collecting panel data, and difficult (Storey, 2014).

Despite a huge amount of investment invested by governments to support entrepreneurial activities, empirical studies have shown little evidence, or mixed results, concerning the impact of government programs on entrepreneurial activities (Minniti, 2008; Murdock, 2012; Pergelova & Angulo-Ruiz, 2014).

Research on this topic has found different results. Meager et al. (2003) point out that there is no evidence that government programs have any impact on the labor market outcomes and entry of young people in self-employment. Furthermore, Norrman & Bager-Sjögren (2010) found that government programs do not generate a positive impact or additionality on the treatment group.

In contrast, some studies found that the government support programs improve the survival rate of startups (e.g. Meager et al., 2003; Oh et al., 2009; Rotger et al., 2012 ;Prantl, 2008) but not the sales output (Boocock & Shariff, 2005; Uesugi et al., 2010). According to Roper & Hart (2005), there is little evidence that the programs have any significant effect on sales, employment or productivity growth performance; on the contrary, Craig et al. (2008) and Riding et al. (2007) find that there is a positive and significant relation between the level of employment in the market and the level of government financial support. These mixed results

imply that different methodologies, data sources, context and research samples have been used to conduct these studies.

The same debate arises when it comes to the evaluation of non-financial support. On one hand, Jansen & Weber (2004); Mole, Hart, Roper, & Saal (2009) and Wren & Storey (2002) argue that public advice and training programs for entrepreneurs have had a positive effect on the success of new firms in terms of employment growth, survival rate and productivity. Others even contend that there is a low utilization rate of external assistance for nascent entrepreneurs (Yusuf, 2012).

A big challenge of entrepreneurship policy is in the definition of entrepreneurship which guides the policy. Iversen et al. (2007) state that “entrepreneurship is difficult to measure and operationalize for empirical work” (p.39). Therefore, EP policy impact is also difficult to predict or measure (Murdock, 2012). The same view is found in Storey & Tether (1998) who argue that evaluating the positive impact of state support programs upon new technology based firms is difficult to determine.

A review of the results of using multi types of approaches on some selected studies that have evaluated government programs is provided in **Appendix 6**. Indeed, the overall impression drawn from this appendix is that the finding is mixed and even positive impact is only revealed on specific groups or in some variables (see for instance: Grilli, Colombo, & Murtinu, (2009); Lambrecht & Pirnay, (2005) and Nishimura & Okamuro, (2011). The same view is given by Robson et al. (2009), Rigby & Ramlogan (2013), and Storey (2014) who reviewed several studies that elaborated the evaluation issues. In summary, all the studies reviewed so far suffer from methodology limitation, lack of hard data collection, and the impact of context and macro level conditions (see Lenihan, 2011; Stevenson & Lundström, 2002, 2007).

A serious difference in the key result with the previous evaluation, as believed by Acs & Storey (2004), could be due to the lack of measurement variables, or not reflecting omitted variables bias, or because of the difference between the countries or the periods studied. Storey (2014) has proposed four main reasons for the different results among studies. The first is related to the difficulties of collecting data from panel sheets. The second is the incompatibility judgment and gathering of future opinions from the new and small business owners about their enterprises when asked about the program and its benefits to their

enterprises. Firms receiving business advice or assistance are more knowledgeable and likely to perform better. Finally some program evaluators select only the better firms for their investigation and ignore others, which process indicates selectivity problems.

In this study I adopted two methodology techniques: the matching estimator technique and the qualitative comparative analysis. Various estimation methods have been suggested in the literature to evaluate policy programs. According to Imbens (2004), there are five categories of estimation methods: (1) methods based on estimating the unknown regression functions of the outcome on the covariates (Heckman et al., 1998; Heckman, Ichimura, & Todd, 1997); (2) matching on covariates (Abadie & Imbens, 2002); (3) methods based on the propensity score (Rosenbaum & Rubin, 1983); (4) combinations of these approaches, such as weighting and regression or matching and regression (Robins, Rotnitzky, & Zhao, 1995); and (5) Bayesian methods (Rubin, 1978). My focus in this study will be on the second one, matching on covariates.

Matching estimator technique

Matching estimators “compare outcomes across pairs of matched treated and control units, with each unit matched to a fixed number of observations with the opposite treatment” (Imbens, 2004, p.11). As the sample size increases, the bias between these pairs of matching for the treatment effect disappears. The matching number remains fixed and thus the variance between the pairs does not go to zero (Imbens, 2004). Instead of using the logistic regression to predict the propensity score, matching estimators require fewer decisions to implement and they do not involve any nonparametric estimation (Guo & Fraser, 2009). Due to these advantages, matching estimators become an attractive approach to solving many problems of programs evaluation.

The conceptualization of program evaluation was founded by Rubin’s counterfactual framework, as much of the recent work builds on his thought (Rubin, 1974, 1977, 1978). The key idea of this framework is that “individuals selected into treatment and non-treatment groups have potential outcomes in both states: the one in which the outcomes are observed and the one in which the outcomes are not observed” (Guo & Fraser, 2009). This means that in each group there is an unobserved mean outcome in treatment and control groups, and this missing data can be imputed by the matching estimators’ framework. For treatment

participants there is an observed outcome under the condition of treatment E ($Y_1 | W = 1$) and there is unobserved outcome under the condition of untreated E ($Y_0 | W = 1$). Similarly, for the control group there is observed mean E ($Y_0 | W = 0$) and unobserved mean E ($Y_1 | W = 0$). As explained by Guo & Fraser (2009), matching estimators can estimate “the value of $Y_i(0) | W_i = 1$ (i.e., potential outcome under the condition of control for a treatment participant) and the value of $Y_i(1) | W_i = 0$ (i.e., potential outcome under the condition of treatment for a control participant)” (p.212). The crucial role behind matching estimators is that “[for] each i , matching estimators impute the missing outcome by finding other individuals in the data whose covariates are similar but who were exposed to the other treatment” (Abadie et al., 2004, p.292). Therefore, after imputing the missing value for each group outcome, the matching estimators can be used to estimate various average types of treatment effect including average treatment effect in the population (PATE), the sample average treatment effect (SATE), the sample average treatment effect for the treated (SATT), the population average treatment effect for the treated (PATT), the sample average treatment effect for the controls (SATC), and the population average treatment effect for the controls (PATC) (Abadie et al., 2004; Guo & Fraser, 2009).

There are different types of matching estimators, including the simple matching estimator, the bias-corrected matching estimator, the variance estimator assuming a constant treatment effect and homoscedasticity, and the variance estimator allowing for heteroscedasticity (Abadie & Imbens, 2002; Guo & Fraser, 2009). All of them aim to reduce the bias errors and the dimensional variance problem of covariates or matching variables. To solve the dimensionality problem, the matching estimators methods use the a vector norm in order to reduce the distance between the treated case and each of its potential control cases by choosing the shortest control case among others (Guo & Fraser, 2009). Thus, this outcome is the counterfactual for the treated cases. Alternatively, the vector norm is also used to estimate the treated outcome whose distance on the covariates is the shortest among other treated cases. Therefore, this outcome serves as the counterfactual for the control cases.

However, to apply exact matching is difficult and most matching studies use simple matching estimators to avoid exact matching samples. However, according to Abadie & Imbens (2002), the simple matching estimator is biased in small samples. Because the sample in my study is finite (small), this bias-corrected matching estimator approach is required. My data collection is across a section of times from 2002 to 2011, which also makes this technique

appropriate to match this kind of data. Furthermore, I apply matching estimators that allow better construction of appropriate control groups in a context where a comparison between the treatment group and control group is complex due to limited access to appropriate data. To my knowledge, this is the first attempt by this study to evaluate a government program in Oman. Therefore, matching estimators is a preferred technique to ensure the appropriate control group is chosen (Binder & Coad, 2013). Furthermore, instead of using the logistic regression to predict the propensity score, matching estimators require fewer decisions to implement, and consequently it has the advantage of an additional level of robustness in contrast to other matching estimators (Abadie & Imbens, 2012; Guo & Fraser, 2009; Hussinger, 2008). Due to these advantages, matching estimators become an attractive approach to solve many problems of programs evaluation.

However, it also contains some limitations as compared to other methods. Abadie and Imbens (2006, 2012) indicated that the variance of matching estimators is still quite high, and matching with fixed numbers probably does not lead to an efficient matching result. More explanation about these two matching estimator techniques can be found in **Appendix 7**.

In this thesis I used the Stata program which is widely used with other software to run the matching estimators. In this program, users can use the *nnmatch* commands to conduct the matching process. This feature in the Stata program was developed by Abadie et al. (2004). More explanation about using this syntax can be found in **Appendix 7**.

Qualitative Comparative Analysis (QCA)

The second part of the study is based on the crisp set qualitative comparative analysis (csQCA), one of the first QCA techniques developed in 1980, and which aims to combine qualitative and quantitative research strategies (Marx, 2010; Rihoux & Ragin, 2009). QCA explains how a specified condition or a cause can affect the outcome. In other words, how a combination of variables can be combined to cause a certain outcome (Mas-Tur et al., 2015; Woodside, 2012). As Woodside (2012) explained, “QCA includes the construction of a truth table of all logically possible combinations of causal conditions and identifies the cases conforming to each combination” (p.280), in contrast to other methods which do not provide such a table. In particular, my analysis investigates what combination of human capital can lead firms that received government loan support to non-employment growth.

Fiss (2011) explains the process of calibration that allows the transformation of variables into sets, which also requires rescaling of variables to be from 0 to 1 (crisp sets and fuzzy sets). This methodology follows that in some recent studies (e.g. Bell, Filatotchev, & Aguilera, 2014; Greckhamer, 2015; Misangyi & Acharya, 2014). It is essential in order to conduct such analysis to have a conditional notion in the output variable. According to Ragin (2006), it is important to specify the potential conditions (i.e. sufficient conditions) in advance that must be met for a given causal variable in order to have an impact in the outcome variable. The QCA software package provides the transformation of variables and also the analysis for this type of study (Fiss, 2011; Mas-Tur et al., 2015).

The data sources

The data that is used in this research was obtained from three main sources: (1) SANAD program's beneficiaries database obtained from the Oman Development Bank (**ODB**); (2) National Center for Statistical and Information (**NCSI**); and (3) a survey administered to a sample of beneficiaries (treated) and non-beneficiaries (control) from the SANAD program. The data obtained from ODB covers all eleven governorates in Oman for SANAD beneficiaries who still have an outstanding balance by the end of 31/12/2014. It is unpublished panel data for the SANAD program with 2,325 cases from 2002 to 2014 including details about the loan size and distribution, names of firms, business activities, credit classification and total outstanding amounts. This data allows us to choose the treatment group who participated in the SANAD program.

From the whole data obtained from ODB, I identified only three governorates which have the highest number of beneficiaries of the SANAD program from 2002 to 2011. The total public guarantee loans disbursed to these chosen governorates comprises 58% of total credit guarantee balance through 2002–2011 disbursed. The total number of participants in these selected three regions is 896, which comprises around 55% of the total participants throughout Oman. **Table 3-23** presents the total number of applications in the SANAD program that had outstanding balances by the end of 2014.

With the NCSI dataset, I got the list of control groups with their names, contact details, business activities and location distribution. There is a lack of information about small and medium enterprises details in Oman. I avoided using the database sent from the Oman Chamber since its information only indicated the registration of enterprises in the Chamber

list, and it is still unknown if those businesses have started their activities or not. Therefore, I preferred to use the database obtained from NCSI since this information included only businesses which have already started their sales, and whose employment size is between one to nine workers. The dataset from NCSI included 51,164 firms for all the Sultanate's governorates in the market during 2002 to 2011. I created a new list from this main data (i.e. control group) including only enterprises that did not benefit from the SANAD program in only three regions (i.e. Muscat, Batinah and Dakhiliya) which were targeted in my research. I selected these three regions as representative of other regions in Oman since those selected regions have the highest number of beneficiaries from the SANAD program. In addition, their history files and documents were well organized and easily accessible.

Table 3-23: Number of applications with outstanding balance in the SANAD program by 31/12/2014

Governor- ates	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total	Grand total to 2011
1-Muscat	14	25	8	16	12	15	8	12	75	43	49	71	6	354	228
2- Dhofar			3	22	35	15	4	14	30	21	10	9	3	166	144
3-Batinah N	2	12	10	16	17	16	16	28	115	55	48	54		389	287
4- Batinah S		5	3		4	7	14	14	60	14	21	24	1	167	121
5-Dhahirah		3	1	1	1	1	11	15	19	26	25	26	2	131	78
6-Dakhiliyah	1	6	3	4	2	8	31	75	146	105	84	81	17	563	381
7- Wusta						1	1	2	6	5	3	10		28	15
8-Musandam									1					1	1
9-Buraimi		1	4	1	2			1	5	2	1	1		18	16
10-Sharqiyah N		7	5	6	2	5	20	20	57	40	46	31	1	240	162
11-Sharqiyah S			2	1		6	23	36	66	48	46	36	4	268	182
Grand Total	17	59	39	67	75	74	128	217	580	359	333	343	34	2325	1615

Source: (Oman Development Bank, 2014)

To estimate the treatment effect on newly supported firms, I assigned each “supported” and “non-supported” firm similar observable characteristics. Using the NCSI business registry, I identified 1,672 firms (control group) with characteristics similar to the treatment group in terms of number of workers, business activities, and geographical location.

Consequently, the survey has been designed to gather information that is missing from the government dataset. The design of the questionnaire was based on the format of the Panel

Study of Entrepreneurial Dynamics (PSED). From the two government datasets obtained from ODB and NCSI, I can identify my respondent sample from the treatment and control group. The survey has three main parts: (1) SANAD financial support, (2) business characteristics, and (3) individual characteristics. A copy of the distributed survey can be founded in **Appendix 8**.

From the survey, I utilized the following variables: sales size, employment size, business age, firm status (new or existing firm), legal status and industry type⁶. I added a dummy variable for using the program by giving 1 for participants in the program and zero for non-participants. The final number of respondents from the selected three governorates is presented in **Table 3-24**.

Table 3-24: Final number of respondents

Selected Governorates	No of Application in SANAD dataset	Targeted sample size *	No of collected questionnaires	% of collected questionnaires
Muscat	228	144	65	45
Batinah North	287	165	54	33
Dakhiliyah	381	192	94	49
Total	896	501	213	43

*With 95% confidence level and 5% of error

I sent survey questionnaires (handled by personal interviews or by telephone call) and obtained responses from a total sample of 348 participants, of which 213 had used the SANAD program (i.e. treated group), and 135 that had not (i.e. control group)⁷ as presented in **Table 3-25**. The total number of collected questionnaires from new firms was 273 (including the treatment and control groups); the total questionnaires collected for existing firms was 75 and only from supported firms. As shown in **Table 3-25**, these collected responses are representative of the sample used in the survey.

⁶ In this survey I collected more information which is not analyzed in this study and I hope future research can use it. During the data collection, I took the opportunity to collect additional data that was beyond the focus of my research question in this current study.

⁷ We collected responses from 213 participants in the SANAD program, but some of them were from existing firms. Since my study considers new firms only, we excluded the treated sample from the existing firms as there was no matched sample from the control group. The total response rate from both groups is 43% of the total targeted sample size.

Table 3-25: Total number of respondent from supported and non-supported firms.

	Supported	Non-supported	Total	Frequency
New	138	135	273	78.45
Existing	75	-	75	21.55
Total	213	135	348	100

For the analysis, I only matched individuals with still-surviving firms three years from the date of receiving the treatment, meaning that of 138 supported firms, I received responses from 116 that had survived for three years since receiving loan support. These were matched with 135 non-supported firms, yielding a total sample size of 251. The final sample of supported and non-supported firms is shown in **Table 3-26**, focusing on only surviving firms due to the data collection, as I do not have any counterfactual from non-surviving, non-supported firms.

Table 3-26: Final sample used for matching between supported and non-supported firms.

Total sample	Supported	Non-supported	Total
New firms	138	135	273
Surviving new firms	116	135	251

For purpose of illustration, I decided to run one-to-one matching. In most of the matching process given in this part of study, I use $[M=1]$. Abadie et al. (2004) suggest using four matches for each unit “because it offers the benefit of not relying on too little information without incorporating observations that are not sufficiently similar” (p.298). Like all smoothing parameters, the final inference can depend on the choice of the number of matches.

In order to measure the performance of guaranteed and non-guaranteed firms, I follow the sales growth and employment growth for each firm included in my sample for three years from the year of starting sales. The year of starting sales is the year 1, and the year after this is the year 2 of follow up. Furthermore, to estimate the real sales growth, I deflated the sales income for year 1 and year 3 in each case based on the information in the annual reports

using the price deflator from Oman National Statistics and Information. More details about the calculation of price deflator for Oman national accounts can be found in **Appendix 9**.

This method was also used by Norrman & Bager-Sjögren (2010) when they investigated the effectiveness of an entrepreneurship policy program in Sweden, and also by Oh et al. (2009) when evaluating the credit policy in Korea. Furthermore, the industrial sector is divided into four categories: trade and service, agriculture and livestock, construction and transportation, and others. For the sales and employment growth, I calculated the sales and employment size in the year 1 and the year 3 separately, and then I estimated the sales and employment growth for each variable. I also added four dummy variables for the legal status, sole, partnership, joint venture and limited partnership.

Descriptive statistics

For my analysis in both techniques (matching estimator & QCA), I used a data set from the Central Bank of Oman which is not primarily concerned with entrepreneurs but offers a variety of information regarding the disbursed loans, date of loans, interest amounts, outstanding balances, etc. The survey that has been prepared and distributed in three selected governorates in Oman – for this study - contains information on various areas of the entrepreneur and firm characteristics for both treated and non-treated groups. For the untreated group, I used a data set obtained from NCR in order to identify the list of non-treated groups. I was able to collect a response to the survey from 172 supported firms and 135 non-supported as presented in **Table 3-27**. However, in this study, I restrict attention to new firms data only.

Table 3-27: Total number of sample for survived firms from supported and non-supported groups.

	Supported	Non-supported	Total	Frequency
New	116	135	251	81.76
Existing	56	-	56	18.24
Total	172	135	307	100

In order to respond to the first question in my study, “*To what extent does EP policy affect the growth of new firms created in developing countries, such as the Sultanate of Oman?*”, I used the sample of 116 supported to match it with 135 for non-supported firms. While in order to

respond to the second question, “*What is the profile of the companies without growth, even though they received support from the government, in the context of developing countries, such as the Sultanate of Oman?*”, I select only 32 cases of new firms supported by the government loan support, and which were located in Batinah, to run the QCA.

For this study, Batinah region is selected as my main context for several reasons. First, Batinah has the highest Omani population as well as the highest rate of youth population. Second, it has the highest number of projects financed from the SANAD program from 2002 to 2013 (see **Appendix 10 and Appendix 11**). Third, based on the report by the Ministry of Man Power (2014) (*the Ministry of Man Power was the authority government which managed the SANAD program during the period of inspection to 2013*), Muscat and Batinah regions have the highest failure rate for the projects financed from the SANAD program. The failure rate in Batinah was 53% by the end of December 2014 out of 845 financed projects from the program from 2002–2013 (see **Appendix 12**).

Finally, based on the Ministry of Man Power annual reports, Batinah region represented the highest number of total job seekers (34.5%) compared to other regions in Oman (OHRD, 2012, p.160). This seems consistent with the proportion of the Omani population, and with the increasing rate of youth population between the ages of 20 and 29 in Batinah (see **Appendix 13**). Most of the job seekers in Oman are young, and 65% of them are 25-years old or younger. According to Census 2010, 24.4% of the Omani population were job seekers (OHRD, 2012, p.265).

Table 3-28 reports the main characteristics of sales and employment size for supported and comparison groups during the three years of investigation. Note that the sample was collected from three governorates, where Al Dakhliya has the highest response from treated firms, and Muscat has the highest from the control group. I compared supported firms against unsupported before using the matching approach. The growth rate of new ventures may be due to the industry type, business activities and regional differences in ecosystems that can support the growth of those firms (Autio & Rannikko, 2016).

In the first year of receiving the fund, more job positions for national employment are provided by the treated firms than by untreated firms (2.5 employees versus 1.9 employees), while there was no significant growth for the number of positions after three years of

receiving the government fund support. Therefore, although young firms can grow faster than older firms, young firms face greater credit constraints than older firms (Barba Navaretti, Castellani, & Pieri, 2014), and typically need to seek external resources, for instance, obtaining finance from government and venture capital sources, unlike older firms (Pickernell et al., 2013).

Table 3-28 shows that the starting level of sales mean (year 1) between the two groups were different (treated mean = 18,884, untreated mean = 22,893). The sales mean in the second year of treatment was increased by 11.5%, while the control changed little from the first year (treated mean = 21,058, untreated mean = 22,334). This indicates that the supported firms were able to maintain growth in their sales in the first two years of receiving the fund. The average loan size for this sample is OMR5,728. However, in the third year, untreated firms maintained growth (mean = 28,262), while in treated firms growth declined (mean = 20,310.5). Previous studies have shown that the impact of such programs on reducing sales growth for new supported firms could be because surviving firms have a higher than average potential for growth. Furthermore, owing to scarce financial sources and lack of access to foreign markets, these new firms do not fully exploit their improved growth (Becchetti & Trovato, 2002).

In terms of employment size, **Table 3-28**, shows that the treated firms were not able to increase the number of job positions for national employment, and the mean was approximately similar during the treated three years (mean = 2.4). By comparison the control group slightly increased the number of job positions for Omanis and this was probably due to the development in firm size and the government regulation to increase the number of vacancies for Omanis (*Omanisation policy*). Ayyagari, Demirguc-Kunt, et al (2014) found that firm size and firm age are significant predictors of employment growth.

In sum, the government loan support had a slight impact on the supported firms in term of increasing their sales growth, and national employment size. However, the job positions offered by supported firms were more than those offered by the untreated ones due to the restriction of the program's administration to fully manage and operate the supported firms by national citizens in some business activities. Therefore, there was no performance growth exhibited for new firms receiving support from the government, as seen in **Table 3-28**.

Table 3-28: Sales and employment size for supported and control groups

	Treated Participants		Control Participants	
	Mean	Std.Dev	Mean	Std.Dev
<i>Geographic location:</i>				
Muscat	0.284	0.453	0.444	0.499
Al Batinah North	0.276	0.449	0.267	0.444
Al Dakhliya	0.440	0.498	0.288	0.455
Sales size in Y1	18,884	43,593	22,893	37,096
Sales size in Y 2	21,058	43,125	22,334	45,139
Sales size in Y3	20,310.5	38,712	28,262	97,687
All Employment size Y1	2.78	1.892	4.481	5.650
All Employment size Y2	2.741	1.934	4.926	6.494
All Employment size Y3	2.724	2.173	5.185	6.372
National Employment size Y1	2.49	1.483	1.867	1.370
National Employment size Y2	2.431	1.470	1.889	1.568
National Employment size Y3	2.431	1.765	1.926	1.810
Number of observation	116		135	

3.4 Method and data on evaluating the impact of government financial support to overcome barriers to new firm growth in a developing economy

3.4.1 Matching estimator approach

The bias-corrected matching estimator method (BME) proposed by Abadie & Imbens (2002) was used to estimate the average treatment effect of the SANAD program on the firm growth of the beneficiaries (i.e. the average treatment effect for the treated - ATT). Broadly speaking, the aim of the matching technique is to balance the distribution of the covariates (i.e. observable pre-treatment characteristics) among the *treated* and *control* cases such that the setting for the analysis of the causal effects replicates a randomized experiment as closely as possible (Guo & Fraser, 2009). In the absence of experimental data, the estimation of the average treatment effect is conducted by comparing the potential outcomes associated with the factual and counterfactual conditions.

To complete the analysis of this study, the treatment effect for unit i is the difference between the outcome of unit i if it receives support from the SANAD program (treatment condition), denoted as $Y_i(1)$, and the outcome of unit i if it does not receive support from the SANAD

program (control condition), denoted as $Y_i(0)$.⁸ However, as each unit cannot simultaneously have a treatment and control condition, only one of these potential outcomes, $Y_i(0)$ or $Y_i(1)$, can be observed (i.e., factual), while the other is unobserved (i.e. counterfactual). Therefore, to estimate the unobserved potential outcome, I must compare *treated* and *control* units that are as similar as possible based on two assumptions (Imbens 2004). The first is the strongly ignorable treatment assignment assumption, which implies that, conditioned on a set of attributes (X), the treatment assignment (T) is independent of the potential outcomes ($Y(0)$, $Y(1)$); in addition, for all the values of X , there is a positive probability of being treatment or control (Rosenbaum & Rubin, 1983). The second assumption is the stable unit treatment value assumption, which implies that the value of the potential outcome of unit i when exposed to the treatment T should be the same, regardless of the treatment assignment of any other units (Rubin, 1986).

It is arguable whether the latter assumption held in my sample or not, because it is reasonable to believe that in a non-competitive market, such as that of Oman, the general equilibrium effects are less common; therefore, the growth of one firm is not at the expense of (or influenced by) the growth of other firms.⁹ In contrast, the former assumption can be relaxed in the case of the average treatment effect for the *treated* unit when using specific methods to estimate the treatment effects (Guo & Fraser, 2009). One of these methods is the matching estimator of Abadie & Imbens (2002), which facilitates estimating the effect of the various types of treatment (i.e. average treatment effect (ATE); average treatment effect for the treated (ATT); and average treatment effect for the controls (ATC), for both the sample and the population).

In this study, the sample ATT was selected for estimation because it was in my interest to know if a loan guarantee support program is beneficial only for those units that receive support. In this case, the matching estimator can be expressed as:

$$ATT = \frac{1}{N_1} \sum_{i|T_i=1} \{Y_i - \hat{Y}_i(0)\} \quad \text{Eq. 1}$$

⁸ Here, the term ‘unit’ refers to a beneficiary’s firm, while ‘outcome’ refers to a beneficiary’s firm growth.

⁹ In fact, during the analysis period, the Omani economy enjoyed strong growth that was driven substantially by rising household domestic consumption (Oxford Business Group, 2009), which means that there has been room for firms to grow in the market without too much competition. Moreover, the SANAD program has not been large enough to alter the relations between the demand and supply driving the growth in the whole market, and therefore it is accepted that there is no spillover effect from the firm growth of the SANAD participants to that of the nonparticipants (or *vice versa*).

Where $N_1 = \sum_i T_i$ is the number of observations in the *treatment group*, $T_i = 1$ indicates that unit i belongs to the *treatment group*, and $\hat{Y}_i(1) = Y_i$ is the observed outcome of unit i belonging to the *treatment group* under the treatment condition. $\hat{Y}_i(0)$ is the estimation of the unobserved outcome of unit i belonging to the *treatment group* under the control condition.

The unobserved outcome for each observation unit i that belongs to the *treatment group* is imputed by matching other observations in the *control group* with similar attributes X . This matching process is usually conducted by comparing the *treated cases* with a fixed small number of *control cases* (i.e. 1:1 or 1:k). However, Abadie & Imbens (2002) perform the matching with a replacement using the nearest neighbor method. This means that each case can be used as a match more than once, which increases the matching quality as it enables the use of all possible cases and produces a larger number of matches than matching without replacement. In addition to this, the matching estimator of Abadie and Imbens (2002) is combined with a nonparametric bias correction that asymptotically removes the bias created when the matching is not exact.¹⁰

3.4.2 Database

Data were collected from three main sources: (1) a database of those who received grants from the SANAD program from 2002¹¹ to 2011 that was obtained from the Oman Development Bank (ODB)¹²; (2) a database of registered businesses drawn from the National Centre for Statistics and Information (NCSI); and (3) a field survey specifically designed and conducted solely for purpose of this study (i.e. the goal was to create a sample of *treated* and *control* cases). While the sample of *treated cases* included new firms established by the beneficiaries of the SANAD program, the sample of *control cases* consisted of comparable firms newly created by individuals who did not receive any public support. The sample I included in this part of the study included recipients from the three governorates with the highest number of beneficiaries from 2002 to 2011, namely Muscat, Al Batinah North, and

¹⁰ Given that exact matching of many covariates or matches is rare, simple matching estimators are sensitive to the selection of the number of matches. That is, the higher the number of matches the lower the match quality, especially when the sample is finite, as in my case. This problem is solved by the additional bias correction.

¹¹ In 2002 the SANAD program began with the signing of contracts and disbursement of loans.

¹² The SANAD program operated for approximately twelve years from its date of inception in 2001 before it was substituted with another program called the *Al Raffid* fund in 2013.

Al Dakhliya. These three governorates represent 55% of all the SANAD participants listed in the dataset received from the ODB, and the total amount of loan financing disbursed to the beneficiaries in the three governorates represents 58% of the total amount disbursed as guarantee loans in Oman¹³.

Using the NCSI business registry, 1,672 firms were identified as being similar to the *treatment group* in terms of sales size, employment size, legal status, industry sector, geographical location, and other variables related to entrepreneur characteristics (such as gender, age, education, and experience) that reflect the selection criteria of the SANAD program. Data collection from both the *treatment* and *control groups* was performed by conducting a survey (a common questionnaire was administered via personal and telephone interviews). Responses from 138 *treated* firms and 135 *control* firms were obtained. As the focus of the study is on the impact of the SANAD program on new firm growth, the *treated* firms relate only to cases that received financial support from the SANAD program during the same year as the founding of the firm. Thus, the treatment assignment date for the *control group* is also assumed to be the founding year.

The growth performance of the *treated group*, between the treatment assignment year and the three years following, was compared against that of the *control group* (i.e. firm growth during the first three years after founding). Accordingly, only the *treated* firms that had survived for at least three years after the year of the treatment were matched, implying that out of the 138 *treated* firms, only 116 cases that had survived for three years were included in the sample, along with 135 *control cases*, resulting in a total sample of 251 cases from the three selected governorates population as shown in **Table 3-29**.

Table 3-29: Total respondents per governorate for new and surviving firms

	Selected Governorates			Total
	Muscat (1)	Batinah (2)	Al Dakhliya (3)	
Treatment	33	32	51	116
Control	60	36	39	135
Total	93	68	90	251

¹³ The list obtained from the ODB covered 2,325 SANAD beneficiaries with an outstanding balance of repayment by the end of 2014. Since the study is only focused on the period 2002 to 2011, the total population will be only 1,615 participants out of 2,325. According to the SANAD report, 88 percent of beneficiaries who received financial support were new firms.

3.4.3 Measurement of variables

My study uses firm growth as the outcome variable, which is estimated by both sales growth and employment growth to test my two hypotheses. Prior empirical studies have also used sales and employment growth as outcome variables to evaluate the impact of entrepreneurship policy programs (Almus, 2004; Boocock & Shariff, 2005; Girma et al., 2008; Koski & Pajarinen, 2013; Norrman & Bager-Sjögren, 2010; Oh et al., 2009; Zecchini & Ventura, 2009). Sales growth is considered an objective measure of performance because it can be compared across sectors (Autio & Rannikko, 2016); however, such growth may be volatile, especially in new firms (Gilbert, McDougall, & Audretsch, 2006). In contrast, employment growth usually follows sales growth because in most cases, additional employees are hired only after sales growth is consolidated. Therefore, the measurement of sales and employment growth will give us a more robust picture of new venture performance¹⁴.

For purposes of this study, sales growth (Δ sales) is operationalized as the percentage of change in real sales (deflated by national GDP price index, base year 2010=100) between the year of treatment and the third year after receiving the treatment (i.e. growth for the first three years of the new firm's history because in my sample, the year of treatment coincides with the year of founding). Employment growth is computed as the percentage change in the number of employees between the year of treatment and the third year after receiving the treatment. In this case, total employment growth [Δ employment (total)] is distinguished from national employment growth [Δ employment (national)] because the government loan support program analyzed in this study (i.e. the SANAD program) has a special interest in the latter¹⁵.

The set of conditional variables selected for the matching process should include all the variables that are known to determine both the treatment and future outcomes of the firm, based on theory and previous empirical evidence (Caliendo & Kopeinig, 2008). Accordingly,

¹⁴ Additionally, sales growth is a desirable performance indicator among the entrepreneurs themselves, while employment growth is desirable from the perspective of policy (Norrman and Bager-Sjögren, 2010). Therefore, both measurements of performance are used.

¹⁵ Actually, national employment growth is what the SANAD program expects and demands in order to run an Omanization policy.

I selected nine variables measured in the baseline year that are related to the likelihood of a firm receiving loans and achieving growth. Some of these variables are attributes of the firm (such as its volume of sales and number of employees at the beginning of the analysis period, as well as its legal form, industry sector and regional geographic location), whereas other variables describe the characteristics of the business owner or entrepreneur (such as age, level of education and prior experience in the same industry)¹⁶. The firm's initial size, both in terms of sales and employment, was included because financial institutions often use this variable to assess risk and to decide which firms are to receive loans (Cowling & Westhead 1996). Given that the business's risks and growth potential may vary across industry sectors, regional geographic locations and the legal forms of firms (Autio & Rannikko, 2016; Davidsson, Kirchhoff, Hatemi-J, & Gustavsson, 2002; Oh et al., 2009; Storey, 1994), these variables were included in the matching process as well. I also included the business owner's gender in my tests as a covariate because prior research has identified differences between male and female entrepreneurs concerning the ease of obtaining loans (Bardasi et al., 2011). Moreover, the heterogeneity among business owners in terms of age, level of education and prior experience has been found to affect new business growth (Amason, Shrader, & Tompson, 2006), and therefore it was necessary to include proxies of these variables. **Table 3-30** summarizes all the matching variables used to conduct empirical tests.

Table 3-30: Matching variables

Variable	Description and measurement
<i>Initial sales</i>	Total amount of real sales, in Omani Rials, deflated by the national GDP price index (base year 2010=100), corresponding to the year of treatment (i.e. year of founding of the firm).
<i>Initial employment (total)</i>	Number of employees corresponding to the year of treatment (i.e. year of founding of the firm), including all national and foreign manpower.
<i>Initial employment (national)</i>	Number of employees corresponding to the year of treatment (i.e., year of founding of the firm), including only national manpower.
<i>Geographic location</i>	A set of dummy variables indicating the (regional) governorate in which the firm was located: (1) Muscat, (2) Al Batinah North, and (3) Al Dakhliya.

¹⁶ In addition, the selection of the control sample was based on the variables that reflect the SANAD program selection criteria.

<i>Legal form</i>	A set of dummy variables indicating the type of legal entity on which the firm was established: (1) sole proprietorship, (2) general partnership, (3) joint venture, and (4) limited partnership. ¹⁷
<i>Industry sector</i>	A set of dummy variables indicating the industry sector of the firm: (1) trade and services, (2) agriculture and livestock, (3) construction and transportation, and (4) other business activity.
<i>Owner's gender</i>	A set of dummy variables indicating the gender composition of the firm's ownership: (1) only male, (2) only female, and (3) mixed.
<i>Owner's age</i>	A set of dummy variables indicating the age range of the firm's owner/s in the year of treatment (i.e. year of founding of the firm): (1) 19 or below, (2) 20–24, (3) 25–29, (4) 30–34, (5) 35–39, (6) 40–44, and (7) 45 and above. ¹⁸
<i>Owner's level of education</i>	A set of dummy variables indicating the education level of the firm's owner/s at the year of treatment (i.e. year of foundation of the firm): (1) secondary education or lower, (2) diploma, (3) bachelor or equivalent, and (4) master's, doctorate or equivalent. ¹⁹
<i>Owner's prior experience</i>	A dummy variable indicating whether, in the year of treatment (i.e. year of founding of the firm), the firm's owner/at least one of the firm's owners had prior working experience in a company with the same or similar business activity as that of the new firm.

3.4.4 Descriptive statistics

Table 3-31 shows the descriptive statistics of the characteristics of the *treatment* and *control* groups in the baseline year. The absence of a statistically significant difference is evident in the initial volume of sales when I compare the beneficiaries of the SANAD program and the non-supported firms in the *control* group. However, in terms of employment size, the

¹⁷ (1) A sole proprietorship is an entity formed by only one person who is personally liable for debt to the full extent of his/her assets; (2) A general partnership is an entity formed by two or more persons who are jointly and severally liable for debts to the full extent of their assets; (3) A joint venture is an entity formed by two or more persons who establish legal relationships among themselves (without affecting third parties) but it has no legal personality; and (4) A limited partnership is formed by two or more persons who may be jointly and severally liable for debts to the full extent of their assets (general partners) and/or to the limited amount of their contribution to the partnership capital (limited partners).

¹⁸ If the firm is owned by two or more persons who fall into different age categories, then each dummy variable indicates whether at least one of the firm's owners fits the corresponding age category.

¹⁹ Similarly, for firms owned by two or more persons, each dummy variable indicates whether at least one of the firm's owners fits the corresponding category of education level.

supported firms had a lower initial total employment size (mean = 2.78) than the non-supported firms (mean = 4.48), whereas the latter had a lower initial national employment size (mean = 1.87) than the former (mean = 2.49). In both cases, the difference was significant at the 1% level. It is worth mentioning that the SANAD program is focused on Omanization, and one of the reasons that firms receive funding is to ensure that they have a high proportion of national to total employees. For example, this ratio is over 90% for supported firms (2.49/2.78) as shown in **Table 3-31**. Thus, in order to receive support from the SANAD program, a beneficiary must fulfill three main requirements: (1) the new firm must be fully owned by an Omani national previously registered as a jobseeker in the Ministry of Manpower; (2) the funds must be devoted solely to the business project owned and managed by the beneficiary; and (3) the entrepreneur should hire only national employees, with permission being granted to hire foreign workers only under certain conditions.

Most of the supported firms (44.0%) were located in Dhakaliyah, whereas most of the non-supported firms (44.4%) were located in Muscat. The preferred legal form among both supported and non-supported firms was sole proprietorship (82.8% and 74.1%, respectively). Similarly, most of the supported and non-supported firms were in the trade and services sector (87.9% and 60.7%, respectively). Regarding the characteristics of the business owners, the gender distribution was even for supported firms (50% of supported firms were started by women either alone or in teams), while in the case of non-supported firms, owners were mainly male (80% of non-supported firms were started by men either alone or in teams). The prevalent age ranges among supported firms' owners were between 25 and 30 years old (21.6%) and between 30 and 34 years old (41.4%). In contrast, the prevalent age ranges among non-supported firms' owners were between 40 and 44 years old (18.5%) and 45 years old or more years (47.4%). Those who had completed secondary education or below were prevalent in both supported firms and non-supported firms. Finally, those who had prior experience in the same or a similar industry represented 38% of supported firms' owners and 33.3% of non-supported firms' owners. I ran an additional robustness test in a reduced sample by excluding observations representing individuals from Muscat. Indeed, the profile of entrepreneurs and their ventures may be different in large metropolitan areas compared to that of individuals/ventures from non-metropolitan places. New findings from my reduced sample (i.e. without observations from Muscat) did not change from my original results.

These descriptive results indicate that supported and non-supported firms in my sample were different in the year of treatment, which implies that I need to use sophisticated matching estimators, such as

that proposed by Abadie & Imbens (2002), to balance the differences between covariates among treatment and control cases.

Table 3-31: Characteristics of supported and non-supported firms at the baseline (year of treatment or year of foundation of the firm)

	Supported firms (treatment)		Non-supported firms (control)		Diff.	
	Mean	S. D.	Mean	S. D.		
<i>Initial sales</i>	17,377.50	45,188.42	25,836.85	57,126.94	8,459.36	
<i>Initial employment (total)</i>	2.78	1.89	4.48	5.65	-1.70	***
<i>Initial employment (national)</i>	2.49	1.48	1.87	1.37	0.63	***
<i>Geographic location:</i>						
Muscat	0.284	0.453	0.444	0.499	-0.160	***
Al Batinah North	0.276	0.449	0.267	0.444	0.009	
Al Dakhliya	0.440	0.498	0.289	0.455	0.151	**
<i>Legal form:</i>						
Sole proprietorship	0.828	0.379	0.741	0.440	0.087	*
General partnership	0.112	0.317	0.111	0.315	0.001	
Joint venture	0.017	0.131	0.044	0.207	-0.027	
Limited partnership	0.043	0.204	0.104	0.306	-0.061	*
<i>Industry sector:</i>						
Trade & Services	0.879	0.327	0.607	0.490	0.272	***
Agriculture & Livestock	0.034	0.183	0.059	0.237	-0.025	
Construction & Transportation	0.052	0.222	0.119	0.324	-0.067	*
Other business activity	0.034	0.183	0.215	0.412	-0.181	***
<i>Owner's gender:</i>						
Only male	0.353	0.480	0.800	0.401	-0.447	***
Only female	0.500	0.502	0.081	0.275	0.419	***
Mixed	0.147	0.355	0.119	0.324	0.028	
<i>Owner's age:</i>						
19 years old or below	0.009	0.093	0.007	0.086	0.002	
20–24 years old	0.121	0.327	0.037	0.190	0.084	**
25–29 years old	0.216	0.413	0.111	0.315	0.105	**
30–34 years old	0.414	0.495	0.163	0.371	0.251	***
35–39 years old	0.207	0.407	0.170	0.377	0.037	
40–44 years old	0.026	0.159	0.185	0.390	-0.159	***
45 years old and above	0.078	0.269	0.474	0.501	-0.396	***
<i>Owner's level of education:</i>						
Secondary education or lessr	0.853	0.355	0.779	0.417	0.757	
Diploma	0.112	0.317	0.111	0.315	0.001	
Bachelor or equivalent	0.034	0.183	0.170	0.377	-0.136	***
<i>Prior experience:</i>	0.380	0.487	0.333	0.473	0.046	
N	116		135			

Note: *** significant at the 1%, ** significant at the 5%, and * significant at the 10%

Table 3-32 illustrates the descriptive statistics of venture growth over the three-year period post treatment. Although the *supported* firms showed higher real sales growth (mean = 30.8%) than the *non-supported* firms (mean = 19.9%), the difference was not statistically significant. Notably, *non-supported* firms exhibited higher *total* employment growth (mean = 13.1%) than the *supported* firms (mean = -1.6%), and this difference was significant at 5%. Moreover, the *non-supported* firms showed higher national employment growth (1.8%) than the *supported* firms (-2.4%), but this difference was not significant.

Table 3-32: Descriptive analysis of the growth of output variables in the third year of treatment

	Supported firms (treatment)			Non-supported firms (control)			Diff.
	N	Mean	S.D.	N	Mean	S.D.	
<i>Δ sales</i>	102	0.308	1.152	107	0.199	1.408	0.109
<i>Δ employment (total)</i>	116	-0.016	0.329	135	0.131	0.566	-0.147 **
<i>Δ employment (national)</i>	116	-0.024	0.319	135	0.018	0.297	-0.043

Note: *** significant at the 1%, ** significant at the 5%, and * significant at the 10%

To complement this univariate and preliminary evidence (as presented in **Table 3-31** and **Table 3-32**), I use the matching estimator method proposed by Abadie and Imbens (2002). This method allows us to estimate the policy impact and to balance the differences between covariates among *treatment* and *control* cases by controlling for the number of covariates that may affect the evaluation process for the government financial program.

3.5 Method and data on human capital explanation for the stagnation of new ventures in the context of a developing economy

3.5.1 Qualitative comparative analysis technique

I use Qualitative Comparative Analysis (QCA) technique to obtain results (Rihoux & Ragin, 2009). The approach is not variable-based but rather case-based which allows the use of small samples (between 10 and 50 cases), and obtaining multiple pathways which lead to the same outcome (Lisboa et al., 2015; Mas-Tur et al., 2015). QCA fits my purpose because the objective is to unravel bundles of human-capital-related attributes that prevent new firms from growth while receiving SANAD financial support.

The cause-effect relationship is how strategy decisions and organization structures can be understood (Fiss, 2011), and specifically for government policy tools. As the aim of the study is to identify how changes in an independent variable (i.e. characteristics of those who received financial support with additional non-financial support) affect changes in a dependent variable (i.e. local employment growth), and since this study has a small number of cases, this method is suitable (Woodside, 2012).

Studies like Marx, (2010); Ragin, (2005); Rihoux, and Ragin (2009) describe this technique and its features. This study will use crisp-set QCA (csQCA), one of the QCA models. The main feature of csQCA is assigning “1” for membership and “0” for non-membership in contrast to fuzzy sets (fsQCA) which assigning the memberships scores between the interval of 0 and 1 (Ragin, 2005). The advantage of this technique as pointed out by Marx (2010) is that it “enables researchers to systematically compare differences and similarities of configuration of conditions between a set of cases and enables researchers to inductively explore data and develop explanatory models” (p.139). Furthermore, another advantage of this technique is allowing for multiple pathways which lead to the same outcome (Lisboa et al., 2015). My analysis investigates what combinations of human capital can lead to stagnation among firms that receive government loan support.

3.5.2 Database

For this study, the sample consists of new firms that received a loan support from the SANAD government support in Al Batinah governorate of the Sultanate of Oman. Batinah is the second largest region in Oman after Muscat in terms of population size. It had a total population of 1,016,394, and it represented 25.6% of the total population in Oman in 2014²⁰. Furthermore, this region has the highest youth population in Oman between the ages of 20 and 29.

Only 11.4% of the Omani population in Batinah were working in the private sector (NCSI, 2015). The SANAD program attempted to reduce the unemployment rate for the young population (20 to 29 years old) and to promote the “self-employment” and entrepreneurship culture in Batinah. Furthermore, the Batinah governorate led all governorates in Oman in

²⁰ See Appendix 10 for more details about population and economics as key indicators in Oman’s governorates.

terms of funded projects (845) and beneficiaries (919) under the SANAD program (see **Appendix 11**).

The total amount of loans disbursed to the Batinah governorate was OMR4,204,289. Al Batinah accounted for 23% of 3,658 projects financed by the program in all regions of Oman. My empirical work was conducted in Oman. Data was collected for the period 2002-2011 from a database created by the Oman Development Bank (ODB). The database included information for the beneficiaries of the government financial program known as *SANAD*. As previously discussed, this program aims to help entrepreneurs both launch and grow their new businesses. After designing a questionnaire, interviews were conducted with entrepreneurs who were recipients of loans provided by the *SANAD* support program. I obtained 32 responses for the region of Batinah and used them in my analysis (see **Table 3-29**: Total respondents per governorate for new and surviving firms).

3.5.3 Measurement of variables

Outcome Condition: Stagnation Employment Growth

The outcome variable used is firm growth, as estimated by employment growth in this current study. Prior empirical studies have used sales and employment growth as an outcome to evaluate the impact of entrepreneurship policy programs (Almus, 2004; Boocock & Shariff, 2005; Girma et al., 2008; Koski & Pajarinen, 2013; Norrman & Bager-Sjögren, 2010; Oh, Lee, Heshmati, & Choi, 2009; Zecchini & Ventura, 2009). Sales growth is considered an objective measure of performance because it can be compared across sectors (Autio & Rannikko, 2016); however, it may be volatile, especially in new firms (Gilbert, McDougall, & Audretsch, 2006). In contrast, employment growth usually follows sales growth because in most cases additional staff is hired only after sales growth is achieved. Furthermore, sales growth is a desirable performance indicator among entrepreneurs themselves, while employment growth is desirable as a policy perspective (Norrman & Bager-Sjögren, 2010). Therefore, employment growth is one of the complementary indicators to measure business growth. Employment growth is computed as the percentage change in the number of employees between the year of treatment and the third year after receiving the treatment. In this case, total employment [$\Delta employment (total)$] is distinguished from national employment [$\Delta employment (national)$], as the government loan support program analyzed in this study (i.e. the *SANAD* program) has a special interest in

the latter. **Table 3-33** summarizes the crisp sets (csQCA) and the underlying measures used in this study. Fiss (2011) explains the process of calibration that allows transformation of variables into sets, which also requires the rescaling of variable measures to range from 0 to 1 (crisp sets). To conduct this analysis, it is essential to have a conditional notion of output variable. According to Ragin (2006), it is important to specify *a priori* the potential conditions (i.e. sufficient conditions) that must be met and their impact on the outcome variable. The QCA software package provides the transformation of variables and also the analysis for this type of study (Fiss, 2011; Mas-Tur et al., 2015).

The csQCA method requires a calibration of all conditions as binary (0 or 1). In sum, the outcome condition is “stagnation” where firms that had zero or negative 3-year employment growth after securing funding were coded as 1 and 0 otherwise.

Predictor Conditions

I draw upon human capital theory to explore the human capital bundles that influence stagnation (non-growth) of firms that received funding through government programs. Therefore, I focused on two most important measures of human capital: education and prior experience. Education and prior experience have been discussed widely in the literature (Bates, 1990; Cooper et al., 1994; Davidsson & Honig, 2003; Storey, 2002). Findings from previous studies show that the heterogeneity among business owners on the basis of level of education and prior experience seems to affect business growth (Amason, Shrader, & Tompson, 2006).

Education and prior work experience represented human capital attributes. Education was coded as 1 for individuals with high-school degrees or higher, and 0 otherwise. Entrepreneurs with prior work experience had a score of 1 and 0 otherwise.

Education

Education is a type of generic human capital and one of the key determinants for a firm’s growth and survival. The findings of Bates (1990) suggest that highly educated entrepreneurs are more likely to create firms and survive. Davidsson & Honig (2003) report that there are different types of education the entrepreneur could need: formal education (e.g. university education), informal education (such as work experience and vocational training), and non-formal education (e.g. adult education). Education levels were classified in this study into

two groups: those entrepreneurs who had a high school diploma or further education, also called high education (coded as 1), and entrepreneurs who had a level of secondary school or lower education, also called low education (coded as 0) as shown in **Table 3-33**.

Experience

Experience is a specific type of human capital. Some studies pointed out that management skills for entrepreneurs are important drivers of firm performance and growth (Haber & Reichel, 2007). Therefore, prior experience of an entrepreneur is considered in terms of working in any company that had similar business activity to his/her current business, or any other types of experience related to a business (administrative, procurement, etc.). Using this information, code 1 was given to those with such experience, and 0 otherwise, as shown in **Table 3-33**.

Contextual Conditions

While the focus of my study is to understand what stops firms from growing, I am aware that other contextual factors can influence my analysis. Therefore, two contextual factors were included that may impact firm growth. Thus, the set of contextual variables selected for QCA analysis are gender and non-government financial support, which are conditions that will be used as control variables in the parametric analysis. In other words, gender (female=1, male=0) and non-financial government support (i.e. business training) (1=Yes, 0=No) were additional conditions included in the tests.

Gender

Gender is frequently used as a control variable in many studies pertaining to entrepreneurship. Prior studies have discussed extensively the relationship between gender and firm performance, and also between gender and entrepreneur's earnings and management skills (Hundley, 2000, 2001). Cooper et al. (1994) found that women are less likely to start their business with high capital, and are more likely to open business in the retail industry and personnel services. Similarly, Bardasi, Sabarwal, and Terrell, (2011) indicate that there are differences between male and female entrepreneurs with respect to obtaining loans and business growth. For this study, I coded male respondents as 0 and female respondents as 1, as shown in **Table 3-33**.

Business Training Support

Prior studies classify government assistance as 'hard' (i.e. financial) and 'soft' (i.e. technical support to develop or enhance skills and capabilities of entrepreneurs) (Audretsch &

Beckmann, 2007; Audretsch & Elston, 2004; Bartik, 2002; Lerner, 2002; Storey, 1999; Yusuf, 2012). Consequently, the work of Lundström et al. (2014) showed that entrepreneurship policy instruments can be divided into two categories: macroeconomic instruments which focus on items at the national level such as education, flexible labor markets and R&D support); and microeconomic instruments targeting entrepreneurs and business in terms of financial support (e.g. grant and loans) and non-financial support (e.g. business advice and training). According to Westley (2002), public non-financial services maintain business development by providing education and learning support in terms of “training, technical assistance, marketing, information, and technology services, and the creation or reinforcement of networks, clusters, or subcontracting chains” (p.1). It is argued that soft business support has an impact on a firm’s sales turnover, employment and survival rate (Wren & Storey, 2002; Yusuf, 2012). In this study I coded recipients of non-financial government support (i.e. business training) as 1, and otherwise as 0, as shown in **Table 3-33**.

Table 3-33: Causal conditions’ definition and calibration

Variable	Definition	Calibration
Stagnation	The outcome condition is “stagnation” where firms that had zero or negative 3-year employment growth after securing funding were coded as 1 and 0 otherwise. The local employment growth is measured as the difference in local employment size between the first year of receiving the support ($Yt1$) and in the third year after receiving the support ($Yt3$) for each supported firm.	0: if the growth rate is positive or higher than 0 1: if the growth rate is 0% or negative
Education	Indicating the formal education of entrepreneur	0: Low education (high school or below) 1: High Education (diploma and higher degrees)
Experience	Indicating whether the entrepreneur working in any company that has similar business activity as to his/her current business, or had any other types of experience related to business (administrative, procurement, etc.)	0: No experience 1: Yes, have experience
Gender	Indicating the gender of the firm’s owner/s: male or female	0: if the gender is male 1: if the gender is female
Business training	Indicating if the firm received a non-financial support from the government	0: if the firm did not receive any government business training support 1: if the firm received government training support

In conclusion, the aim of this part of the study is to understand which combinations of those conditions (education, experience, gender and business training) lead to stagnation (i.e. non-growth in the local employment size). The “stagnations” outcome is defined as the zero or negative 3-year employment growth for the firm receiving funding from the government support programs. The local employment growth is measured as the difference in local employment size between the first year of receiving the support ($Yt1$) and in the third year after receiving the support ($Yt3$) for each supported firm. Therefore, the firm can have a growth if the employment growth is positive or increased between the $Yt3$ and $Yt1$.

3.5.4 Descriptive statistics

Before proceeding to run csQCA, as will be illustrated in the following chapter, it is good to highlight in brief the characteristics of my data used in QCA analysis. **Table 3-34** contains descriptive statistics of central variables used in the empirical analysis for program participants from the Batinah Region in order to examine the stagnation of new firms supported by the government support programs. As mentioned earlier, data are obtained from the survey distributed to the beneficiaries of the SANAD program in three governorates in Oman. The reasons for selecting the Batinah region for this study were discussed in section 3.3. The results found in Batinah are similar to those found also in Muscat and Dakhliya regions when QCA is running. The soft support was found to be critical in all those regions and led to firms’ stagnation.

For this particular study, my main focus is on analyzing what stops firms that received government-program loans from growing. Therefore, my main output variable is the “stagnation employment growth”. Overall, the sample shows that the mean of initial sales (year 1) was OMR9,217, which increased by only 21.3% by the end of the third year. Employment growth increased by only 6% from the first year of receiving the support. Nishimura & Okamuro (2011) found that not every support programs can contribute to firm performance.

As seen in **Table 3-34**, female business owners received more financial support (59.4%) than either male business owners or firms with mixed gender ownership. The age group 30 to 34 is preferable for the program support, and those who completed high school level or below are those who most benefited from the treatment group. Only 9.4 % of the selected sample have a diploma degree. Most firms with support from government loans operated in the trade

and services industry (mean = 0.875), while few were in manufacturing or in other kinds of industries. In terms of prior experience (management) it is shown that 50% of the sample has this kind of skill, while only 15.6% of beneficiaries from the SANAD program received non-financial support (business training).

In summary, the statistics show that even though the government program has low significant impact on the employment growth of supported firms (only 6%), the program is still playing a minor positive role in enhancing the growth of new firms. Sarder, Ghosh & Rosa (1997) suggest that the improvement of 5 to 16 percent in SME performance due to activities of the support service program is economically considerable.

Table 3-34: Profile of new firm supported in Batinah region

	Mean	Std.Dev
Loan size (OMR)	4,104	
Initial sales (year 1)	9,217	14,162.73
Initial employment (total) (year 1)	2.25	1.244
Initial employment (national) (year 1)	2	1.118
Real sales growth (year 3)	0.213	0.964
Employment growth: Total labor force (year 3)	(0.065)	0.346
Employment growth: National labor force (year 3)	(0.062)	0.327
Legal form:		
Sole proprietorship	0.875	0.336
Joint venture	0.0625	0.246
Limited partnership	0.0625	0.246
Industry sector:		
Trade & Services	0.875	0.336
Agriculture & Livestock	0.0625	0.246
Construction & Transportation	0.0625	0.246
Owner's gender:		
Only male	0.313	0.471
Only female	0.594	0.499
Mixed	0.094	0.296
Owner's age:		
20–24 years old	0.093	0.296
25–29 years old	0.156	0.369
30–34 years old	0.594	0.499
35–39 years old	0.156	0.369
Owner's level of education:		
Secondary education or lower	0.875	0.336
Diploma	0.0938	0.296
Bachelor or equivalent	0	
Prior experience:	0.5	0.508
Received business training	0.156	0.369
Number of observation	32	

3.6 Summary of chapter 3

In this chapter, I discussed the context of my study, the research approach and design, and the methodology adopted to run my analysis. The data that is used in this research was obtained from three main sources; two of them are secondary data. I distributed a survey for treated and control groups to gather other information related to my testing variables. I got a response from 116 new treated firms, 56 existing treated firms, and 135 for non-new supported firms (control group).

Since this study has two main general questions, I answered the first question by conducting the matching estimator technique by adopting two main methods from it: 1) the simple matching estimator, and 2) the bias-corrected matching estimator method (BME) in order to estimate the average treatment for the treated (ATT). However to answer the second research question I ran the Qualitative Comparative Analysis (QCA) technique which allows me to understated the combination of multiple causal conditions which lead to the stagnation of new firms receiving the government support.

Several empirical works guided my research paradigm and methodological choice; for instance, Abadie & Imbens (2002); Guo & Fraser (2009); Rubin (1986); Marx (2010); Ragin (2005); and Rihoux, and Ragin (2009). Data from the survey and the other secondary sources were analyzed by using two software programs; *Stata* software “nnmatch” *syntax*, and QCA software. The finding and main results of these two methodologies are discussed in the following chapters.

4 CHAPTER FOUR: RESULTS AND DISCUSSION

4.1 Outcome results of evaluating the impact of government financial support to overcome barriers to new firm growth in a developing economy

Table 4-35 presents the estimation of the effect of the SANAD program on the beneficiaries' firm growth based on my matching strategy, which focuses on the ATT sample. Model 1 shows the estimated coefficients using the *simple* matching estimator for ATT, while Model 2 shows the results using the *bias-correction adjustment*²¹.

Table 4-35: Estimates of the effect of the SANAD program on beneficiaries' firm growth.

Outcome variable	Model 1: No bias adjustment			Model 2: With bias adjustment			N
	ATT	Std. Err.	P-value	ATT	Std. Err.	P-value	
<i>Δ sales</i>	0.444	0.205	**	0.646	0.241	***	209
<i>Δ employment (total)</i>	-0.082	0.085		0.215	0.102	**	251
<i>Δ employment (national)</i>	0.041	0.072		0.253	0.073	***	251

Note: Standard errors are heteroscedasticity-consistent. *** significant at the 1%, ** significant at 5%, and * significant at 10%.

Model One: Outcome results of simple matching estimator (no bias adjustment)

Based on the *simple* matching estimator approach (i.e. Model 1), the estimated ATT, which measures the impact of the SANAD program on beneficiaries' sales growth was positive and statistically significant at the 5% level. To be precise, the significant difference in sales growth between the *supported* and *non-supported* firms was 44.4%. However, no significant effects of the loan guarantee were found in terms of *total* employment growth or *national* employment growth.

²¹ In practice, it is difficult to match the treatment and control cases across a large set of covariates X , especially in the finite samples. Therefore, when the matching is not exact, the differences in the covariates between the treatment and control cases (arising after the initial matching) are adjusted by employing a bias-correction procedure that asymptotically removes the bias term corresponding to the matching discrepancies (Abadie and Imbens 2002).

Model two: Outcome results of the simple matching with bias-correction

Alternatively, when using the *bias-corrected matching estimator* method (Model 2), the size of the estimated ATT for sales growth increased and the significance increased. In particular, the difference in sales growth reached 64.6% at a significance level of 1%. Likewise, the estimated ATT of the effect of the SANAD program after removing the bias term was positive and significant at the 5% level in terms of *total* employment and at the 1% level in terms of *national* employment growth. In this case, the difference in *total* employment growth between the *supported* and *non-supported* firms was 21.5%, while the difference in *national* employment growth was 25.3%. Notably, the results obtained after employing the *bias-correction adjustment* method are more robust.

Further estimation of other matching estimators (i.e. average treatment effect for the control (ATC) & average treatment effect (ATE)) for both models mentioned earlier can be found in Appendix 14.

Discussion of results

This part of the study has extended the past efforts to estimate the treatment effect of government loan support by examining the impact of government loan support after a new firm is established. In other words, this study focuses on scale-up policies which concentrate more on subsequent stages of the entrepreneurial process (i.e. venture survival and growth). This research gap remains largely unexplored in the literature (Desai, 2009; Lundstrom & Stevenson, 2005). My analysis has emphasized the issue surrounding the effectiveness and relevance of entrepreneurship policy in developing countries in overcoming barriers to venture survival and growth. In that sense, a range of special policies can be used by the government to help small businesses in reducing their barriers to growth, “ranging from subsidies, exemptions, or reduction in regulatory requirements to grants and specialized provision of advice and information” (Carter & Jones-Evans, 2006, p.51).

Accordingly, as discussed by Abadie et al. (2004) and Imbens (2004), the effect of the treatment on the subpopulation of the treated units is frequently more important than that on the population as a whole. Therefore, I used the ATT matching estimator rather than focusing my analysis on (ATC) (i.e. average treatment effect for the control) & ATE (i.e. average treatment effect).

Furthermore, this study has aimed to understand the validity of the bias matching estimator (BME) to estimate the treatment effect of entrepreneurship policy in a developing country, which is a major part of my finding. I started using the simple matching estimator which aims to “match each treated unit to a fixed number of untreated units with similar values for the pretreatment variables” (Abadie & Imbens 2006, p.236). Simple matching estimators also provide options to match each individual observation more than once to each unit, in what is called the “matching with replacement” method. This approach can reduce biases and produce a much higher quality match than matching without replacement (Abadie & Imbens, 2002). However, in the second model, I used the BME which can remove some of the bias after simple matching. Abadie & Imbens (2002) found that when the matching is not exact, simple matching will be biased in a finite sample and sensitive to the choice of a number of matches. As exact matching is rare, this correction is needed to control certain variables that may affect the bias. This technique is useful when matching several covariates of which at least one is a continuous variable. Abadie et al. (2004) show that a matching approach combined with bias adjustment often leads to estimators with little remaining bias. As shown in **Table 4-35**, by analyzing the average treatment for new supported firms using only simple matching (without controlling for any variables), the finding reveals that loan support programs have a significant impact only on sales and there is no significant effect on employment growth. Furthermore, when using the second matching technique, bias-adjusted matching estimators, by controlling some variables, the programs have a significant impact and the ATT is increased. Therefore, and according to previous studies, my finding is consistent with the finding that there is an evidence that the BME technique is likely to reduce bias, a topic that is widely discussed in the entrepreneurship policy literature concerning the analysis of barriers (Aakvik, 2001).

The study analysis found that new firms that received support from the SANAD program were able to grow their sales over their first three years of the life cycle at a rate that was 64.6 percentage points faster than the sales growth rate of new firms that did not receive support. This impact led also to increased employment growth among supported firms that was 21.5% faster than the growth rate of non-supported firms when considering total employment, and 25.3% faster if when considering national employment. In other words,

new firms that benefited from the SANAD government loan support program were more likely to experience sales and employment growth than those ventures lacking such support.

The findings of this study are consistent with those of Oh et al. (2009), who found that the Korean government loan program has an impact on supported firms in terms of growth in the number of employees, sales, and wage levels. In addition, Oh et al. (2009) found that the impact of the program was higher on startups' performance than on older firms' performance. Previous studies show that the reducing impact of such programs on sales growth for new supported firms could be due to scarce financial sources and lack of access to foreign markets; as a consequence, these new firms do not fully exploit their improved growth (Becchetti & Trovato, 2002). However, real sales growth in existing firms is high owing to increased productivity growth (Ayyagari, Demirguc-Kunt, et al., 2014). Another reason could be that existing firms are more likely to supply and have access to public procurement contracts than new firms do (Pickernell et al., 2013). Furthermore, based on information from ODB, I found that the total amount of loans granted to new firms (62%) by the SANAD program is higher than loans disbursed for existing firms (38%) from 2002 to 2011. This government support can help new small firms to perform better and be able to access financial sources. This kind of policy results in increasing business birth-rate in Oman, improves the dynamic business sector, and increases self-employment levels. Other specific policy actions pertaining to education, better regulation, reducing financial gaps and improving cultural support can also improve the entrepreneurial environment in Oman. Overall, my findings highlight the importance of public financial support for new firms in expanding sales growth and consequently employment and job creation for national manpower. Ayyagari, Demirguc-Kunt, et al (2014) find that in developing countries, small and medium enterprises supply around half of the workforce, on average, indicating the role played by small firms in driving economic growth, enhancing innovation, and reducing dependence on government employment. With results similar to ours, Bradshaw (2002) finds that firms receiving loan guarantees from the government observed an increase in employment. My findings are also consistent with the results of Arráiz, Meléndez, & Stucchi, (2014), who found that firms benefited from government credit programs in Colombia, thus becoming 6 percent larger in terms of output, and 3.7 percent larger in terms of employment, relative to the control group, but there was no impact of the program on R&D, investment, or productivity.

Thus, there is evidence that the SANAD program produces a significant positive effect for the specific participants of this loan guarantee scheme, which supports hypotheses H1 and H2 stating that new firms with government loan support are more likely to experience sales growth and employment growth than those without.

However, there is still a lack of infrastructure and institutions supporting entrepreneurship in Oman. The government loan scheme that works is not enough if other market agents and institutions do not work properly. Although my findings highlight the importance of public financial support for new firms, it is crucial to integrate the role of government financial programs with that of other actors in the institutional environment. Carter & Jones-Evans (2006) provide a summary of seven main constraints or limitations on government actions towards reducing the difficulties of small firms. These constraints are related to 1) lack of appropriate and up-to-date information, 2) lack of technical business skills and understanding, 3) adoption of targets for public policy rather than business policy, 4) difficulty in achieving additionally of policy, 5) difficulty in coordinating policies so they do not conflict with each other, and 6) multi layers of complex decision making, with many conflicting targets that are slow to change (p.55).

4.2 Outcome results of human capital explanation for the stagnation of new ventures in the context of a developing economy

While some new firms grow, other firms remain stagnant or even reduce their size. The analysis of this part is based on one region, Batinah, from our study's representative regions. The reason for selecting Batinah has been highlighted in detail in sections 3.3 and 3.5. The three representative regions (Muscat, Batinah, and Dakhliya) have almost the same characteristics. Results of the study show that there are six profiles of firms leading to stagnation. The analysis presents the intermediate solution (i.e. sufficient conditions) that illustrates the causal effect of paths which lead to stagnation of employment growth. Each configuration presents the set of sufficient causal conditions, the unique coverage²², raw

²² Unique coverage: "indicating which share of the outcome is exclusively explained by a certain alternative path"; Raw coverage: "indicating which share of the outcome is explained by a certain alternative path"; Solution coverage: "indicating how much is covered by the solution term"; Consistency: "The coefficients of consistency and coverage provide important numeric expressions for how well the logical statement contained in the QCA solution term fits the underlying empirical evidence and how much it can explain" see Schneider & Wagemann (2010).

coverage, and the consistency of each configuration that constitute the solution. Furthermore, the results indicate the solution coverage and consistency. Following Ragin (2008) and other studies (e.g. Fiss, 2011; Greckhamer, 2015; Judge, Fainshmidt, & Brown III, 2014), this study denotes the presence of the core causal conditions \oplus and \ominus their absence; \oplus indicates the presence of the complementary causal conditions and \ominus indicates their absence. As Ragin, (2004) states, this technique is used so that when the samples “are small to moderate, causal complexity is more apparent, more salient, and easier to identify and interpret; yet it is also much less amenable to statistical analysis” (p.8).

Table 4-36: Configurations for lack of employment growth

	Solution					
	1	2	3	4	5	6
Male	\ominus	\ominus		\oplus		\oplus
Education	\ominus	\ominus	\ominus		\oplus	\oplus
Experience	\oplus		\oplus	\ominus	\ominus	
Support		\oplus	\oplus	\ominus	\ominus	\ominus
Consistency	0.91	0.91	0.88	1.00	1.00	1.00
Raw Coverage	0.37	0.34	0.28	0.13	0.10	0.07
Unique Coverage	0.21	0.17	0.10	0.10	0.07	0.03
Overall Solution Consistency	0.96					
Overall Solution Coverage	0.89					

Note: Core conditions are represented by \oplus (presence) and \ominus (absence); complementary causal conditions by \oplus (presence) and \ominus (absence).

As can be seen in **Table 4-36** the *consistency value* of my model was 0.96 and the *raw coverage value* was 0.89 which means that the model explained 89% of cases for firm’s that faced stagnation (i.e. lack of employment growth for 3 consecutive years after inception). This

is very informative according to Woodside (2013) who suggested that any model is informative when consistency is above 0.74 and coverage is between 0.25 and 0.65.

Table 4-36 shows the six configurations that lead to stagnation or lack of employment growth. As explained earlier, the aim is to understand what stops firms with government assistance from growing. Human capital conditions are linked with institutional (i.e. government) support to explain how they can act as impediments to growth. As shown in **Table 4-36**, the first configuration (solution 1) includes females who had prior business experience but lack a high level of education. Among necessary conditions, experience is a core condition, while absence of high education and being a female are peripheral conditions. This path has a consistency of 0.91, and it explains 37% of cases in which firms were not able to achieve employment growth. Configuration 1 also has the highest unique coverage among six configurations. Findings of this configuration are consistent with results of Cooper et al. (1994) who observed that a high level of education can help entrepreneurs in problem-solving skills and in other capabilities which can contribute to high growth performance. Thus, the absence of owners' high level of education hinders firm growth. It is also argued that male entrepreneurs may have a better position in networking and reaching out to customers and suppliers than women do, which can also influence the firm's growth and success (Cooper et al., 1994).

The second path indicates that stagnation is due to the combination of female gender with lack of high education, despite receiving government business training. The presence of training support is a core condition, while the absence of a high level of education and being a female are complementary conditions. Approximately 34% of non-growth firms fit this profile and the consistency is 0.91, which is the same as the first configuration. As suggested by Acs & Armington (2004), the level of education can influence the overall probability of the firm survival and growth. Similarly, Honjo et al. (2014) point out that the R&D investment in any firm is heavily dependent on an entrepreneur's human capital, and specifically on the education level. Moreover, findings of Pergelova and Angulo-Ruiz (2014) reveal that the government support has no statistically significant effect on a new firm's financial performance and most of its impact comes through the influence of the firm's competitive advantage (e.g. innovation, marketing and human capital). In the same way,

Koski & Pajarinen (2013) found that the positive impact of government financial support on the employment growth of a firm is only accomplished if an owner is highly educated.

Both solution paths (1 and 2) indicate that government support is not the only core condition for the firm's growth. This result agrees with the view of Pergelova & Angulo-Ruiz (2014) who suggest that access to more financial sources (specifically government financial support) will not necessarily influence the performance of firms' growth. Path 3 indicates the presence of entrepreneurs who had a prior business experience as a core causal condition along with receipt of government business training as a complementary causal condition, in the absence of high level education. This configuration has a consistency of 0.88 and explains 28% of cases in which firms were not able to achieve employment growth. This finding supports the previous two paths that point to the importance of a high level of education so that firms can attain performance growth. Although those entrepreneurs had prior experience and they received training (i.e. soft) support, they were still not able to accomplish growth.

The fourth profile in this study includes males who had no prior business experience and no government soft support. Being male is a core causal condition along with the absence of experience as a complementary causal condition and the absence of support as a core condition. In this solution, gender and training support are considered as core conditions in contrast to the first three paths. Furthermore, the consistency of this configuration is 1 yet it covers only 13% of the sample. This path reveals that firms of male entrepreneurs who had no prior experience and no training support (irrespective of education) were not able to achieve employment growth.

As shown in **Table 4-36**, the fifth configuration combines highly educated entrepreneurs with no prior experience and no training support. This path has a consistency of 1, and it explains 10% of cases that were not able to achieve employment growth. Furthermore, this profile depends more on institutional theory conditions and highlights the role of government support and its impact on the firm's growth. I find that educated entrepreneurs cannot attain employment growth if they do not have experience and do not receive training support. According to Bates (1999), entrepreneurs who are highly educated, have appropriate skills, and can access financial resources, are more likely to pursue self-employment and also to avoid business failure. Thus, there is a relationship between education, skills and access to

financial resources to attain firm growth. Owner-manager and size-related factors affect the ability of small firm growth (Carter & Jones-Evans, 2006).

Finally, profile 6 consists of educated male entrepreneurs without government business training support and who pushed their firms into stagnation. The consistency of this path is 1, and it explains 7% of cases.

Discussion of results

The lack of higher education is present in three configurations (configuration 1, 2 and 3) as shown in **Table 4-36**. Since these three configurations explain about 77% of the stagnation paths in my sample (total coverage = 0.89), education can be viewed as a necessary condition for firms' growth. Absence of education, when combined with the following causal factors, leads to stagnation: females with prior business experience (configuration 1), females with government business training (configuration 2), and entrepreneurs with prior business experience and government business training (configuration 3). For the other causal conditions, experience is presented in two configurations, but is irrelevant in other configurations, as shown in **Table 4-36**. This finding reveals that entrepreneurs with only prior experience and no high-level education cannot be factors in firm growth, even when they are combined with government soft support. My findings are similar to the results found by Autio (2005) who reported that higher education can enhance the high growth of entrepreneurial activities.

I can also be seen from **Table 4-36** that although experience is present (configuration 1), the firm stagnates due of the lack of education of female entrepreneurs.. This is confirmed by Keeble & Wilkinson (2000), as cited in Carter & Jones-Evans (2006), who point out that higher education for entrepreneurs “plays an important, multidimensional role in technical entrepreneurship, providing the expertise, environment, networks and facilitation for technical entrepreneurs to develop and hone their business skills and create their new ventures” (p.276). Configuration 4 points out the presence of males along with the presence of prior experience and training support are critical for firm growth. Research by Smallbone, Baldock, & Burgess (2002) found that entrepreneurs who had previous management experience and obtained government support could achieve high growth during the first years of trading.

In summary, I find evidence that lack of human capital hinders firms' growth. Entrepreneur's characteristics are likely to influence small business growth (Carter & Jones-Evans, 2006).

The six configurations in **Table 4-36** collectively suggest that:-

1. The absence of education leads to firm stagnation. Formal education may be needed to enhance their startup skills and opportunity recognition.
2. Absence of education among female entrepreneurs is a critical reason for firm stagnation despite their receipt of government soft support. In the same sense, entrepreneurs with prior business experience and government support but without the required level of education experience firm stagnation. This implies that such entrepreneurs might need to receive further education at several points in the business life cycle (such as formal education, and enhancement of learning skills).
3. No prior business experience and no government soft support for male entrepreneurs lead to firm stagnation. Formal entrepreneur training courses may be required. Knowledge and skills enhancement are crucial policy instruments in helping entrepreneurs succeed. For instance, female entrepreneurs might need training to enhance their formal education and improve their cognitive abilities to help them discover market opportunities.

Overall these findings support **Proposition 1**- Different (or specific) combinations of human capital related to factors such as formal education, prior experience, and government soft support can impact firm growth. My findings are consistent with Cetindamar et al. (2012) who reported that financial capital alone without human capital does not provide any competitive advantage to entrepreneurship. In addition, my study's result are similar to the findings of Mas-Tur et al. (2015) who point out the importance of education and professional advisory services in business success in Latin America. Mas-Tur et al. (2015) use QCA to analyze the combination of different factors that lead new entrepreneur to success in Latin America. However, financial capital remains an important factor for entrepreneurs in developing countries.

Table 4-36 reflects the different reasons or paths for firm growth. Since QCA performs as "a systematic gross-case analysis that models relations among variables in terms of set membership" (Ordanini, Parasuraman, & Rubera, 2014, p.137), I can illustrate a negated proposition to show the asymmetric nature of QCA. As Fiss (2011) and Regin (2000) show,

each solution in QCA can reflect both combination of variables related to outcome and different groupings of solutions allow for building different outcomes.

Table 4-36 shows that the combination of education, training and receiving government support can allow the growth of small firms. For instance, in configuration 1 the presence of high-level education among female entrepreneurs with prior business experience can lead to firm growth. The second configuration in **Table 4-36** implies another route for firm growth when female gender is combined with high education along with the receipt of government business training. Therefore, the QCA findings support Proposition 1, given that:-

1. The combination of education, experience, and receiving government support by venture entrepreneur can lead to firm growth;
2. The combination of female gender with high education along with the receipt of government business training is a sufficient condition for firm growth;
3. Being male along with the presence of experience and government support can lead to firm growth;
4. The combination of highly educated entrepreneurs with prior experience and training support conditions can lead to firm growth.

The findings from QCA and based on **Proposition 1**, suggest that – for Batinah region specifically – it is crucial for women with government loan support to acquire formal and higher education levels to prevent the stagnation of their firms, regardless of whether these women had prior business experience or received government business training. Results reveal that government support programs in Oman should fund projects for women entrepreneurs with high levels of education. Moreover, results indicate that stagnation is caused by low human capital or the absence of business training support for individuals, in general. For male entrepreneurs with government loan support, the absence of business training and lack of prior experience led to stagnation in employment growth, regardless of education level. As discussed in the literature review, education remains one of the weaknesses of developing countries which generally explain the difficulty in firms' growth. Therefore, there is need by policymakers to strengthen education in developing countries, because education positively affects different areas in society (Mas-Tur et al., 2015). Thus, I

have shown that human capital affects the employment of firms whose owners received financial support.

My findings by QCA are consistent with the conclusion by Ordanini, et al. (2014) who believe that QCA can incorporate different configurations that can lead to different solutions, and it is sensitive to a combination of various causal variables. Similar can be found in Lisboa et al. (2015) who suggest that multiple configurations can influence firms' performance and lead to high profitability which can be analyzed by using the QCA technique. The finding of this study by using the QCA application also makes a broader methodology contribution to empirical studies of entrepreneurship policy in developing countries.

The results found in Batinah are similar to those found also in Muscat and Dakhliya regions when QCA is run for both regions. The lack of government soft support is found to be critical in all those regions and leads to firm stagnation. Furthermore, lack of formal education and little prior experience can also lead to firm stagnation.

4.3 Summary of chapter 4

In this chapter I have presented the findings of my two empirical studies. The findings from conducting the matching estimator techniques to estimate the impact of government loan support on new firm growth are discussed. My findings highlight the importance of public financial support (specifically in the short run) for new firms in expanding their sales growth which leads to creating more job opportunities for national manpower.

Furthermore, the findings from the QCA and identification of six profiles of entrepreneurs (i.e. individuals with specific human capital variables) as predictors of post-funding venture stagnation reveals that human capital constraints limited the growth potential of new ventures that received SANAD loan support. My model explained 89% of cases in which firms faced stagnation (i.e. lack of employment growth for 3 consecutive years after inception).

5 CHAPTER FIVE: CONCLUSIONS AND IMPLICATIONS

Research on entrepreneurship policy suggests that government financing support should be positively related to new firm growth (Koski & Pajarinen, 2013; Riding et al., 2007). There is ongoing debate in literature regarding the effectiveness of EP policy on entrepreneurial activities and on the growth of new firms. While the effectiveness of entrepreneurship policy for venture growth has been broadly investigated in the context of developed countries (Pergelova & Angulo-Ruiz, 2014; van Praag & Versloot, 2007), evidence remains scarce for the policy impact on new venture growth in contexts where market (and institutional) failures are more abundant and profound (Park & Bae, 2004).

My study contributes to the existing literature by looking to the effectiveness of a policy module in a developing context. A major conclusion of this thesis is that financial support offered by a government authority seems to help new firms in achieving growth at the early stages in developing countries such as Oman. Yet, new firm growth is not fully achieved as many entrepreneurs face human capital related constraints. In this part, I am going to present the conclusion of two empirical studies discussed in my thesis. First I present the conclusion on evaluating the impact of government financial support to overcome barriers to new firm growth in a developing economy. Second, I present the conclusion on human capital explanation for the stagnation of new ventures in the context of a developing economy. Then the practical implication for the study and the prospective future research will be given accordingly.

5.1 Research questions answered

This thesis was inspired by the lack of research on the impact of entrepreneurship policy in developing countries and the relevance of this subject for economic development. I set out to answer two questions in two study parts that were introduced in Chapter 1.

For the first part of the study, findings reveal that in a developing economy such as Oman, government loan support programs can help overcome the barriers to growth faced by new ventures. This research makes a modest contribution to the entrepreneurship policy literature on at least two fronts. First, it provides empirical evidence and a detailed assessment of the

implementation of a policy in a developing economy (i.e. a policy based on granting loans for venture growth). While most studies on this issue have been conducted in developed economies (Ratten, 2014), this study analyzes a different context in which the scale of market and institutional failures is much larger. In such contexts, the effectiveness of entrepreneurship policy may not be like that of advanced economies. Second, this study focuses on barriers to growth rather than on barriers to entry. Most policies examined in the entrepreneurship policy literature have been assessed for their ability to contribute to firm creation, whereas the usefulness of policies to facilitate venture growth has been widely ignored. This study fills this void in the literature and suggests that entrepreneurship policy can help in surmounting barriers to growth in developing economies.

The second part of the study sought a better understanding of how various paths lead to failure in firm's growth. It focused on the bundle of human capital to conduct configurational analysis to examine what stops firms with government-program loans, from growing. Extant research looking at the relationship between human capital and performance found that there were "inconsistent prior findings on the impact of human capital" on the success of young small business (Acs & Armington, 2004). While several studies looked at the relationship between entrepreneurship growth and entrepreneurs' human capital (e.g. Ganotakis, 2012; Gimmon & Levie, 2010; Honjo et al., 2014), there is still a shortage of studies that explicitly investigate this relationship in the developing countries (Ratten, 2014). Moreover, this study responded to the call by (Isabel Grilo & Thurik, 2005) to understand better the country-based differences in entrepreneurial factors in terms of human and financial resources.

Results of the study show that, for firms that received support from the SANAD program in the Batinah region, the absence of human capital is a core condition which stops firms from growing. Six profiles of entrepreneurs (i.e. individuals with specific configuration of characteristics) were identified as predictors of post-funding venture stagnation. In sum, findings suggest that the absence of formal education, little or no prior experience and lack of government soft support, all lead to stagnation of new firms in developing countries. For instance, my findings suggest that stagnation for new firms may result from lack of formal education in the case of women entrepreneurs, regardless of their prior work experience or other business training support received from the government. Thus, human capital constraints limit the growth potential of new ventures financed by the SANAD loan support program. Paths leading to non-growth, irrespective of gender, may be complemented by

either low education, based on the human capital theory, or because of no support received by the government. In summary, my finding suggests the core relationship between human capital receiving training support and accomplishing firm's performance.

5.2 Practical implications

This current study contributes to the ongoing debate regarding the effectiveness of entrepreneurship policy by assessing its suitability in contexts in which accentuated market and institutional failures prevail. The first study's results suggest that policy instruments can help solve severe financial market constraints that hamper the capacity of entrepreneurship to bring prosperity to developing economies. With these findings in mind, I warn policy makers that the positive relationship between participation in loan guarantee schemes and firm growth does not ensure economic prosperity if the incentives do not appropriately drive entrepreneurship toward productive activities (Baumol, 1990; Lucky 2013; Naudé 2010). Al-Shanfari (2012) posits that "policy-makers should not spend time and money in encouraging the so-called 'regular' ventures, but instead should allocate resources to new businesses with future growth potential" (p.7). Following Oh et al. (2009) and Norrman and Bager-Sjögren (2010), the screening of loan beneficiaries based on potential growth should amplify the effects of public loan programs on venture performance. This implies that other market imperfections, beyond financial market constraints, may also require comprehensive support from institutions. The SANAD program in Oman indicates that in enhancing prosperity in developing regions, entrepreneurship policies can effectively accomplish specific goals (i.e. creating new jobs for young, female and Omani citizens), but their impact can be magnified if policies are focused more broadly. In addition to diminishing the negative consequences of financial market failure, the provision and reinforcement of other key public-private partnerships to build a stronger local entrepreneurial ecosystem would positively contribute to economic wealth (Audretsch & Thurik 2001; Choudhury & Hossain 2006; Wilton 2015).

As argued in previous literature, the government policy support and institutions are crucial for entrepreneurial activity. One of the common government policy implications from previous studies states "one size does not fit all." This means that such a policy tool as government business subsidies or business support is not effective and is not enough for long-term entrepreneurship activity unless there is a "conducive environment" which enables

the involvement of such policy for more policy tools that support entrepreneurial activities (Minniti, 2008). In addition, as discussed by Baumol (1990), the incentives and payoff support for entrepreneurial activities should take into account the specific local differences which can play a key role in allocating support for productive or unproductive activities, and as a result this can significantly affect the economic regional economic productive growth.

Developing countries can facilitate the evaluation approach “by improving their information base about program beneficiaries which would allow easy linkage with ongoing surveys” (Acevedo & Tan, 2011, p.11). In addition, as pointed out by Norrman & Bager-Sjögren (2010), the administration selection bias of selecting “safe” and potentially faster-growth projects might increase the effect of public loan programs on various firms’ performance. Much of the criticism of the public financial program is regarding “its lack of an effective selection mechanism” (Oh et al., 2009, p.350). Government should allocate financial resources for firms with high potential for growth (Shane, 2009).

For the second research objective, one of the core implications was that policy makers need to maintain close links between entrepreneurs and the government institutions that promote the foundation and growth of entrepreneurial activities, and to reduce institutional constraints in order to improve the entrepreneurship environment (Naudé, 2011). It is important for policy makers to realize that the government support mechanisms and supporting instruments cannot be isolated from one another. In addition, it is important for policy makers to realize that, while providing small business loans is a necessary condition, it is insufficient on its own to achieve new firm growth. Policies to reduce financial market imperfections (e.g. the SANAD government loan support program in Oman) may be ineffective if the skills and human capital attributes of the beneficiary entrepreneurs are not sufficient to stimulate venture growth. New venture growth needs more attention from institutions, not only for reducing market failures but also for improving the human capital of entrepreneurs who are the target population of their support programs. Moreover, improving and designing the structure and nature of government programs is a crucial task in order to target the “quality of new ventures” and to also ensure that money is “wisely spent” (Söderblom et al., 2015, p.1510). In that sense, in a developing country context, there is a need to focus the government support on “quality” new firms which have the ability to innovate and participate in economic growth and development (Robson, Akuetteh, Stone, Westhead, & Wright, 2013). Entrepreneurship has widely been a focus of government policies, however not all

new firms can contribute equally to the economy. As a consequence, selecting high quality entrepreneurs for high growth entrepreneurial activity should be a core objective for policy initiatives (Autio & Rannikko, 2016).

Overall, my findings suggest that the lack of growth is driven by bundles of present or absent human capital conditions which are, in some cases, combined with government support. The study suggests that human capital conditions and public support should work together as complements rather than substitutes. That is, policy makers should be aware that providing small business loans is a necessary but not sufficient condition to achieve firm growth as there are still other institutional failures and human capital constraints. Therefore, policy makers should focus not only on what happens after the loan is disbursed, but also on who receives those loans, and this can be related to entrepreneur's human capital. Thus, entrepreneurs' human capital matters to overcome barriers to growth and this may be especially true in the context of a developing country where resources are scarce. While the absence of receiving soft support was a prevalent condition that led to non-growth along with other conditions, even soft support such as training does not ensure that firms will be able to grow.

5.3 Limitations

This study is not without limitations. On the one hand, the sample size is small, and this is largely due to the difficulty of collecting data from small and new firms in developing economies (Coad & Tamvada, 2012). While using a larger sample would lead to more accurate study results, in the first part of the study I used the matching estimator technique proposed by Abadie and Imbens (2002), where matching with replacement allowed us to reduce the bias. Despite my limited sample size, the robustness of my results increased by using this method. On the other hand, this analysis was limited to participants who received financial support from the SANAD program when they founded their ventures. This might lead to the conclusion that the covariates used in the matching process were not actual pre-treatment attributes of the new firm. The sample firms in my study had no prior history (because they did not exist before applying for the loan). If the covariates do not precede the treatment in time, they should at least not be impacted by the treatment (Guo and Fraser, 2009). Nevertheless, the actual treatment in my test did not occur concurrently with the

announcement of the endorsement of the loan but rather with the actual receipt of the cash-money to invest in the growth of the new venture, which typically takes several months. By then, the company was already established and in a position to show initial job and sales size. A limitation in this part of study is that my method does not account for the fact that the growth rate for a new firm with smaller initial size is higher. Nonetheless, these covariates were the pre-treatment attributes used in my study to mitigate this limitation. Despite these shortcomings, I believe that the study's findings are robust and significantly descriptive of the impact of entrepreneurship policy in a specific context in which severe financial market failures curtail venture growth.

For the study of human capital explanations for the stagnation of new ventures in a developing economy, findings, and thus the relationships discussed, are subject to the following limitations. First, the sample size is also small, and this is largely due to the difficulty of data collection from small and new firms (Coad & Tamvada, 2012). Second, the analysis does not incorporate any of the firm-level or industry-level conditions that have been discussed widely in the literature, and they may influence the growth of firms (Misangyi & Acharya, 2014). Explanation focused on the bundles of human capital and the institutional impact in terms of government interventions and government instruments to support small firms. Third, the analysis focused on a single governorate in Oman which may not be generalized to other contexts or regions. In addition, some scholars criticize the Crisp-set qualitative comparative analysis (csQCA) for its inability to distinguish real from random data (Liebersohn, 2004; Marx, 2010), and also question the “validity of the model it generates” (Marx 2010, p.139).

Despite these limitations, the configurational approach to examine the stagnation of new ventures, in terms of the bundles of human capital, indicates the relationship between public policy support and the entrepreneur's human capital. Current research points out the importance of government support in the performance of small firms, and the influence of public support in improving the competitive advantages of firms (Pergelova & Angulo-Ruiz, 2014).

5.4 Future research

Accordingly, this thesis proposes several recommendations for further research. The assessment of the effectiveness of entrepreneurship policies in developing economies

undoubtedly requires more empirical work (and this is also applicable to more advanced economies) (Ratten 2014). In these contexts, which policies are more effective for firm creation? Which policies are more effective for venture growth? Are the answers to these questions similar to the answers obtained in advanced economies? Resolving these questions would contribute saliently to the field of entrepreneurship policy, particularly if other types of policies on promoting entrepreneurship have focused mainly on economically more developed contexts. In addition, there remains room for improvement in the *BME* method used in this study. For instance, the analysis of performance differences between the beneficiaries and non-beneficiaries of policy support might use quartiles instead of average means. I believe that this approach would give policy makers a more accurate assessment of the impact of support because this alternative method would distinguish high performers from low performers. As an additional recommendation, the study suggests that future studies combine quantitative policy impact evaluation with qualitative analysis. Solutions to bottlenecks (in the process of policy implementation) arising from quantitative-qualitative studies would save public institutions both money and time, and would thus further amplify the impact of programs. Thus, combining quantitative policy impact evaluation with qualitative analysis might help in identifying whether some loan scheme beneficiaries achieve high performance (while others do not) due to the nature of their profiles or the existence of obstacles that should be considered in the design of the policy programs.

Furthermore, the evaluation of entrepreneurship policy in developing economies is an unexplored topic that deserves further investigation. Apart from running quantitative analysis of policy evaluation in developing economies with larger samples and over longer periods of time, an idea for further research is to compare the performance across different characteristics of the participants in order to answer whether the impact of loan guarantee schemes on new firms varies among different profiles of the same subset. This is important because, even if treatment and control groups must be as similar as possible for policy evaluation, cases within the treatment group itself are not completely homogenous.

In conclusion, my study highlights the need for more research on the following three areas: market failure, entrepreneur's human capital, and new firm growth in the context of a developing economy, as there is still a limited understanding in these areas. Moreover, researchers and policy-makers in developing countries have a limited understanding of the

impact of government financial support and its impact on overcoming the barriers of new firms in reducing market failure. This part of the study helps to address this gap in scholarly knowledge, and I urge future research to examine the reasons behind the stagnation of new firms, and to compare my results in the contexts of other developing countries.

6 References

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7 Appendices

7.1 Appendix 1: Summary of research gaps based on previous empirical studies

Authors	Main Finding	Research gaps
(McElwee & Al-Riyami, 2003)	Addressing the problems facing Omani women in becoming entrepreneurs and getting financial support and other non-financial support.	Further quantitative research is necessary to investigate factors that motivate Omanis to become entrepreneurs, and obstacles that hinder such motivation.
(Girma et al., 2008)	The subsidies employed in Ireland have been successful in creating employment over and above the level that would have prevailed in the absence of grant payments.	Further research is required to investigate the impact of government subsidies on creating jobs for small firms.
(Shane 2008)	Encouraging more and more people to start businesses won't enhance economic growth or create a lot of jobs because startups, in general, are not the source of economic vitality or job creation and it is a "bad policy".	What policies can be put in place that increase the number of "successful" startups without increasing, or even decreasing, the number of "unsuccessful" startups?
(Norrmann and Bager 2010)	The impact of the public program SIC on early-stage ventures is weak or non-existent.	Policy makers should clearly state measurable goals and indicators that can be evaluated properly for any government support program.
(Román et al., 2013)	Results shed new light on the important but under-researched issue of the relationship between the individual decisions to start a new business and the macro level environment; in particular, (i) the economic situation; (ii) the expenditure on startup incentives; and (iii) the degree of employment protection.	Further research is needed: 1) to evaluate startup programs in countries with different regulatory environments and/or in different phases of the business cycle and to compare the obtained results; 2) to study the impact of particular regulations or macro policies on entrepreneurial entry in terms of self-employment performance (earnings, survival, or employment growth). These could be explored in detail, either within a case study or a natural experiment framework.
(Lenihan, 2011)	There is a 'new' and better way to evaluate new enterprise policy interventions by focusing on macro level evaluation instead of narrowing the evaluation at the firm level.	Studying the impact of entrepreneurship policy on macro level: "At a macro level, these issues include globalization; the financial crisis; the Lisbon Agenda; slowing economic growth and increasing rates of unemployment in Europe; and outsourcing. Given that many economies are currently in recession, governments are looking to small firms to act as an engine for economic growth."
(Acs, et al. 2013)	Introduced the notion of National Systems of Entrepreneurship and proposed an index	The measurement of entrepreneurship at country level is challenging and there is no

	methodology to highlight interactions between components of NSEs.	adequate theoretical or conceptual grounding for the measurement approach. They mention that the “major reason underlying the country-level measurement problem is that entrepreneurship has never received adequate treatment as a country-level phenomenon”.
(Marcotte, 2013)	Using Global Entrepreneurship Monitor indexes to measure entrepreneurial activity across national contexts.	Country entrepreneurial profiles may further be analyzed with respect to their economic, institutional and cultural contexts, and further research is required in this field.
(Mason and Brown 2013)	Policy-makers cannot ignore support for startups; however, startup support needs to be much better targeted towards high-potential new ventures with support tailored to the particular requirements of such firms.	There is still a gap between understanding of the need for entrepreneurship policies and how such policies should be designed in order to establish or enhance growth of new startups firms.
(Pickernell et al 2013)	Findings reveal that new and young firms were more able to access beneficial resources in terms of finance and advice from several sources. New and young firms were also able to more easily access government and external finance, as well as government advice, but less able to access public procurement.	Further research is required to understand the set of government policies aimed at supporting firm growth.

Source: own elaboration

7.2 Appendix 2: Evolution of EP policy publication

In entrepreneurship policy research, I will focus my review to the top seven entrepreneurship journals as ranked by the British Association of Business Schools (ABS), which are also identified by Fayolle (2014). However, my conceptual and evaluation studies are not limited to those found in the ABS list of journals, but the aim is to give an overview about the growing body of EP policy concept in top-ranking entrepreneurship journals. Those journals are: Journal of Business Venturing (JBV), Entrepreneurship Theory and Practice (ETP), Strategic Entrepreneurship Journal (SEJ), Journal of Small Business Management (JSBM), Small Business Economics (SBE), Entrepreneurship & Regional Development (ERD) and International Small Business Journal (ISBJ).

Working papers, book or book chapters and reports are not included in this review. The review is based on literature published in the period 1990 to March 2015. The initial search was based on certain keywords in the Web of Science search engine. In addition, I applied the backward and forward searching technique, as well as the references found in some papers to collect studies that meet my objective. However, I may miss some studies in this review but the purpose is to gather a large number of studies, either theoretical or empirical, that are considered the study of EP policy in order to understand the foundation and the growing interest in EP policy.

The sample consists of 99 studies that contribute to the body of knowledge for EP policy. The studies have been classified into three groups: studies intended to explain the general theoretical perspective of EP policy, studies explaining the financial and non-financial policy instruments that can be used by policymakers and entrepreneurs, and finally studies measuring or evaluating the impact of EP policy on venture performance and economic growth.

The majority of studies in the sample have been published in Small Business Economics journal, the remainder elsewhere, i.e. mostly in the journal of Small Business Management, Journal of Business Venturing, Journal of Entrepreneurship Theory and Practice, and International Small Business Journal. **Table 7-37** presents the number of studies per certain periods of time. The number of studies in EP policy started to grow during the period 2001–2005 and reached 18 articles in comparison to the previous period which saw only seven studies. However, more than one third of studies from the 99 studies found were published

between the period 2006–2010 and another third during the period 2011–2015. Moreover, the journal of Small Business Economies has the highest number of publications and specifically during the periods 2006–2010, as seen in **Table 7-37**.

Although there are a considerable growing number of studies in EP policy, around half of them are conceptual, and so far there are few studies found that measure or evaluate the impact of EP policy instruments. For instance, as illustrated in **Table 7-37**, the Journal of Business Venturing, which is the leading entrepreneurship journal in the field of management (van Praag & Versloot, 2007) has only two studies during the period 1990–2015 that attempt to evaluate the impact of EP policy. In contrast, there are some journals which do not have any studies intended to study EP policy evaluation.

Table 7-37: Number of studies in entrepreneurship policy in selected top journals during different periods

Name of Journal	>1990	1990 - 1995	1996- 2000	2001 - 2005	2006- 2010	2011 - 2015	Total
(JBV)	1	1	1	5	2	3	13
(ETP)	0	0	0	3	7	2	12
(SEJ)	0	0	0	0	1	1	2
(JSBM)	0	0	3	5	4	4	16
(SBE)	0	0	0	3	17	14	34
(ERD)	0	0	2	0	1	7	10
(ISBJ)	0	0	1	2	5	4	12
Total	1	1	7	18	37	35	99

Source: Own elaboration

7.3 Appendix 3 : The scope of entrepreneurship policy studies

Category	Focus	Example
Constituting the conceptual framework of EP policy	Underlying the definition, foundation, rationale, theoretical prospective, measure, difference between SME & entrepreneurship policy & typologies of EP-Policy	(Audretsch, Grilo, & Thurik, 2007; Gilbert et al., 2004; Lundstrom & Stevenson, 2005; Stevenson & Lundström, 2002; Storey, 1999)
Underlying policy forces in national level (macro- level studies)	Public policy, role of EP- Policy, country context conditions, policies in macro level	(Acs, et al., 2013; Acs & Szerb, 2007; Dana, 1987, 1993; Lundstrom & Stevenson, 2005; Tsai & Kuo, 2011; Leo Paul Dana, 1987, 1993)
Underlying policy forces in startups and entrepreneur (micro-level studies)	Policy forces, instrument, individual's motivation & opportunity, behavior, demand & supply policy instruments	(Bruns, et al., 2008; Craig, et al., 2007; Felsenstein, et al., 1998; Rotger, et al., 2012; Shane, 2009; van Praag & Versloot ,2007)
Government support programs (Evaluation studies)	Evaluate the impact of government financial & non-financial policy impact on entrepreneurial activities	(Boocock & Shariff 2005; Craig et al. 2007; Lenihan & Hart 2006; Oh, et al. 2009; Riding, et al.2007; Zecchini & Ventura 2009)
Non-government support (Evaluation Studies)	Evaluate the impact of non-government support in terms of financial and non-financial support	(Blumberg & Letterie, 2007; Elston & Audretsch, 2011; Freel, et al., 2012; Han & Benson, 2010; Mason, 2010; Smallbone, et al., 1993; Yusuf, 2012)

Source: own elaboration

7.4 Appendix 4: Types of firm and entrepreneur characteristics studied by some selected studies

Study/ Outcome	Country	Firms/Industry Characteristics	Entrepreneur Characteristics
<p>(Meager et al., 2003)</p> <p>Evaluation of business startup support which is provided for 18-30 years old by the national program (Prince's) in UK</p>	UK	Region(Province) Sector Industry	Gender, age (18-32), disability, ethnic minority, parental self-employment? previous self-employment? marital status, dependent children, home owner/renting, attitude to risk, age at leaving education in years, qualifications, previous activity, (employee - self-employed)
<p>(Rotger et al., 2012)</p> <p>Measure the impact of the program soft assistance on the firm creation and performance</p>	Denmark	date of firm registration, expected start date, income from different sectors(manufacture or services) ,assets& liability, days participation from registered the firm and participated in the program, legal form of the firm, no of employees	Age , gender, income type (family, gift, etc.), number of children, foreign birthplace, no of residence years outside the country, education (basic, upper, vocational high), experience, employment status student or employee before & after the program), earning , working hours, expected to start rate in year 1 of registering the firm
<p>(Cassar, 2004)</p> <p>Investigates the determinants of capital structure and types of financing used around business startups</p>	Australia	firm size, type of financing, asset structure (pledging assets as collateral), leverage, external financing type (loans from bank & other FI, loans from parent company, loans from family & individual, personnel deposits), legal organization , tax paid, intend to grow & growth (based on leverage & external finance) , outstanding claims , firm Incorporation	experience, education level, gender, age, full time or partial management, type of shareholders

<p>(Han and Benson2010)</p> <p>Examine the propensity of a SME to take up external support or advice for financial needs; investigate the usefulness of such assistance as perceived by the 'SME' users'</p>	<p>UK</p>	<p>Organization type, total number of employees, amount of money to start the business (personnel savings, mortgage, bank loans), the firm age, formal legal (family, limited,), total business assets</p>	<p>owner's age, gender, ethnicity, education (above undergraduate, professional qualification, undergraduate degree, other), owner's personnel wealth, owner's experience overdraft user, deposit account user, grants user , leasing or hire purchase user, whether issued shares, loan/mortgage user, asset-backed finance user, use of support/advice</p>
<p>(Fatoki & Asah 2011)</p> <p>Investigates the impact of firm and entrepreneurial characteristics on access to debt finance by SMEs in South Africa</p>	<p>South Africa</p>	<p>age of the firm ,the size of the firm (no of employees), the availability of collateral (personal property, business building), business information (financial statement & business plan), location of the firm (urban or rural), Firm Incorporation, legal status of the firm , networking with the FI, Industry Types</p>	<p>managerial competency (education, related experience, working experience), networking, gender, age of the owner</p>
<p>(Jayawarna et al 2014)</p> <p>Demonstrate the importance of bootstrapping to socially deprived entrepreneurs who have very limited access to conventional debt or equity funding.</p>	<p>UK</p>	<p>firm age (survival rate), business size (no of employees), business capital , industry types (goods & service)</p>	<p>Education (degree & secondary), business experience, financial skills, financial investment, networking (social) capital (access to professionals, business advisors, accountant, bank managers), class & ethnicity, cultural geography</p>

<p>(Freel et al., 2012) Investigate the characteristics of discouraged firms and their owners relative to applicants to debt loans</p>	<p>UK</p>	<p>Firm size, age (younger or older), sector, sales growth, legal status, location , innovation strategy (plan to grow, plan to consolidate, plan to exit) , industry type</p>	<p>Owner's age (under35, 35-54, over54), gender, ownership type, family involvement (family or none), education (degree or above, professional below degree, higher school, none or primary), relationship banking, personal financial investment (proportion of household wealth invested in the business, up to 25%, 26-50%, 51-75%, 76-100%)</p>
<p>(Prantl, 2008) evaluation of federal German startup assistance handed out to new firms</p>	<p>Germany</p>	<p>Industry, formal legal, entry year to the business, no of employees , duration of market activity, subsidized in firm foundation or subsequent year, survival status (survival until end of observation period), business sector</p>	<p>Education, business administration experience, gender, age, unemployment rate in the region, population density, bank office density, team size (no of managing owners), financial sources</p>
<p>(Riding et al 2006) measuring incrementally or additionality impact of the loan guarantee on the startup</p>	<p>Canada</p>	<p>Annual gross revenues, no of employees, productivity (ratio of annual sales revenue to the no of employees), capacity (ratio of annual sales revenue to the size of loan request), length of banking relationship, legal status, high technology & R&D expenditure (spend more than of 5% of sales revenue on either R&D or computer Tech), rural or urban location</p>	<p>Owner experience, age, if the owner is the personal banker, is it a family business or home-based business? purpose of the loan (FA, WC, R&D, export development),</p>

Source: Own elaboration

7.5 Appendix 5: The conditions and documents required for obtaining finance from SANAD program

Scheme type / conditions	Loans not exceeding OMR (5,000)	Loans from OMR (5,000) to (20,000)	Loans, a maximum of OMR (50,000)
Age	18-40 years	18-55 years	Not exceeding 60 years
Nationality	Omani	Omani	Omani
Management	Full-time project management	Full-time project management	Full-time project management
Education	Reading and writing proficiency	Experience in project field	Experience in project field
Required documents	Loan application letter to SANAD program Provide Economical feasibility study Copy of ID and one photo Copy of manpower registration card (applicant must be job-seeker) Letter of good conduct and a certificate of no criminal conviction	Loan application letter to SANAD program Provide Economical feasibility study Copy of ID and one photo Copy of manpower registration card (applicant must be job-seeker) Letter of good conduct and a certificate of no criminal conviction	Loan application letter to SANAD program Provide Economical feasibility study Copy of ID and one photo Copy of manpower registration card Original letter of non-conviction from ROP Copy of retirement letter Bank statement for last 3 months Copies of qualification certificates and experience Copy of medical report
Repayment & administration fees	Loan repayment period: 7 years including the first year (grace period) Administration fees 2%	Loan repayment period: 7 years including the first year (grace period) Administration fees 2%	Loan repayment period: 7 years including the first year (grace period) Administration fees 2%
Collateral	Mortgage the business assets Providing postdated checks Life insurance	Mortgage the business assets Providing postdated checks Life insurance	Mortgage the business assets Providing postdated checks Life insurance

Source: Own elaboration

7.6 Appendix 6: Results of selecting studies evaluating the impact of government support programs

Type of Study	Policy instrument	Study	Measure	Country	Outcome variables	Methodology	Impacts
A-Combining multi instruments	R&D support	(Nishimura & Okamuro, 2011)	Impact of R&D support on firm's performance	Japan	Performance	PSM & DID	Services support has strong & extensive impact on output while, subsidy support has weak effect on output.
	R&D support	(Grilli et al., 2009)	Effect of R&D support on new technology based firms (NTBFs)	Italy	Total factor productivity	Descriptive statistics	Subsidies lumped together do not have significant positive effect on total factor productivity of Italian NTBFs, while selective schemes are more effective.
	Public grant funding & services	(Morris & Stevens, 2010)	Estimates of the direct benefits to firms receiving the program assistance in comparison to similar firms that did not receive assistance	New Zealand	Value added in sales and productivity	PSM	The program support has a significant positive impact on the sales of firms. The impact on value-added and productivity due to GSR support is less conclusive.
	Public & private funding	(Elston & Audretsch, 2011)	Examines the role of personal capital (either from public subsidies or personal wealth) in the entry decision for US high-technology entrepreneurs	US	Important funds to start a business	Descriptive statistics	Findings suggest that public loan (SBIR) grants, credit cards, & earnings from a salaried job are among the most important sources of funds for entrepreneurs in their decision to start up a firm.
B-Financial Instrument	R&D subsidies	(Ebersberger, 2004)	Analyze the employment effect of publicly subsidies to innovative firms	Finland	Generation of innovation output; employment growth & employment effect	Matching, DID, PSM	Public subsidies have a positive impact on companies innovation output & as a result on the employment labor market.
	Consultancy subsidies	(Lambrecht & Pirnay, 2005)	Evaluate public subsidized support to private external consultants in order to provide business advice to SMEs	Belgium	An analysis of demand and supply of private external consultancies	Descriptive statistics	Subsidized private external consultancies to SMEs have no significant influence on net job creation, turnover, or financial indicators.
	Loan Subsidies	(Lerner, 1999)	Examine the long term impact of SBIR support to small & high technology firms	US	Performance and survival rate	Descriptive statistical	Subsidized firms grew more over time than control firms in terms of sales and employment.
	Loan Subsidies	(Norrman & Bager-Sjögren, 2010)	Investigate the impact of a policy program directed at supporting early stage innovative ventures	Sweden	Performance	PSM	The program doesn't make any difference or additionality between treated and control group.

	Loan Subsidies	(Boocock & Shariff, 2005)	Investigate whether the credit scheme has achieved its objectives of generating finance and economic additionality	Malaysia	Additionality impact	Interviews	The financial additionality of the credit guarantee loan scheme to SMEs is very low (+37% on average).
	Public grants / subsidies	(Girma et al., 2008)	Impact of government grants on labor demand & performance	Ireland	Performance and the survival rate	Descriptive statistics (cost-benefit analysis)	Grant support played a positive impact on firms' performance (survival rate, productivity) & expansion on R&D & attracting multinational labor.
	Loan guarantee provided by guarantee agency in cooperation with banks	(Bradshaw, 2002)	Evaluates the changes in employment and economic activity due to loan guarantees provided to firms that are unable to get funding	US	Change in employment growth	Descriptive statistics	Firms receiving guaranteed loans actually grew faster than non-receiving over the same period.
	Public grants / subsidies	(Koski & Pajarinen, 2012)	Explore relationship between the three types of subsidies on employment growth	Finland	Change in employment growth	Used three approaches:- instrumental variable method, DID and the matching approach.	Positive relationship between all subsidy types & employment growth during the first three years of receipt of subsidies & for highly educated person.
	Public grants / subsidies	(Betcherman Daysal, & Pagés, 2010)	Estimate the effect of subsidies in registered jobs for low income workers	Turkey	Change in employment growth	DID	Implementing the subsidies can be a costly way to increase employment in terms of cost of social security.
C-Non-financial instrument	Business assistance	(Yusuf, 2012)	Relationship between external assistance programs & utilization rate	US	Utilization	Descriptive statistical	Low utilization rate of external assistant for nascent entrepreneur.
	Business assistance	(Jansen & Weber, 2004)	Relationship between success of new firms & public advice and training	Germany	Performance	Descriptive statistics	Positive impact of public advice & training on success of new firms.
	Business assistance	(Mole et al., 2009)	Assess the value of public support services for small firms	UK	Employment growth & sales	PSM with other econometric approach	Positive impact of employment growth effects from intensive assistance.
	Business assistance	(Wren & Storey, 2002)	Evaluating the effect of soft business support upon small firm performance	UK	Performance & survival	PSM with other econometric approach	The scheme has a positive impact and raises the survival rates for middle age of SMEs but not the smaller one.
	Business assistance	(Rotger et al., 2012)	Measure the impact of the program's soft assistance on the firm's creation and performance	Denmark	Firms' creation & performance measures	PSM	The program contributes to the survival and size of new ventures, but its impact on growth is less clear.

Source: Own elaboration

7.7 Appendix 7: Matching estimator equations and description of “nnmatch” syntax

As explained by Guo and Fraser (2009), matching estimators can assess “the value of $Y_i(0) | W_i = 1$ (i.e. potential outcome under the condition of control for a treatment participant) and the value of $Y_i(1) | W_i = 0$ (i.e. potential outcome under the condition of treatment for a control participant)” (p.212). The crucial role of matching estimators can be described as follows: “[for] each (i), matching estimators impute the missing outcome by finding other individuals in the data whose covariates are similar but who were exposed to the other treatment” (Abadie et al. 2004, p. 292).

The simple matching estimator for ATT to estimate the unobserved outcome for treatment participants can be expressed as follows:

$$\tau_M^{\widehat{sm}} = \frac{1}{N_1} \sum_{i: w_i=1} \{Y_i - \widehat{Y}_i(0)\} = \frac{1}{N_1} \sum_{i=1}^N \{w_i - (1 - w_i) KM(i)\} Y_i$$

Where W_i , for $W_i \in \{0, 1\}$ indicates the treatment received and $N_1 = \sum_i W_i$ is the number of treated units, $Y_i(1)$ is the potential outcome of the individual (i) when exposed to the treatment, $\widehat{Y}_i(0)$ represents the estimator of the unobserved outcome for treatment estimated by averaging observed outcomes for the observations (l) of the opposite treatment group that are chosen as matches for unit (i), and $KM(i)$ denotes the number of times unit (i) is used as a match for all observations of the opposite treatment group, each time weighted by the total number of matches for observation.

I use the simple matching estimator technique introduced by Abadie & Imbens (2002), a nearest neighbor matching method and the bias-adjusted matching estimators, to match between the treatment and control group in my study.

The simple matching approach developed by Abadie and Imbens (2002) is widely used in the literature for policy program evaluation. The idea of simple matching follows the nearest neighbor approach, which aims to “match each treated unit to a fixed number of untreated units with similar values for the pretreatment variables” (Abadie & Imbens, 2006, p.236). Simple matching estimators also provide options to match each individual observation more than once to each unit, in what is called the “matching with replacement” method. This

approach can reduce biases and produce a much higher quality match than matching without replacement (Abadie & Imbens, 2002).

I estimate the effect of the entrepreneurship policy program by defining the difference between the real and counterfactual outcomes. In my study I am concerned with comparing the outcome $Y_i(0)$ for an individual i from the control group with the outcome $Y_i(1)$ from the treatment group. However, as Imbens (2004) mentioned, in reality I can't observe the two outcomes Y_0 and Y_1 for the same individual, and the way to deal with this problem is to estimate the sample average treatment effect (SATE). According to Abadie et al. (2004), SATE is useful for judging how the program (in my case the government loan support) has affected a particular group of participants.

$$\text{SATE} = \overset{\text{average}}{\hat{t}} = \frac{1}{N} \sum_{i=1}^N \{ \hat{Y}_i(1) - \hat{Y}_i(0) \} \quad \text{Eq. 1}$$

The most interesting part of the policy context is knowing whether a policy is beneficial, not to all samples, but to those who participated in a support program (Guo & Fraser, 2009). Therefore, the sample average treatment effect for the treatment (SATT) is different from the sample average treatment effect (SATE), as SATE estimates the effect of the policy on all individuals, either treated or not, by finding the mean difference between both groups. SATT is only focused on subsamples of treatment groups (in my case those who received the government loan support). SATT is useful to draw a conclusion as to whether the program has an impact in the subsample of population (i.e. treatment group).

$$\text{SATT} = \overset{t}{\hat{t}} = \frac{1}{N_1} \sum_{i:w_i=1} \{ Y(i) - \hat{Y}_i(0) \} \quad \text{Eq. 2}$$

If the evaluation also seeks to determine whether the program might have benefitted the control group, SATC is the appropriate measure.

$$\text{SATC} = \overset{t}{\hat{t}} = \frac{1}{N_0} \sum_{i:w_i=1} \{ \hat{Y}_i(1) - Y_i \} \quad \text{Eq.3}$$

The bias-adjusted matching estimators for the ATT can be expressed as:

$$\hat{T}_M^{bcm,t} = \frac{1}{N_1} \sum_{i:w_i=1} \{ Y_i - \hat{Y}_i(0) \}$$

$$\widehat{Y}_i(0) = \begin{cases} Y_i & \text{if } W_i=0 \\ \frac{1}{\#JM(i)} \sum_{l \in JM(i)} Y_l \{Y_l + \widehat{\mu}_0(X_i) - \widehat{\mu}_0(X_l)\} & \text{if } W_i=1 \end{cases} \quad (3)$$

$\widehat{T}_M^{bcm,t}$ is the bias-corrected matching for ATT, which adjusts the difference between the matches for the difference in the value of their covariates. The adjustment bias for ATT is based on an estimate of the regression function for the control ($\widehat{\mu}_0$). As suggested by Abadie and Imbens (2002), the regression function can be estimated by using least squares on the matched observations. Y_i is the potential outcome of individual (i) when exposed to the treatment, $\widehat{Y}_i(0)$ is the missing potential outcome for the treated observation, and $JM(i)$ denotes the set of indices for the matches of unit (i) that are at least as close as the M th match.

Description “*nnmatch*” syntax in Stata software

The complete syntax for *nnmatch* is:

nnmatch *depvar treatvar varlist* [*weight*] [if *exp*] [in *range*] , [*tc* ({ *att* | *atc* }) *m*(#)] *exact*(*varlistex*) *biasadj*(*bias* | *varlistadj*) //

Description

nnmatch estimates the average treatment effect for the treated, the controls, or the sample as a whole and their standard errors. **depvar** is the outcome variable. **treatvar** is a binary variable treatment indicator. **varlist** specifies the covariates to be used in the matching.

Options

tc({ **ate** | **att** | **atc**) specifies the estimand. By default, *nnmatch* estimates the average treatment effect, ATE. Specifying *tc*(*att*) causes *nnmatch* to estimate the average treatment effect for the treated, ATT. Specifying *tc*(*atc*) causes *nnmatch* to estimate the average effect for the controls, ATC.

m(#) specifies the number of matches to be made per observation. If two observations are equally close to that being matched, both will be used. Thus, the number of matches per observation will be greater than or equal to the number specified in *m*().

The default number of matches is 1, a single match. If I are estimating the average treatment effect, any integer less than or equal to the minimum of the number of treated and controls in the sample can be chosen, $M \leq \min(N_0, N_1)$. If *tc*(*att*) is specified, the limit is the number of controls in the sample, $M \leq N_0$. If *tc*(*atc*) is specified, the limit is the number of treated in the sample, $M \leq N_1$.

metric(maha | matname) specifies the metric for measuring the distance between two vectors of covariates.

If (varlist) allows to select observation that is related to the selected variable

exact(varlistex) allows you to specify exact matching (or as exact as possible) on one or more variables. As constructed, the exact-matching variables need not overlap with the elements of varlist. In practice, however, the exact() option adds these variables to the original $k \times k$ varlist matrix and multiplies the corresponding elements in the weight matrix by 1,000 relative to the weights placed on the elements of varlist. (Regardless of the metric() option chosen for the varlist variables, the exact-match variables are normalized via the default option—the inverse sample variance of the exact-matching variables.) Because for each matched observation there may not exist a member of the opposite treatment group with equal value, matching may not be exact across the full dataset. The output therefore lists the percentage of matches (across the paired sample of observations, greater than or equal to $N \times M$ in number) that match exactly.

biasadj(bias | varlistadj) specifies that the bias-corrected matching estimator be used. By default, nnmatch uses the simple matching estimator. The first alternative, biasadj(bias), uses the bias-corrected matching estimator, using the same set of matching covariates, varlist, entered linearly in the regression function. However, you might wish to use only a subset of the covariates for this bias adjustment, or even an alternate set, so the second alternative, biasadj(varlistadj), is to use the bias-corrected matching estimator with a set of covariates distinct from the set used in matching.

Thus, I have ten matching variables; four were continuous variables and six were categorical variables. I am following Abadie et al. (2004) and Guo & Fraser (2009) by using the bias corrected matching. Because, it is impossible to conduct exact matching for this data by running only the simple matching, it is therefore important to use the bias corrected matching estimators to correct for bias corresponding to the matching discrepancies between matched units and their matches for their continuous variables. In my study, and for the bias adjustment, I control the following variables; the industry, gender, owner's age, and individual's education as the independent variables for the regression adjustment in the bias correction process.

In order to conduct exact matching for this data set, I ran different matching estimators by using first the simple matching and then by using the bias corrected matching estimator to correct for bias corresponding to the matching between the treatment and control units.

7.8 Appendix 8: Copy of the questionnaire

Title of research:

Name of researcher:

Researcher's contact address:

Supervisor's name & contacting addresses:

Dear Sir/Madam

Hello! My name is Abdullah Al Shukaili. I work at the University of Nizwa and am currently pursuing my Ph.D. degree at Deusto University, School of Business in Spain.

I am conducting a research about the impact of the SANAD program on the startup performance as a part of fulfillment of my Ph.D. degree. The purpose of the study is to measure the impact of the SANAD program by comparing the performance of this program's recipients with the non-recipients. Moreover, the study aims to provide advice to the authorities so that the SANAD and the other support programs are to be improved in the future.

Hence, I would like you to participate in this study by filling out a short questionnaire. During the completion process, you will be asked to give your perception and some information about your business as well as about financial support, if it has been obtained from the SANAD program. Given that, all personal information (interviewee's or business' name or any other individual data) will be treated confidentially and will not be shared or published by any means. The analysis and reports derived from this questionnaire will show results in aggregate terms (never in individual terms). You can stop at any time. You do not have to answer any question that you do not want to. Your age must be 18 or older to take part in this research study.

There is no risk in participating in this research for you or your business. The implication results of this research will enhance learning and a better understanding of the impact of government loan support on startup businesses in comparison to private funding. I can share with you a summary of my study's results.

May I take some moments of your time in order to complete this survey?

The time required from you to complete this questionnaire will not exceed ten minutes. Your participation is highly appreciated and it has a value to society in terms of providing your feedback and sharing your experience about startup enterprises.

Please do not hesitate to contact me or my supervisors when you have any questions, complaints or concerns about this research.

Thank you

SANAD financial support

Has your firm received a loan from the SANAD support program?

1. Yes (Go to questions 1.2 to 1.13)

2. No (Go to PART 2 on page 4)

Would you please tell us about your firm when it applied for the SANAD loan? Was it a *(please choose only one option)*:-

- New independent business
- Existing business

In what month & year did you receive the FIRST loan support from the SANAD program?

MONTH ----- YEAR ----- [Agreement date, database]

What was the FIRST amount of loan received from the SANAD program?

AMOUNT _____ OMR

What was the grace period to repay the loan? No. of years -----

What was the repayment period of your loan from SANAD? No of years -----
[difference between year of receiving & last installment, database]

For which of the following purposes did your firm use a SANAD loan? *Please tell, to what extent you agree or disagree with the following statements on a scale of 1 to 7 (1- strongly disagree, 7-strongly agree).*

Purposes of using SANAD loan	1) Strongly Disagree	2) Disagree	3) Mildly Disagree	4) Neutral	5) Mildly Agree	6) Agree	7) Strongly Agree
Used SANAD loan to purchase equipment, facilities, property & other assets							
Used SANAD loan to purchase raw materials, inventory, supplies or components							
Used SANAD loan to pay rent, salaries, daily expenses & other daily operations							
Used SANAD loan for R&D expenses							

For which of the following reasons do you prefer to take a loan from the SANAD program rather than from other finance sources? Please tell, to what extent you agree or disagree with the following statements on a scale of 1 to 7 (1- strongly disagree, 7-strongly agree).

Reasons for choosing SANAD program	1) Strongly Disagree	2) Disagree	3) Mildly Disagree	4) Neutral	5) Mildly Agree	6) Agree	7) Strongly Agree
No ability to get a loan from other finance sources without SANAD							
SANAD has better terms and conditions							
SANAD is less expensive due to lower administration fees and interest rates							
SANAD provided a larger amount of finance to SME							

On which of the following do you think the SANAD program had an impact in your business? Please tell, to what extent you agree or disagree with the following statements on a scale of 1 to 7 (1- strongly disagree, 7-strongly agree).

The economic impact of SANAD program on enterprise's performance	1) Strongly Disagree	2) Disagree	3) Mildly Disagree	4) Neutral	5) Mildly Agree	6) Agree	7) Strongly Agree
Increased the firm sales							
Increased the number of employees inside the firm							
Enabled the firm to innovate							
Enabled the business to survive							

Did you ask for more finance from the SANAD program after a few years of starting your business activities (sales or services) and also after receiving all the installments from the first loan application?

Yes (Go to 1.11) 2. No (Go to 1.12)

What was the amount of loans received from the next applications for the SANAD program and when?

Amount received 2nd time _____ OMR, Month _____, Year _____

Amount received 3rd time _____ OMR, Month _____, Year _____

Did you receive any non-financial support from the SANAD program to support your business in terms of:

	Yes	No
Access to external financial support (e.g. banks, financial institutions)	<input type="checkbox"/>	<input type="checkbox"/>
Provided physical resources (e.g. land, space, building or equipment)	<input type="checkbox"/>	<input type="checkbox"/>
Provided business training and services, such as legal, accounting or other assistance	<input type="checkbox"/>	<input type="checkbox"/>

Business Characteristics

I would like to ask you about the month and the year during which your firm was registered in the Ministry of Commerce & Industry (date of the business formulation)

MONTH ----- YEAR -----

I would like to ask you about the month and the year of starting the sale of goods and services

MONTH ----- YEAR -----

What is the current legal form of your business?

- Sole or Individual Entrepreneur
- Partnership

Can you please describe the type of activity or sector of your business? -----
[from database]

Which of the following types of business is more suitable to your business? *(Please choose only one option)* [Industry – database]

Agriculture and fishing

Mining and quarrying

Manufacturing

Electricity, gas, steam and air conditioning supply

Water supply; sewerage, waste management and remediation activities

Construction

Wholesale and retail trade; repair of motor vehicles and motorcycles

Transportation and storage

What was the last education degree that you completed?

- | | |
|--|--|
| <input type="checkbox"/> High school or less | <input type="checkbox"/> Diploma |
| <input type="checkbox"/> Bach degree | <input type="checkbox"/> Professional degree |
| <input type="checkbox"/> Master degree | <input type="checkbox"/> Ph.D. degree |

Did you ever work in any private or public sectors?

Yes 2. No

Did you have any experience in

Dealing with procurement & sales transactions in your school period?

Yes 2. No

Working in any company that has similar business activity as to your current business?

Yes 2. No

Management and financial administration

Yes 2. No

Did you establish any other companies either alone or with others?

Yes 2. No

If yes, how many companies had you created before this current business started sales or providing services? No. of companies: _____

Did your parents ever run a business or own any companies?

Yes 2. No

When you decided to establish this firm, you were:-

Employed in the public or private sectors

Self-employed

Retired

A student in any higher education institution

Unemployed

Others (specify) -----

Are you currently working in any public or private institutions?

Yes 2. No

Thank you - The end of the questionnaire

7.9 Appendix 9: Oman GDP deflator based on NCSI

Year	GDP at CMP (Mn.RO)	GDP constant base year (2010)	GDP deflator	Annual growth deflator	GDP US \$ (Mn)
2000	7,500.60	16305.8	46	17.4	19,507.41
2001	7,479.30	17036.7	43.9	-4.6	19,452.02
2002	7,744.90	16,849.20	46	4.8	20,142.78
2003	8,318.20	16,399.50	50.7	10.2	21,633.81
2004	9,521.60	16,611.40	57.3	13.0	24,763.59
2005	11,951.00	17,025.10	70.2	22.5	31,081.92
2006	14,306.50	17,939.70	79.8	13.7	37,208.06
2007	16,181.80	18,738.50	86.4	8.3	42,085.31
2008	23,418.10	20,275.00	115.5	33.7	60,905.33
2009	18,605.30	21,514.30	86.5	-25.1	48,388.30
2010	22,547.60	22,547.60	100	15.6	58,641.35
2011	26,731.20	22,745.20	117.5	17.5	69,521.98
2012	29,353.30	23,880.70	122.9	4.6	76,341.48
2013	30,061.30	24,815.10	121.1	-1.5	78,182.83
2014	31,450.80	25,807.60	119.33	-1.5	81,796.62

Data sources:

- 1) World Bank, from 1990 - 2000, Website
- 2) NCSI, National Accounts, April 2014, issue No 14 (from 2000 to 2011)
- 3) NCSI, National Accounts, April 2015, issue No 15 (from 2012 to 2013)
- 4) NCSI, Monthly Statistical bulletin, June 2015, Vol 26

7.10 Appendix 10: Population and economic indicators in Oman's governorates

	Population (2014)			Population density In 2014	Omani Population in Age 20 - 29 In 2014	Are Km2	GDP per capita (US\$) In 2010
	Total	Omani	Expatriate				
Muscat	1,210,480	470,085	740,395	310.4	101,702	3900	36,189
Dhofar	377,506	189,501	188,005	3.8	40,998	99300	21,492
Musandam	39,813	25,292	14,521	22.1	5,472	1800	27,081
Al Buraymi	99,836	49,694	50,142	-	10,752	-	-
Ad Dakhliya	403,012	310,774	92,238	12.6	67,230	31900	27,312
Al Batinah North & South	1,016,394	717,192	299,202	81.3	155,156	12,500	20,698
Ash Sharqiyah North and South	509,453	338,870	170,583	14	73,309	36400	21,253
Adh Dhahirah	185,596	137,303	48,293	4.2	29,704	44000	25,028
Al Wusta	40,936	21,994	18,942	0.5	4,755	79700	14,553
Not - stated	109,867	0	109,867				
Total	3,992,893						24,195

Source: (NCSI, 2015)

7.11 Appendix 11: Number of projects and beneficiaries financed from the SANAD program per governorates (2002-2013)

Region	No of financed projects	Disbursed loans	No of beneficiaries
Muscat	525	3,690,361	584
Dhofar	387	1,600,256	443
Musandam	12	51,355	16
Al Buraymi	29	162,776	36
Al Batinah North & South	845	4,204,289	919
Ad - Dakhliya	840	5,827,090	1,027
Al Wusta	35	198,716	39
Ash – Sharqiyia N & S	761	4,569,508	862
Adh Dhahirah	224	1,532,223	246
Total	3,658	21,836,574	4,172

Source: (Al Rafd Fund, 2014, sent by email 03/08/2014)

7.12 Appendix 12: Open and closed projects for projects financed from the SANAD program in selected region by the end of 31/12/2014

Region	No. of financed projects	No. of open projects by 31/12/2014	No. of closed projects by 31/12/2014
Muscat	525	194 (37%)	331 (63%)
Al Batinah North & South	845	396 (47%)	449 (53%)
Ad - Dakhliya	840	445 (53%)	395 (47%)
Ash – Sharqiya N & S	761	569 (75%)	192 (25%)

Source: (Al Rafd Fund, 2014)

7.13 Appendix 13: The distribution of job seekers among regions in Oman in 2010

Governorate	Job seekers distribution (%)	Total job seekers (2010)
Ash-Sharqiyah	14.5	19,726
Al-Wusta	0.9	1,823
Dhofar	7.6	22,755
Muscat	19.5	23,328
Musandam	0.9	2,121
Al Batinah	34.5	48,360
Ad-Dakhiliyyah	13.5	12,013
Ad-Dhahirah	6.6	8,583
Buraimi	2	5,183

7.14 Appendix 14: Matching estimates of treatment effect predictor of supported new firms from government loan support.

Outcome variable	MODEL 1 No bias adjustment			MODEL 2 With bias adjustment			No of observation
	ATT	ATC	ATE	ATT	ATC	ATE	
Real Sales Growth	0.444 (0.030)**	0.092 (0.763)	0.264 (0.220)	0.646 (0.007)***	0.231 (0.698)	0.434 (0.249)	209
Employment Growth (All manpower)	-0.082 (0.339)	-0.153 (0.135)	-0.120 (0.117)	0.215 (0.035)**	0.347 (0.004)***	-0.087 (0.373)	251
Employment Growth (National Manpower)	0.041 (0.568)	-0.018 (0.784)	0.009 (0.871)	0.253 (0.001)***	-0.102 0.221	0.062 (0.356)	251