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Promoting entrepreneurship as a means to foster economic prosperity:
A Review of market failure and public policy

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Abstract

Background and Purpose: Governments and policy makers continue to look to entrepreneurship as a vehicle to economic development. This is informed by the perception shared by governments and policy makers that entrepreneurship is a good thing and we ought to have more of it. Thus a wave of policies has emerged in the UK and elsewhere which advocates for an increase in the level of enterprise activity. Our understanding of how and when governments intervene to assist entrepreneurs, and indeed which, if any, specific entrepreneurs should receive assistance in some shape or form, still has substantial knowledge gaps. The review aims to contribute to the building of this knowledge.

Methodology: The systematic review methodology was followed to examine the entrepreneurship literature. Quantitatively, the data was examined using basic descriptive statistics and content analysis. Qualitatively, the data was analyzed based on an inductive approach in order to identify emerging, frequent, dominant or significant themes that dominate in understanding entrepreneurship.

Findings: This review has identified factors which affect entrepreneurial performance, the market failure that result as well as the policy instruments defined in literature that aim to rectify the perceived market failure. Different typologies were identified which illustrate how the different policy instruments are categorised. Further, this review highlights the complex nature of public policy and entrepreneurship and raises the importance of adopting a more coherent "holistic" approach when advocating for intervention in entrepreneurship and public policy.

Keywords: Entrepreneurship, entrepreneurial activity, market failure, public policy

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Chapter One

1.0: Background

1.1: Introduction

> *"[…] Europe needs more entrepreneurs to strengthen its economic position. Policy measures should seek to boost the Union's level of entrepreneurship adopting the most appropriate approach for producing more entrepreneurs and getting more firms to grow" (European Commission [EC], 34th Report, 2003:6).*

Entrepreneurs find and exploit profit opportunities to generate value in an economy (Shane and Venkataram, 2000). The statement above echoes the general presumption among governments and policy makers in the UK and beyond that entrepreneurship is invariably a good thing, and we ought to have more of it. At the macroeconomic level, entrepreneurship has been shown to be a primary element of economic structural change, innovation, as well as job and wealth creation (Audretsch and Thurik, 2001; Carree, van Stel and Thurik 2007). At the microeconomic level, its central role is demonstrated as the engine behind the creation and growth of new firms and, consequently, the creation of jobs (OECD, 1996).

It is therefore not surprising to see a wave of policies adopted and implemented by governments with the aim of increasing entrepreneurial activity (Reynolds, Hay, Baygrave, Camp and Autio, 2000). The European Commission's Green Paper focusing on entrepreneurship in Europe, in alignment with the Lisbon Declaration of March 2000, points out that policy documents within the EU zone have since aligned to produce an action plan that aims to encourage more entrepreneurs *(European Commission [EC], 34th Report).*

Similar policy orientation has been encouraged in the United States (US). The state of entrepreneurship address presented by the Kauffman foundation (2010) state that within the US:"We need to keep starting companies or, evidently, we won't create

enough new jobs. New company creation is important for the economy because the net increase in employment that results from new firms is absolutely essential if the economy is to achieve positive net job creation in any given year" (State of Entrepreneurship address, 2010:12).

Seemingly, there is an implicit assumption shared by policy makers that economies in the UK and elsewhere may not have enough entrepreneurial activity. Put differently, policy makers perceive that there may be deviations from "optimal industry structure" (Thurik, Wennekers and Uhlaner, 2002). They attach high hopes to the positive effects of entrepreneurship on economic well being and accordingly, subscribe to increasing the level of entrepreneurial activity. The logic behind this argument is based on whether there are too many or too few businesses in an economy.

If there are too few business start ups, as policy above seems to suggest, it may be worth to ascertain what tends to block the supply and determine what market failures are at play (if any). Within the economics literature, labor economists study the level of the individual and suggest that entrepreneurial capabilities may be what hinders individuals from starting businesses; especially access to finance, risk aversion, capacity of an individual to find and exploit business opportunities as well as individual innate abilities towards entrepreneurship (Verheul et. el, 2001).

Alternatively, it may be that entrepreneurs are not in short supply; many people may be willing to start businesses. Industrial organisation literature points out that the problem may be such that there are not enough business opportunities to be exploited in an economy - yielding a demand problem instead. If this is the case, simply advocating for an increase in the number of people to start businesses risks having too many entrepreneurs in an economy tipping the scale to the other extreme. Baumol (1990), through the productive, unproductive and destructive framework, further highlights that it may not necessarily be that there are not enough opportunities. It may be that there are too many of the 'wrong type' of business opportunities in an economy. Thus resulting in scope for entrepreneurs to engage in privately profitable but socially

unproductive rent-seeking business opportunities such as organized crime and corruption - where there are not enough opportunities that result in initiatives that create value. Encouraging more people to enter into entrepreneurship when opportunities are skewed towards rent seeking may be counterproductive for an economy.

On the other hand, a country or an economy may be characterized by the type of innovative entrepreneurs who are able to create their own opportunities (demand). As a result these entrepreneurs may not be constrained by the financial resources, low entrepreneurial capabilities and demand issue highlighted above. Therefore, if an economy suspects to be underperforming due to a suspicion of not having enough entrepreneurs it would also be useful to ascertain whether the type of entrepreneurs in the economy are capable of creating their own opportunities prior to adopting a policy that advocates for a generic increase entrepreneurial activity.

It is also important to highlight, however, that even if an economy is characterized by innovative entrepreneurs, simply advocating for an increase in supply might not result in instantaneous benefits. Economists recognize that markets do not automatically and instantaneously regain equilibrium following the process of innovation. Further, some innovations will fail while others will be absorbed and diffused into the market. This process allows for individuals and firms to learn from both their successes and failures. The learning helps the individuals to improve their skills and adapt their attitudes; leading to the creation and offering of better product .However, this process may take a long time.

Therefore if governments look to entrepreneurship as a vehicle to foster economic growth, we see that the above advocated policy approach of generically increasing the number of entrepreneurs or business start-ups in order to increase entrepreneurial activity may be ineffective if the real problem is that there is not enough number of entrepreneurs with high capabilities, or if there are not enough opportunities, or if there

is a mismatch between encouraging entrepreneurs and the type of opportunities to be exploited.

In economics literature, one useful way of thinking about these issues is in terms of the supply of and demand for entrepreneurs. In an economy with flexible prices and wages and no market failures there is no reason to expect any persistent imbalance between the supply of and demand for entrepreneurs. In such an economy there would be no obvious rationale for government involvement in entrepreneurship.

Therefore in order to develop effective enterprise policy as a starting point it would be worthwhile to ascertain whether any market failures exist in practice, which inhibits the supply of or demand for effective entrepreneurship that cause more or less entrepreneurship than is socially desirable. If indeed market failures exists, Stevenson and Lundstrom (2005) state that our understanding of how and when governments intervene to assist entrepreneurs, and indeed which, if any, specific entrepreneurs should receive assistance in some shape or form, still has substantial knowledge gaps. Not much is really known about how to make this decision.

Therefore the objective of this paper is to review the existing literature so as to ascertain whether market failures exist that impede entrepreneurial activity. We also review literature which alludes to the public policy adopted that aims to address the identified market failures as well as the impact of the identified policies designed to address the market failure. The outcome of this paper is to develop suggestions for future empirical research.

1.2: Reader map: The rest of the paper is structured as follows:

Chapter Two reviews literature and set the review questions. The chapter begins by scoping and mapping the field; laying out the key theories and concepts of entrepreneurship as well as highlighting the rationale for government intervention.

Chapter Three describes the methodology followed when conducting the systematic review of literature. Steps that constitute the review technique are outlined. The chapter gives details of the data sources; methods of data collection, the type of data gathered and the methods of data analysis applied in the interpretation of the data. The chapter also highlights the limitations of the applied methodology.

Chapter Four and Chapter Five presents a summary and discussion of the review findings. In Chapter Four, the descriptive and thematic results are presented. The aim of this chapter is to synthesize and organize both empirical and conceptual literature in order to develop a coding scheme and analytical framework to be used in the analysis and discussion of the result. **Chapter Five** presents a discussion of the findings. It also provides answers to the raised review questions defined in Chapter two and the relevance of these findings to the positioning and gap of the literature. Thus the main output of this chapter is a discussion of areas and direction for further work. Further, in this chapter limitations of the review are also outlined.

Chapter Six presents the conclusions of this review.

Chapter Two

2.0: Theoretical Background

2.1 Introduction

Governments and policy makers continue to look to entrepreneurship as an 'effective means to an end', supporting the argument of increasing the supply of enterprise to create business ventures which may ultimately create jobs and maintain growth rates in the economy. As identified in the scoping study exercise, within the economics-based perspective the decision of stimulating future enterprise can be looked at from a labor economics perspective and from the Industrial organisation perspective as shown in figure 2 below.

Figure 1: Identified Literature Domains
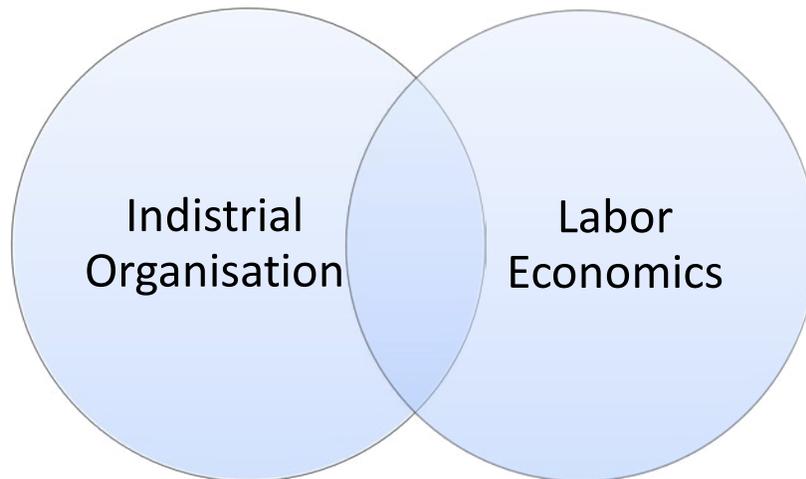
The labor economics literature focused on entrepreneurial activity at the unit of observation of the individual. This perspective dominance of the utility maximizing paradigm take as their starting point the Knightian premise that individuals do not have to be entrepreneurs. They can choose between entrepreneurship and some outside option (usually taken to be paid-employment).They choose the occupation that offers them the greatest expected utility.

Thus, from the labor economics perspective individuals can either operate a firm and earn profits or take some outside wage offered by an employer. In the absence of compensating differentials, such as pleasant or unpleasant working conditions and absent switching costs, it must be the case that *entrepreneurial earnings = wage earnings*, otherwise individuals would have an incentive to switch to the occupation with the highest return. For example if *entrepreneurial earnings* are higher than *wage earnings* this cannot be equilibrium; workers will switch into entrepreneurship, increasing the number of entrepreneurs*. Increasing the number of entrepreneurs will result in the reduction of *profits* until equality between *entrepreneurship earnings* and *wage earnings* is restored.

This simple model can be used to determine the equilibrium number of entrepreneurs in an economy. It can also be used to establish simple 'comparative static' results – for example that an exogenous increase in *wage earnings* results in fewer entrepreneurs (de Wit, 1993).

Following from above, two theoretical classical occupational choice models (Lucas (1978) and by Kihlstrom and Laffont (1979) show that in reality there may be certain constraints or factors that inhibit the supply of entrepreneurs. In Lucas's model individuals have heterogeneous entrepreneurial abilities. A cut-off level of ability separates those who become entrepreneurs (where entrepreneurial ability is above the cut-off level) from those who become employees (where entrepreneurial ability is lower that the cut off level). The cut off level is defined implicitly by the condition where *entrepreneurial earnings = wage earnings;* where entrepreneurial earnings is a function of entrepreneurial ability. According to Lucas's model, when wage *earnings > entrepreneurial* earnings individuals with high entrepreneurial ability will close down their firms and enter into paid employment – resulting in fewer entrepreneurs in an economy. The extra supply of labor decrease the employee wage until equality between *entrepreneurship earnings* and *wage earnings* is restored. It can also be inferred from

Lucas's model that individuals with higher entrepreneurial ability who enter into self-employment, will need higher levels of capital (Lucas, 1978).

What if individuals have a choice between entrepreneurship and paid employment, as in the models just discussed above, but face uncertainty in entrepreneurship and have heterogeneous aversion to risk rather than heterogeneous entrepreneurial ability? Kihlstrom and Laffont (1979) have analysed the economic implication of this scenario (Parker, 2004). Kihlstrom and Laffont's model predicts that more risk–averse individuals than the marginal entrepreneur (who is indifferent between entrepreneurial earnings and wage earnings) become employees while less risk-averse individuals than marginal entrepreneurs choose entrepreneurship. Furthermore, this model shows that a general increase in individual risk aversion reduces the general equilibrium wage; this is because greater risk aversion increases the equilibrium number of employees. On the one hand a decrease in wage earnings will cause prospective entrepreneurs to have access to labor; hence more people will choose entrepreneurship. In general the two effects will off-set each other and the resulting net effect can be determined.

In their model Kihlstrom and Laffont assume that individuals possess the same entrepreneurial ability. However, in reality people have different abilities (education levels, job experience etc). In addition, it is likely that people's access to finance will be different as well; a practical example which illustrates this point is the role of collateral asked for by banks when individuals apply for loans to fund their businesses.

In sum, Kihlstrom and Laffont shed light on the prediction about the equilibrium number of entrepreneurs based on the relationship between risk and entrepreneurship while Lucas shed light on the equilibrium number of entrepreneurs based on entrepreneurial ability. Both these theoretical models show that in reality there may be certain constraints or factors that inhibit the supply of entrepreneurs. These theoretical models have subsequently motivated empirical tests where the relationship between entrepreneurship and other variables such as finance, education and demographic variables have been investigated.

Researchers in labor economics aims to understand the characteristics of those who wish to enter self-employment as a result of a specific income choice, foregoing wage work in favour of risky profits from self employment. It is important to highlight that most theories treat occupational choice as a discrete, rather than a continuous, decision. This follows Kanbur (1981:163), who noted the difficulty of viewing occupational choice as an adjustment at the margin of a continuous process, such as 'engaging a 'little bit' more in entrepreneurial activity'. However, some researchers have also analysed how individuals mix their time between different occupations, which resembles more a continuous than a discrete choice (Burke et al, 2000; Parker, 2006).

In terms of analytical technique, within the labor economics perspective, generally structured models (for example probit/logit models) are used to identify the imperical importance of factors that affect the decision to become self employed as opposed to remaining in wage work. The probit models regress a binary variable z_i on a vector of explanatory variables W_i where (i) indexes an individual observation.

The old industrial organization literature on the other hand, has focused on the level of entrepreneurial activity at the unit observation of the firm, where the most typical performance measure has been industry profits, firm survival and firm (employment) growth. This strand of literature has devoted effort in defining the scope of business opportunities to be exploited by entrepreneurs. In addition, this strand of literature defines the industry structure and the nature of competition in an economy.

Researchers in this stream assume that whenever profit opportunities open up in an industry, there is an infinite supply of entrepreneurs waiting to exploit these opportunities, hence markets can move from one level of performance to a level of lower level of performance, and what is facilitating this movement is this infinite supply of entrepreneurs.

In terms of analytical techniques, error analysis technique, based on ordinary least squares (OLS) regression has been the most prevalent approach within studies of

opportunities/defining industry structure. Usually, with one arbitrary time period for measuring firm creation imposed on the phenomenon. Typically, panel data sets form part of the analysis; so as to capture the entry/exit patterns of firms over time.

Placing the labor economics and industrial organization views together, there is an interesting change of a core assumption within the new industrial organisation literature. Since labor economics show that there are constraints faced by those who choose self employment, with the new research emerging in industrial organisation starting to put forward instances where firms or industries continue to have high abnormal gains which are robust for longer periods of time (Burke et al., 2010). This may be interpreted as a signal that there are not enough firms entering the industry or market to erode these profits. This is in fact, the very starting point of policy makers and governments who share the implicit assumption that economies may not have enough levels of enterprise activity and that policy may infact help solve this dilemma.

Both labor economics and the industrial organization perspectives seem to have an underlying connotation that entrepreneurial decision results in productive entrepreneurship. However, as mentioned earlier, Baumol (1990) has highlighted the concept of constructive, unconstructive and destructive entrepreneurship where entrepreneurship does not always result in productive results. Thus, making the choice to switch (enter) into entrepreneurship could have the possibility that one participates in rent seeking and individual serving activities. However, if the decision to choose (enter) entrepreneurship does indeed result in productive entrepreneurship as shown by labor economists it is most likely that some initial capital is required for establishing or to grow the new business. Thus limitations to entrepreneurial choice may result if these individuals (firms) are unable to attain the necessary capital; which will have an impact on whether an economy has too many or too few firms (or entrepreneurs).

2.2 Rationale for public policy

Traditionally, entrepreneurship policy has been centred on support for business start-ups. According to Lundström and Stevenson (2001) entrepreneurship policy is aimed at the nascent entrepreneurs and is designed to encourage more people in the population to consider entrepreneurship as an occupation choice. These authors make a clear distinction between SME and entrepreneurship policy, where the former is aimed at already existing businesses. Other scholars such as Hall (2003) refrain from defining entrepreneurship policy; and opt to incorporate this concept within the overall public policy domain (which includes policies that may influence entrepreneurship but are not specifically targeted at entrepreneur for example most macro economic polices). Scholars such as Hoffmann (2005) on the other hand narrow down the definition of entrepreneurship policy to only concern the micro level.

2.2.1 Arguments 'in support for'

The general logic followed in supporting public policy intervention is as follows: entrepreneurship is held to stimulate competition; create innovation and jobs; and generate positive externalities. Public policy to support entrepreneurship can be interpreted as the removal of obstacles that may impede the ability to realise the mentioned benefits. For example if credit rationing, the free market will generate too little entrepreneurship. Therefore, government ought generally to intervene to correct market failures and increase involvement in entrepreneurship to everyone's benefit (Parker, 2005).

Thus the primary argument for policy intervention is failures in the market for entrepreneurial activity (Storey, 2003). These failures can be caused by imperfections in the market for information (asymmetries); uncompetitive market structures; economies of scale in the supply of goods and services - for example shortcomings in the supply of debt to new and small firms; shortages in physical premises, business development services and training; and the systematic failure of markets to appropriately allocate resources to new firms and entrepreneurs (Stevenson and Lundström, 2001). Such

market deficiencies will affect the ability of possible entrepreneurs and new businesses to access the necessary information, skills, financing, advice and technical assistance that would improve their start-up, survival and possibly growth probabilities. Four main market failures are identified in literature (Storey, 2003; Parker, 2005; Audretsch, Grilo and Thurik, 2007) where:-

- ✓ Financial institutions are unable to assess accurately the viability of small businesses and overestimate the risks of lending to entrepreneurs running small businesses.
- ✓ Entrepreneurs do not realize the private benefits of obtaining expert advice from consultants or 'outside' specialists.
- ✓ Potential entrepreneurs are ignorant of the private benefits of starting a business.

Storey further point out that the basis for government intervention may be to forester social outcome where there is a perceived difference between benefits for society as a whole and returns received by private businesses (2003, see also OECD, 2005; Greene, 2005). He states that: -

"Policy intervention can be justified where there is a divergence between private and social returns. Where social returns exceed private returns, positive externalities or spillovers exist. Here firms may not undertake projects which, whilst in the interests of society as a whole, yield the firm insufficient returns. The role of a public policy is to make it privately worthwhile for the firm to undertake the project, enabling society as a whole to benefit" (Storey, 2003:476).

2.2.2 Arguments 'against'

There are however, arguments against government intervention. One of the most cited studies in literature is that of de Meza and Webb (1987), which shows that asymmetry of information and credit constraints actually may not exist. This study starts at the

premise that there can be too much investment by entrepreneurs. Thus it would be beneficial for the greater society if the least able individuals are discouraged from becoming entrepreneurs. Parker (2005) suggests that better policy would be to discourage the inefficient small businesses without deterring the more efficient counterparts that add value in the economy.

Subsequently, others put forward a number of key points which argue against government intervention. Parker (2005) states that it does not necessarily mean if there is a market failure, there should be government intervention to address the failure, especial when the costs are much greater than the desired outcome. This point is also emphasized by Bridge et al (1998); they state that intervention may not even be necessary since it might not achieve a net economic benefit.

The biggest debate about policy intervention lies on the expected impact or effectiveness of the implemented policy. Storey correctly points out that the lack of defining measurable objectives and the lack of specific performance measures only serves to further highlight the complication and lack of knowledge about the impact of the adopted and applied policies (Storey, 2003).

Although collectively the argument above questions the need for government intervention, the fact remains that governments do intervene and that various types of intervention exist. Parker (2005) concludes that policy makers and governments aught to be cautious before supporting the well-meaning but ill-informed arguments that claim that the economy needs more entrepreneurship.

2.3 Summary to chapter two and review questions

Governments and policy makers in the world continue to look to entrepreneurship to foster better economic performance. They lean towards sharing an assumption that economies may be having lower levels of entrepreneurial activity (as policy statements in Chapter One seem to suggest). Hence they advocate adopting policy interventions in order to eliminate the perceived market failure that may exist. However, one of the key

challenges faced by policy makers when trying to address the above will be to firstly determine what market failures exist for individuals moving through the entrepreneurial process and secondly, which policy 'mix' will address the perceived market failures (Lundström and Stevenson, 2005).

Therefore as a starting point the key question in this review is to ascertain: (i) whether any market failures exist in practice, which inhibit the supply of or demand for effective entrepreneurship, and cause more or less entrepreneurship than is socially desirable? Secondly, (ii) is there a policy that aims to address the identified market failure? If so (iii) what, according to literature, is the impact of the policy?

Chapter Three

3.0 Methodology

3.1 Introduction

Similar to conducting an empirical study, the systematic review follows explicit and replicable data collection and synthesis methods in order to assure transparent, reliable and unbiased conclusions. This chapter describes the method followed to collect and synthesize data used to answer the review questions raised in Chapter Two. The data collection and synthesis method was broken down into the following key steps:

Key Steps followed
Pre-step: Set up a consultation panel
Step 1: We identified data sources. Next we identified keywords and search strings and conducted a comprehensive data search – Then we used Bibliometric analysis tools to identify keywords and search strings.
Step 2: We applied selection criteria to abstracts and titles so as to identify relevant studies; eliminating studies that did not meet the selection criteria.
Step 3: We applied selection criteria based on full text, irrelevant studies were eliminated. Remaining studies were exported to RefWorks.
Step 4: Final appraisal stage. We valuated quality of found studies, all studies that did not meet quality criteria were eliminated while relevant studies formed core review papers.
Step 5: Extraction and synthesize of data. We conducted a descriptive analysis of data using bibliometric analysis tools as well as a qualitative thematic analysis.
Step 6: Reporting - what is known and what is not known, resulting with identified research gaps.

Table 1: Key steps

A consultation panel was set up prior to starting the systematic literature review process. The consultation panel's role included offering guidance and ensuring that the content of the review as well as the process followed is relevant and sound.

3.2 Locating relevant studies

The first step of the data collection process was to conduct a comprehensive search for potentially relevant studies. The intention was to compile a list of core studies most suitable to answer the systematic review questions (Tranfield et al., 2003). Before undertaking data collection, the following questions were considered: -

- ✓ Which information sources should be used to collect data for the review?

- ✓ What keywords should be used to conduct the search?

- ✓ How should the identified keywords be constructed to form search strings?

- ✓ What selection criteria should be applied in order to identify and choose relevant studies?

Databases were the main source of information. Mainly scholarly journal articles were included in the review, even though there are multiple sources of relevant information including books, PhD thesis, conference papers and public reports. Following the logic of David and Han (2003) and Brown (2008), this decision was justified on the following grounds: first, journal articles are subjected to a rigorous peer review process which acts as a gate process for quality before being published. Second, journal articles are easily searchable by keywords, abstracts and title and/or full text. Books and PhD thesis on the other hand, are typically more difficult to locate systematically (David & Han, 2003). Mostly, books and PhD thesis must be manually hand-searched, rendering it more difficult to locate keywords and use search strings to find relevant information. Finally, since the typical layout for most journal articles follows a standard format namely: abstract, literature review, methodology, findings, implications, and conclusions, followed by a list of cited references this makes data extraction and analysis.

3.2.1 Database Selection

Three main management research databases listed on the Cranfield MIRC library link under 'key management data sources' namely ABI ProQuest (ProQuest), EBSCO Business Source Premier (EBSCO), ISI Web of Science (Web of Science) were selected as the main data sources as these constitute the core of the international scientific serial literature (Tijssen, 1992). Table 2 below provides a brief description of each database.

Database	Description*
EBSCO	Provides full text access for more than 2,300 journals, including the world's top management journals. Covers all areas related to management.
ProQuest	One of the most comprehensive and widely used databases for academic research in business and management. Covers over 2,500 publications across different management disciplines.
Web of Science	This platform provides a unique way of searching, including the ability to perform an 'All Database' search on the content of multiple searchable products.

Table 2: Description of Key data Sources

*description taken from respective database websites

In addition to the databases selected, it was deemed appropriate to also include the Social Science Research Network (SSRN) database to ensure access to current research. SSRN encourages early distribution of research. It consists of an Abstract Database containing abstracts on over 297,000 scholarly working papers and forthcoming papers as well as an Electronic Paper Collection currently containing over 237,900 downloadable full text documents.

In order to ensure that key articles were not missed, Google scholar was used; results from Google scholar are usually very large due to lack of search filters. Articles recommended by any of the panel members were also included in the review.

3.2.2 Keywords and Search strings

Identifying keywords or search terms was an important early step during the data collection process. Keywords were useful to help manage and focus searches in databases.

Thus, as a starting point keywords were identified from papers used during the scoping study exercise; since these papers were used to map and scope the research field. The following keywords were identified from the scoping study exercise: - Entrepreneurship, determinants, constraints, performance, factors, economic performance, barriers, policy.

Next, these keywords were used to query the databases selected above. The results were exported into a text file format and saved. Bibliometric analysis technique was adopted in order to identify further keywords and potential search strings. The tools used were Bibexcel[1] and AntConc[2]. Both tools are downloadable free from the internet and are described in table 3 below.

Tool	*Description
Bibexcel	Bibexcel is designed to assist a user in analyzing bibliographic data, or any data of a textual nature formatted in a similar manner. The idea is to generate data files that can be imported to Excel, or any program that takes tabbed data records, for further processing. The following can be done with the tool; bibliometric analysis, citation analysis, co-citation, shared references bibliographic couplings, cluster analysis, prepare bibliometric maps, mapping, Pajek, NetDraw. Bibexcel uses ISI records, SCI, SSCI, A&HCI, but Bibexcel can also convert other formats.
AntConc[2]	AntConc is an easy-to-use freeware concordance program which serves as a comprehensive text analysis tool kit for researchers. The Concordance tool generates key word in context concordance in order to identify potential search strings.

Table 3: Tools for conducting bibliographic analysis

*Description taken from respective tool websites.

1. http://www8.umu.se/inforsk/Bibexcel/;
2. http://www.antlab.sci.waseda.ac.jp/software.html

The saved text file was imported into Bibexcel. Through running an analysis using Bibexcel, the most frequently occurring keywords were identified in the title and abstract which were interpreted as a suggestion of further terms most preferred by authors that could be used to form search strings. Steps followed to identify keywords are shown below.

Key Steps followed

Step 1: Identify keywords from scoping study and mapping of field exercise

Step 2: Query databases using the keywords identified in Step 1

*Step 3: Export results into text file. Note Web of science has this option directly. EBSCO and ProQuest chose "download results in a format compatible with ProCite, EndNote, Reference Manager and RefWorks" which automatically creates the text file.

*Step 4: Import text file into Bibexcel. Bibexcel will convert the file to its recognised format.

*Step 5: Run the analysis which identify keywords in the title and Abstract of papers, and store the resulting text file.

*Step 6: Run AntConc (This will open the tool). Open the record file with the keywords stored from Bibexcel.

*Step 7: Run the concordance analysis

Table 4: Keywords and Search - Strings

*See appendix A (page 1 – 6) for a step by step guide on how to execute Step 3 to Step 7

Once the keywords were identified, Bibexcel and AntConc were used to explore a concordance of the key words; showing their contextual occurrence in the text. Bibexcel (as shown above) was used to create the file containing keywords. AntConc was used to execute the concordance analysis. The results were used to identify phrases that could function as search strings. The resulting search strings are shown in Table 5 below.

Search String	Rationale
String 1:	
a) (entrepre* OR successful entrepre* OR enterpri?e OR small business OR SME* OR self-employ*) AND (economi* development OR economi * performance) **b**)(entrepre* OR enterpri?e OR small business OR SME* OR self-employ*) AND (Factor* OR determinant*) OR (market failure OR barrier OR constraint*)	Identifies factors or determinants affecting entrepreneurship so as to ascertain market failure (if any)
String 2: (market failure AND entrepre* OR enterpri?e OR small business OR SME* OR self-employ*) AND (public policy OR policy)	Ascertains if there is an effective policy associated with the raised market failure
String 3: (entrepreneur* AND (public policy OR policy) AND (evaluation OR effect OR impact)	Ascertain effect of the adopted policy

Table 5: Resulting search strings

3.2.3 Applying the search strings to identified databases

The use of the search strings in the chosen databases produced the results shown in Table 6 below. A restriction was applied to limit the search to include mainly scholarly journal articles in the review, even though there are multiple sources of relevant information including books, PhD thesis, conference papers and public reports. Following the logic of David and Han (2003) and Brown (2008), this decision can be justified on the following grounds:

- ✓ Journal articles are subjected to a rigorous peer review process which acts as a gate process for quality before being published.
- ✓ Journal articles are easily searchable by keywords, abstracts and title and/or full text. Books and PhD thesis are typically more difficult to locate systematically (David and Han, 2003). Mostly, books and PhD thesis must be manually hand-searched, rendering it more difficult to locate keywords and use search strings to find relevant information.

The typical layout of most journal articles follows a standard format namely: abstract, literature review, methodology, findings, implications, and conclusions, followed by a list of cited references. This made it easier when applying tools such as Bibexcel when conducting the bibliometric analysis.

Search String	Restrictions	EBSCO # of hits	ABI/Proquest # of hits	Web of Science # of hits	SSRN # of hits
String 1	Scholarly Journal	3887	2663	1878	876
String 2	Scholarly Journal	735	238	474	171
String 3	Scholarly Journal	188	260	66	79
	Total # of hits	4810	3161	2418	1026

Table 6: Results from Search Strings

3.3 Selection Criteria

The third stage of data collection was to establish screening and selection criteria, with the aim of ensuring that only the most relevant studies were selected and appraised. Two stages of selection were conducted based on particular inclusion and exclusion criteria: one that appraised titles and abstracts and one that evaluated the papers as a whole. In addition, a quality appraisal was defined to attest that the literature selected express creditable quality.

3.3.1 Selection criteria for title and abstracts

First, the resulting hits from Proquest, EBSCO, ISI Web of Science and SSRN combined (N = 11415) were inspected for duplicates. At this point it was found that almost all the articles in the Web of Science database were also either found in EBSCO and/or ProQuest. Consequently, all duplicate articles found were eliminated (N = 9026). Next, the screening criteria as shown in Table 7 below were applied to the articles. All the articles that did not include at least one of the terms as shown in Table 7 were eliminated (N = 687). In total 85% of the articles were eliminated at this stage (N = 9713).

Criteria	Decision	Rationale
Topic	Entrepreneurial activity Economic growth, Market failure Public Policy	**Included source had to address at least one of the following:** ✓ factors affect entrepreneurial activity ✓ The market failure ✓ Public policy
Time Period	No limit	There is no reason to impose time restrictions at this point.
Geographic location	No limit	There is no reason to exclude geographic location at this point
Academic Scholarly Journals	Peer reviewed Journal and working papers	The review will include both papers from peer reviewed journals and workings papers. The need to include working papers is to ensure coverage of the most current research.
Industry	All	There is no reason to exclude region/industry at this point
Nature of Research	Theoretical and Empirical	Both theoretical and empirical publications can inform the review questions.
Method	Quantitative and Qualitative	Both qualitative and quantitative studies are important.
Language	English	English is the only international language I am fluent in.

Table 7: Selection criteria for titles and abstracts

3.3.2 Selection criteria for full text

The remaining 1702 articles were examined based on full text. At this stage articles could still be eliminated since it was difficult to establish just from reading the abstract and title alone the relevance of the articles. As a result several articles passed the *selection by title and abstract* gate process. However only through reading the full text it became possible to reject articles based on content and relevance towards the review

questions. Therefore, once the full article was read, all the articles which did not address at least one of the following topics were eliminated.

- ✓ Factors or determinants and entrepreneurial activity
- ✓ Entrepreneurship and market failure
- ✓ Public policy

More specifically, a distinction was further made between conceptual and empirical papers.

Conceptual papers had to include:

- ✓ Comprehensive review literature, including key authors and seminal papers in the fields. In addition, the author ought to show the relation between the literature cited and the arguments proposed.
- ✓ Unambiguous indication of the theoretical framework or model on which the author based his or her arguments.
- ✓ Comprehensive presentation of the key concepts, constructs, ideas, themes, and perspectives.
- ✓ Clear statement of the assumptions made when developing models
- ✓ Clear definitions and explanations of the variables, parameters and equations used in the models
- ✓ Clear indication of the objectives of the study, such as presentation of new model, framework or theory; synthesis of existing knowledge; criticism of existing model, framework or theory; suggestion for future research.
- ✓ Discussion of how new theory or model contributes to existing literature.

Empirical papers had to include:

- ✓ Thorough review of the literature relevant to the study; identifying links of the empirical work with existing theories and/or previous empirical work.

- ✓ Clear description of sample used, inclusion of details about data collection technique, data analysis, sample selection and sample size.

- ✓ Clear research questions and link between research question and methods utilized.

- ✓ Evident rationale for conducting study and clear link between this rationale and findings, and between rationale and research question.

- ✓ Clear evidence that the authors addressed issues of validity, reliability in their methods, regardless if those were quantitative or qualitative.

- ✓ Clear evidence that the authors addressed issues of generalizability.

- ✓ Thorough and unambiguous presentation of data and results obtained.

- ✓ Clear connection between the results/data presented and the findings/conclusions drawn by the authors.

- ✓ Discussion on the findings of the study, its contribution, its limitations and areas for further research

3.3.3 Exclusion criteria for full text

In addition, articles specifically concerned with informal entrepreneurship, entrepreneurship aimed at poverty alleviation and social entrepreneurship were excluded. Literature from these streams identifies factors affecting entrepreneurial activity, (some) market failure and public policy, however these streams come from a social development perspective, therefore were deemed irrelevant to this study. This was based on the fact that it is firmly established within the entrepreneurship literature that informal businesses or entrepreneurship aimed at poverty alleviation programs, although important, do not contribute to economic growth (Reynolds et al, 1999; Baumol, 1990). This study is concerned with entrepreneurship as a vehicle to economic growth.

In total 1389 articles were eliminated at this stage. 688 articles were discarded due to the classical example of articles which had very little to do with at least one of the three

defined criteria namely: factors or determinants and entrepreneurial activity, entrepreneurship and market failure or enterprise public policy. At first glance during the "title and abstract" stage these articles seemed relevant. However after a thorough look at the full text the articles did not address at least one of the three defined criteria in addition, 721 articles were further eliminated as defined by the excluding criteria. These articles were concerned with social entrepreneurship; informal entrepreneurship and entrepreneurship concerned with poverty alleviation (see section 3.3.3).

3.4 Quality Appraisal

Only studies that met all the selection criteria defined above were retained in the core list of articles which were further assessed for quality in the next phase. Thus, the remaining 295 articles went through a detailed quality appraisal to strengthen the data synthesis and interpretation of results. Reviews ought to have robust quality assessment procedures so as to ensure that all relevant studies meet a minimum level of quality (NHS CRD Report No. 4, 2nd Edition).

In this paper we developed a quality assessment scale. Since no previous quality scale could be found to assess theoretical and conceptual articles, following in the work of Brown (2008) we developed a scale from multiple sources, including: the Quality Criteria tool found in Pittaway et al. (2004) and the NHS CRD Report No. 4, 2nd Edition. Quality scales are scored numerically to provide quantitative data and to give an overall assessment of study quality. Whereas this is a subjective scale, we have at least made it explicit.

The quality appraisal scale can be found in Table 8 below .There are four elements in the quality assessment: (1) Contribution (2) Strength of paper; (3) Theoretical rigor (4) Methodological rigor. The scores range from 0 to 3 (0-absence, 1-low, 2- medium, 3-high) including a not applicable option if an element does not apply to the assessment of the articles.

Elements to Consider	Level				
	0- Absence	1- Low	2- Medium	3- High	N/A
Contribution	Not enough information to assess this criteria	Does not make an important contribution; it is not clear in the advances it makes	Small contribution to the field. Builds on other's ideas or arguments; Findings support other studies.	Clear Contribution to the field. Presents new concepts, ideas or findings.	This element is not applicable to this study
Strength of the paper	Not enough information to assess this criteria	The author oversimplifies complex issues; makes unsupported generalizations	The author makes reasonable inferences; mentions limitations of others' theories, but adds nothing new	The author presents a balanced picture of current theory ,mentions current theory and their limitations and is able to simplify complex ideas	This element is not applicable to this study
Theoretical Bases	Not enough information to assess this criteria	Little information or superficial use about the relevant literature and/or theories.	Awareness of major theories in the field; exhibits well-supported arguments.	Excellent analysis and review of relevant theories; critical evaluation of the literature.	This element is not applicable to this study
Methodological Rigor	Not enough information to assess this criteria	Inadequate application of methods; lack of descriptions about data analysis or collection	Methodology used is justifiable to research question; limitations are not completely addressed.	Methodology is appropriate for research question; limitations are addressed; excellent Implementation.	This element is not applicable to this study

Table 8: Quality selection criteria

3.5 Final Selection of Papers

Utilizing the quality selection criteria described above, the 295 articles remaining in the study after the "full text" elimination stage were further reduced. In order for a paper to pass through the quality criteria they had to score at-least a "2 – Medium" in each of the four elements stated in table 8. In addition, any article that had a "0 - absence" in at-least two of the four elements, were eliminated regardless of whether they scored higher in the other categories. This was a subjective decision which we adopted in order to quantify quality of the papers in this study. Table 9 below gives an overall summary of the total number of eliminated studies and the respective reasons for elimination.

Reason for Elimination	# Excluded
Articles concerned with sustainable entrepreneurship	132
Articles addressing informal entrepreneurship	359
Articles addressing entrepreneurship as a vehicle to poverty alleviation	44
Articled addressing social entrepreneurship	166
Article that did not address at least one of the three defined criteria :	688
Articles that did not meet the quality criteria	272
TOTAL	1661

Table 9: Reasons and number of articles eliminated in full text

Thus, with these reductions, in total 23 core articles were included in the review from database searches. In addition, 8 sources (including three book chapters) were later incorporated, through cross-referencing, resulting in a total of 31 publications utilized in this review. It is important to note that Cross-referencing articles were, for the most part, examined based on the same selection criteria as the articles obtained through the database search.

3.6 Data extraction and Synthesis

The last stage of data collection was the data extraction and synthesis step. Data extract forms were used to accurately extract data from the 31 identified studies (see Table 10 below). According to Clarke and Oxman (2001, as cited by Tranfield et al, 2003) the data extraction form serves as a repository from which the synthesis will emerge.

Issue	Data Extraction
Detail of the Publication	Author(s); Year; Location
	Title; Source Name
	Volume/Issue/Page Number
	Origin: Database; Cross Reference or Recommendation from expert panel
Content	Keywords; Abstract;
	Underlying Theories/Frameworks/Models
	Theorists Cited and Key Findings, key themes and sub-themes; Context.
Methodology	Qualitative/Quantitative
	Theoretical/Empirical
	Method of Data Collection and Data Analysis
	Sample Size
Quality (0-3)	Contribution, Theoretical rigor, Methodology rigor, Strength of paper
Selection	Include? (Yes/No) if No, reason for exclusion
Addressed which review questions?	(i)Identified market failure
	(ii)Identified public policy to address market failure
	(iii)Public policy impact/evaluation

Table 10: Data extraction form

The data synthesis phase was divided into two parts. The first part was conducted using Bibexcel. Bibexcel allowed for basic descriptive statistics about the data to be gathered.

The second part comprised of an inductive approach, which was adopted in order to identify emerging, frequent, dominant or significant themes inherent in the data. The themes were labled and entered into a Microsoft Excel worksheet so as to compare articles with similar themes. Then, the emerging themes and categories from the inductive approach helped in the development of a coding structure that helped with data synthesis.

3. Methodology Limitations

The mechanical process followed during the systematic review process arguably constricted some of the creativity in identifying articles which could form part of the review that comes from identifying new articles based on any sort of intuition . The process often required an explicit justification for articles found from searching the literature unsystematically. In addition, the process is iterative in nature; thus requires a lot of time to search for articles and finally reaching the core articles.

While we found many articles from this process that were new and valuable due to their relevance and quality in answering the review questions, we might have missed out on other, more relevant, articles. This includes unpublished articles from the internet, PhD thesis and other books that are difficult to search systematically.

It is important to also highlight that articles which may have been relevant might have also be missed due to the subjective quality criteria stated above.

In terms of methodology, conducting the raw bibliometric counts such as keywords used in the databases and creating search strings etc was very simple, and can be easily achieved from all databases used in this review as the format of the text files generated is similar (author, journal cited year, volume   etc). However, moving to a more sophisticated level of examining co-citation analysis became tricky. Within the four chosen databases in this study Web of Science is the only database which has an option to directly export the found papers along with the citations. Since Web of science is the standard database used for Bibliometric analysis, most explanations and step-by-step

guides for the technique tend to focus on this database. Very little is available to guide individuals on how to achieve the same results from other databases, which may be time consuming especially if one does not have a software engineering background.

Through trial and error, it became apparent that when conducting co-citation analysis citation counts are not necessarily affected by the indexing of the Web of Science, as cited documents are included even if they are not indexed in the Web of Science. Probably the most important index for bibliometric analyses is the Science Citation Index (SCI) produced by ISI. The SCI covers all publications and corresponding citations from over 3,500 professional journals, which constitute the core of the international scientific serial literature (Tijssen, 1992). But, it took two days to figure this out through extensive reading about bibliometric analysis. Therefore care must be exercised when adopting software tools and analytical techniques, enough time must be incorporated to fully understand how the tool and the technique work.

3.8 Summary to Chapter Three

This chapter has presented the methodology and the tools applied when gathering data for the review. Four databases were selected as the main information sources for the review. A total of 31 core papers formed the basis of the review, chosen through a systematic gate process. Bibliometric analysis was adopted in order to identify keywords and search string as well as to conduct a descriptive analysis of the data. The outcome of the bibliometric analysis was such that key authors were identified as well as key journals and key papers. The limitations of the method adopted to collect and synthesize data were also highlighted, noting some of the challenges from adopting both a systematic process of reviewing literature and using tools to produce descriptions of the data. The next chapter will proceed to report the findings.

Chapter Four

4.0 Descriptive and Thematic analysis

4.1 Introduction

The review findings are described in detail in this chapter. This is achieved in twofold. First, the outcomes obtained from the descriptive analysis undertaken using Bibexcel are reported, painting a picture on the most cited authors, the most cited journals, journal quality, dates and co – citations.

Second, the results of the thematic analysis concerned with the identification of key emerging themes aimed at answering the research questions are presented. This section will report the common occurring themes between or across studies and the result based on the identified coding scheme. The chapter ends with a chapter summary.

4.2 Descriptive analysis

This research reviews 31 papers. In total, the review was based on 31 core articles. 72% of the articles were identified through the database search results (N = 23); 19% articles were identified from the scoping study (N = 5); and 9% of the studies were book chapters identified through panel recommendation (N = 3).
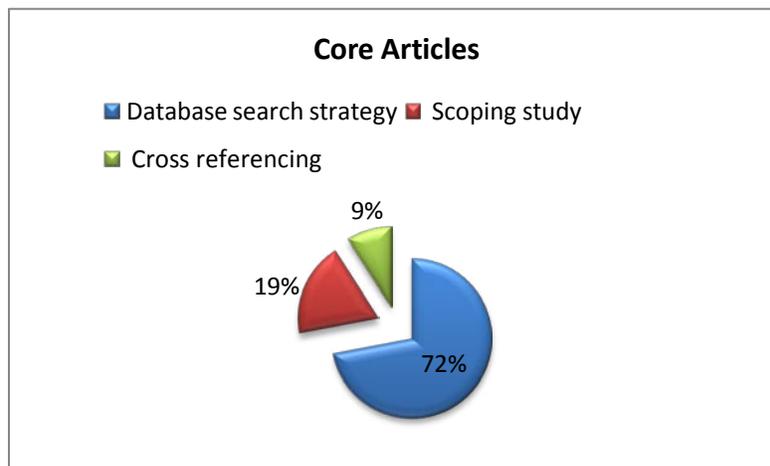

Figure 2: Breakdown of core articles

The core articles, with the exception of the book chapters, came from 16 academic journals, with the majority of the articles located in the Small Business Economics journal. Although journal ranking was not part of the excluding or quality screening criteria it is interesting to observe that as high as 94% of the core articles come from reputable 3* and 4* journals. This can be interpreted as an indication that the quality selection criteria above may be deemed effective.

Journal Ranking	Publications	#Articles	%Total Articles
3*	SMALL BUSINESS ECONOMICS	10	33%
3*	JOURNAL OF BUSINESS VENTURING	3	9%
4*	JOURNAL OF POLITICAL ECONOMY	3	9%
4*	REGIONAL STUDIES	2	6%
3*	ECONOMIC JOURNAL	2	6%
3*	JOURNAL OF REGIONAL SCIENCE	1	3%
2*	REVIEW OF INDUSTRIAL ORGANIZATION	1	3%
3*	KYKLOS	1	3%
3*	OXFORD BULLETIN OF ECONOMICS AND STATISTICS	1	3%
4*	RESEARCH POLICY	1	3%
2*	APPLIED ECONOMICS	1	3%
4*	AMERICAN ECONOMIC REVIEW	1	3%
4*	ACADEMY OF MANAGEMENT REVIEW	1	3%
3*	INTERNATIONAL JOURNAL OF INDUSTRIAL ORGANIZATION	1	3%
4*	JOURNAL OF MANAGEMENT	1	3%
4*	JOURNAL OF MANAGEMENT	1	3%
Total		31	100%

Table 11: Most cited journals

Following Chandler and Lyon (2001), studies were broken down into two broad categories: empirical and conceptual. Empirical studies are those that include data and/or data analysis in the study. Conceptual papers include theory/ conceptual development, literature reviews, and other treatments that do not gather or use data. We found that most of the core studies were empirical in nature (84%) perhaps suggesting an opportunity for further research on theory building within the field of entrepreneurship research. Table 12 below illustrates the allocation of studies.

Relating the found papers to the three review questions raised in Chapter Two, it was found that majority of the studies (71%) were identifying some form of market failure. Of these (46%) did not explicitly mention whether there was identified market failure although they did identify factors or determinants that affect entrepreneurial performance; market failure may have to be inferred. There were however almost a quarter of the studies (25%) that explicitly addressing identified market failures, majority of which were imperical in nature. Furthermore, less than a third of the studies dealt with identified policies to address the raised market failure (16%) and the impact of these policies (13%). This analysis may seem to suggest that public policy and entrepreneurship may still have opportunities for further research.

	Empirical		Theoretical		Total	
Theme/Searches categories	Papers	%	Papers	%	Papers	%
Determinants or Factors	11	37%	3	9%	14	46%
Market Failure	6	19%	1	3%	7	25%
Public Policy	5	13%	1	3%	6	16%
Impact of Policy	4	10%	1	3%	5	13%
Total	27	84%	5	16%	31	100%

Table 12: Distribution of studies based on search categories

Table 13 below gives a summary of the context within which these studies were conducted. In terms of geographical location it was found that majority of publications considered in this study originated in the United States (42%). When both the United States and the UK were grouped together, they represent more than 65% of the articles utilized in this review .This indicates a strong domination of these two countries, especially the United States, in the field of entrepreneurship research. In addition, a total of about 7% of papers were grouped as 'other'; they were concerned with combined data that looked at both developed and developing economies – largely based on GEM datasets and only 3% of paper within this review were particularly concerned with a dataset that was exclusively from a developing country' perspective (India).

Country	Number of Articles	%Total Articles
US	13	42%
UK	8	26%
OECD	5	16%
Netherlands	1	3%
India	1	3%
Sweden	1	3%
Other	2	7%
Total	31	100%

Table 13: Context of the studies

However, more interestingly, it was found that the studies from developing countries were mainly addressing the first two research questions (namely raising market failure and highlighting policy recommendations which are deemed appropriate to address the market failures). All the articles concerned with addressing the third research question (the impact or evaluation of entrepreneurship policy) were predominantly conducted within a developed country's context.

Looking at the data characteristics of the imperical papers 79% of the papers in this review rely on individual-level data while the remaining 21% use aggregated, countrywide data. With regard to data size 10% of the empirical studies conduct analysis of data with no less than 10,000 individual observations (GEM data: Reynolds et al, 2000). With a larger sample size this makes it possible to conduct random sampling.

In relation to the methodology utilized in the studies considered in this review, there was a strong bias towards quantitative methods (80% of total articles and 96% of empirical articles considered). Most studies use various statistical and econometric methods. By far, the probit-logit model proved to be the most popular econometric method. This bias may be as a result of approaching the PhD research from an economics – based perspective.

4.3 Thematic analysis

The objective of this analysis was to identify key emerging themes across studies so as to answer the review questions. In order to identify themes, articles were coded and analyzed to determine the most common and recurring themes.

We first identified the themes from studies that aim to answer the question of whether any market failures exist in practice, which inhibit the supply of or demand for effective entrepreneurship, and cause more or less entrepreneurship than is socially desirable. In order to operationalize and effectively answer this question we deemed it fit to elaborate on factors that affect entrepreneurial activity, and ascertain whether these factors raise or address any market failures.

Next, the chapter identified the themes which emerged from the core studies that aim to answer the question of whether there is policy that aims to address the identified market failures. Lastly, we identified themes that emerge in the core articles that aim to answer the third question: 'what is the impact of the policy'.

4.3.1 Themes emerging from core papers concerned with: '*identifying market failure*'

As a starting point we defied a coding structure to group the core papers either under 'characteristics of entrepreneurs' or 'opportunities to be exploited by entrepreneurs' consistent with the supply and demand approach found in entrepreneurship literature (Verheul et. el, 2001). We seek to identify whether there are any market failure that may result at the individual level and market failures which may result from the nature and structure of opportunities in the economy.

<u>Characteristics of entrepreneurs</u>

As a starting point, the theoretical paper by Kihlstrom and Laffont (1979) identifies 'risk' as one of the key factors that will determine the equilibrium number of entrepreneurs in an economy. As shown in Chapter Two, Kihlstrom and Laffont's (1979) model of entrepreneurship predicts that entrepreneurs tend to be less risk-averse than employees. They predict that the least risk-averse individuals are more likely to become entrepreneurs and run larger firms. Their conceptual findings indicate that assuming no external forces inhibit the process of equilibrium - such as pleasant or unpleasant working conditions and absent switching costs, an equilibrium point will be reached when risk takers are indifferent between entrepreneurship and wage work (i.e. Wage rate equals income from Self employment) and the supply of or demand for effective entrepreneurship will result where there is an optimum number of entrepreneurs.

Following the conceptual model above, an empirical paper by Fairlie (2002) has analyzed the effects of risk-aversion on the optimum number of entrepreneurs that is socially desirable. It might be thought that, given risk-aversion among entrepreneurs, an increase in risk in entrepreneurship would necessarily decrease the equilibrium number of entrepreneurs. Fairlie (2002), based on US data from the National Longitudinal Survey of Youth, suggest that former drug dealers might be less risk-averse than the average individual. He found that former drug dealers are 11 - 21 percent more likely to subsequently choose legitimate self-employment than non-drug dealers, all else equal,

which might be interpreted as supportive of Kihlstrom and Laffont's (1979) hypothesis. In literature however, some studies have found insignificant differences in response between entrepreneurs and non-entrepreneurs (Tucker, 1988, Lindh and Ohlsson, 1996) with Lindh and Ohlsson (1996) based on Scandinavian data reporting that self-employed people are less likely to participate in lotteries than employees which they interpret as opposing the hypothesis raised by Kihlstrom and Laffont (1979).

Since there are various ways of measuring risk attitudes, with the most common method being conducting questionnaires and asking people how they would choose between risky hypothetical situations. The paper by Fairlie (2002) adopted this approach by conducting interview questions based on drug dealing. By measuring risk attitudes using questionnaires it is likely that inherent biases may result. Firstly, it may be difficult to distinguish between genuine risk attitudes reported by the respondents and other characteristics such as optimism. Thus researchers could misread adventurous actions based on over-optimistic expectations of outcomes as evidence of greater risk tolerance. Secondly, because of the time difference between the time the possible entrepreneur takes the decision to be self-employed and the actual time the questions are administered it seems that sample bias may result – since only those entrepreneurs that succeeded 'live' to tell the story.

So does 'risk-aversion' among entrepreneurs raise any market failures? Reynolds et al (2000) highlights that market failure may result where individuals who are less risk-averse refrain from choosing entrepreneurship; even when the cost of starting a business is low. This may be due to the fear and stigma attached to business failure. In this case, the perceived cost of business failure can act as a disincentive for individuals - resulting in lower levels of the supply of individuals who might have otherwise became entrepreneurs.

Entrepreneurial Ability and Individual Wealth

Entrepreneurial ability was another factor emerging from the core studies along with individual wealth which is said to affect entrepreneurial activity. The conceptual model by Kihlstrom and Laffont (1978) assume that people have homogenous entrepreneurial ability. However, in reality this assumption may not hold. People have different levels of education. Education may lead to different levels of ability in terms of opportunity recognition. If at an individual level identifying business opportunities is largely driven by pattern recognition, more education individuals may be better at reading the market conditions, identifying business opportunities. In addition, it is likely that people's access to finance will be different as well - a practical example which illustrates this point is the role of collateral asked for by banks when individuals apply for loans to fund their businesses. Thus a model by Evans and Jovanovic adopt Kihlstrom and Laffont (1979) to illustrate that people have different abilities especially when trying to access debt finance.

Evans and Jovanovic (1989) adopt Kihlstrom and Laffont's equilibrium model as a means to ascertain whether individual wealth affects the number of people who choose to become entrepreneurs. They investigate the relationship between the choice of partaking into entrepreneurship and personal wealth. Evans and Jovanovic state that in an environment where there are no financial constraints and the opportunity costs of entrepreneurship participation is low, the most able individuals with good business ideas, ability to execute the ideas and enough individual wealth (or collateral) to fund the ideas are most likely to choose self employment.

Their model assumes that entrepreneurs can borrow an amount up to a multiple of their initial assets and they predict that if a sample of people with given entrepreneurial abilities are randomly drawn from the population the probability that they are entrepreneurs is a function of their initial assets. Thus, Evans and Jovanovic's model, based on US data, predicts that there is a positive relationship between the probability of being an entrepreneur and an individual's assets- prior to becoming an entrepreneur.

Empirically, Evans and Jovanovic estimate a probit model of choosing entry into self employment based on the following independent variables: initial assets, wage experience, education as well as various personal characteristics .They found a positive, significant correlation between self-employment and assets, which they interpret as an indication that a market failure may exist where individual wealth impedes entrepreneurial activity. They show empirically that high ability entrepreneurs will almost by definition be the most likely to be constrained since they typically have big business ideas which require larger amount of start-up funds (unless if they come from wealthy background).

As highlighted previously, from a methodology perspective, survey responses aught to be treated with caution, for example Blanchflower and Oswald (1998) state that half of employee survey respondents claiming to have seriously considered becoming self-employed in the past blamed insufficient capital as the reason for not making the switch. Evans and Jovanovic pioneer a probit/logic approach with the aim of eradicating the subjective belief inherent in the survey responses – which has been seen a major contribution to the field of entrepreneurship.

Following Evans and Jovanovic's work a research stream has emerged that raise questions on the direction of causality in Evans and Jovanovic's results and point out that a market failure may not necessarily exist. Individual wealth may not necessarily impede entrepreneurial activity (Blanchflower and Oswald, 1998; Lindh and Ohisson 1996; Holtz- Eakin et al, 1994). Individuals who aim to enter into entrepreneurship can accumulate start-up funds while in wage employment, which can be utilized to start their business. Thus, personal wealth variables may be of limited value in empirical investigations of the relationship between assets and entrepreneurship due to endogeneity problems.

Blanchflower and Oswald (1998) based on UK data, set to correct this problem by adopting inheritance as an exogenous explanatory variable that determines whether availability of finance inhibits entrepreneurial activity. Their approach is such that

logically it is clear that there is only one direction of causality. Blanchflower and Oswald found that a an individual in Briton who received £5,000 in 1981 prices was twice as likely to be self-employed in 1981 as compared to a person who did not receive any money. Thus financial constraints are still binding. They conclude that market failure holds; availability of finance may inhibit individuals from starting businesses. The conclusions of various studies based on regional data for various countries and years show similar findings: Holtz- Eakin et al (1994) based on US data adopt inheritance as an explanatory variable and concur that liquidity constraints are binding. Similarly, Lindh and Ohisson (1996), based on Swedish data, adopt windfall gains such winning the lottery as the independent variable and reach similar conclusions.

The studies above have collectively used cross-sectional or longitudinal data to estimate a probit self-employment equation, including some measure of individuals' assets such as inheritance and lottery winnings (windfall gains) as explanatory variables. Others have used time-series data to estimate the effects of aggregate wealth on the average self-employment rate. Many of these studies have detected significant positive effects of personal wealth on self-employment propensities and rates while a handful have detected insignificant effects (such as Taylor, 2001). Taken at face value, these results appear to support policy makers and governments' claims about the importance of adopting public policies which aim to address the raised market failure since financial constraints may have adverse effects on the level of entrepreneurial activity in an economy.

Human Capital

Following from above, the work of Evans and Jovanovic encouraged researchers to explore its robustness. From the core articles, the model by Cressy (1996) explores the robustness of Evans and Jovanovic's model.

As a starting point, Cressy disagrees with Evans and Jovanovic's model. He argues that Evans and Jovanovic's model could also be explained by introducing other explanatory

variables, such as human capital (education and experience). Cressy raises the theory that more educated individual with good business ideas and with previous experience is more likely than not to receive funding for their business idea. This may be partly due to imperfections in the capital market whereby lenders and investors cannot accurately judge the ability of entrepreneurs; as a result many use level of education qualifications as 'signal' of the individual's ability.

Cressy (1996) adopts the probit method and in his evidence points out that when explanatory variables human capital and individual wealth are both correlated with self employment, individual wealth was insignificant. He argues that if there is evidence of financial constraints this may be an indication that the entrepreneur is infact of lower entrepreneurial ability. This finding is in direct contradiction with the model produced by Evans and Jovanovic, which found that in fact it is the high ability entrepreneurs who tend to be constrained.

It has been over ten years since Cressy's work; however, we were not able to find work replicating his findings. Instead more and more scholars continue to confirm the finding that financial constraints continue to exist and they affect entrepreneurial activity. Burke et al (2000) found that even after controlling for human capital, liquidity constraints persist – the market failure still holds.

Age, gender and Ethnicity

Age, gender and ethnicity are factors which emerged from the core articles that seem to influence entrepreneurial activity. From the core papers the empirical study by Blanchflower and Oswald (1998) and Greene (2005) point that factors such an individual's age and gender may have adverse effects on entrepreneurial activity; while Blanchflower and Wallright (2005) in their empirical analysis of US data find that due to discrimination in the credit market, the ethnic minority group is less likely to start businesses. In the same spirit Irvin and Scott (2008) based on UK data from Barclays bank report that ethnic minority businesses, particularly black owner-managers, had the

greatest problem raising finance and hence relied upon 'bootstrapping' as a financing strategy. In sum, a market failure may arise where marginalised groups are unable to start businesses based on their demographics even though they may display high entrepreneurial ability.

Unemployment

Foreman-Peck (1985) highlights unemployment as a condition which may affect entrepreneurial performance. Following the theory of entrepreneurial choice, individuals may choose self employment in preference to unemployment. This suggests that increased unemployment will lead to an increase in number of individuals starting businesses on the grounds that the opportunity cost of starting a business has decreased. However, Reynolds et al (1999) show that the unemployed tend to possess lower levels of education and entrepreneurial capabilities. They suggest that in terms of economic performance, their businesses are most likely to fail. Substantive evidence in literature has confirmed that in terms of performance, business created by individuals "pushed" into entrepreneurship are likely to represent low quality firms (Parker, 2005; Reynolds et al, 1999; OECD, 1997).

In sum, the analysis above demonstrates that entrepreneurs are not homogenous. Their performance will vary depending on the individual's endowments in some of the factors cited above. Thus advocating for a policy that simply increases the supply of entrepreneurs might be challenged at best.

Entrepreneurship and Opportunities

Real wage and the size of the public sector emerged as an interesting theme from the core studies. Again following from Kihlstrom and Laffont (1979) theoretical model, individuals choose between wage work and starting their own business based on maximizing their earnings. The wage rate clears the market and if an economy has a less active government sector this would drive wage rates down resulting in the opportunity costs of starting a business being low. Thus if an economy is characterized by a large

governments sector which offers employment, according to this model, risk-averse individuals choose to remain in wage employment while less risk adverse individuals choose to start a business and earn risky profits.

Changing industrial structure

The papers by Burke et al 2000; Thurik, Wennekers and Uhler (2002); Burke and Shabbir (2009) and Audretsch and Thurik (2001), show results that lead to the conclusion that entrepreneurial activity will be affected by the level or number of business opportunities in an economy. Thus, themes which emerge from these studies that influence entrepreneurial activity include: the nature of the opportunities to be exploited by firms, the equilibrium number of firms in an industry or economy as well as the nature of competition in an industry or economy.

Theoretically, in terms of the nature of the opportunities, there are two popular schools of thought found in the literature. One view adopts an objectivist reality approach, where researchers assume that opportunities exist independently, irrespective of the firm or individual (Shane and Venkataraman, 2000); hence they can be identified and exploited. Put differently, there is an immediate, previously established market or industry that exists from which firms can identify potential business opportunities and profit can be generated by optimizing within this previously established market or industry (Eckhardt and Shane, 2002). These opportunities are usually signalled, for example, when a market or an industry exhibits extra-profits.

The other school of thought shares the view that opportunities have to be created, for example where markets do not exist. In particular, the Austrian Economics' work of Schumpeter (1921) and Kirzner (1973) has been influential in aiding understanding of the opportunity creation process (Shane, 2000). Kirzner's view suggests that 'alert' individuals come upon new market opportunities, discovering that they could fill market gaps. Schumpeter (1934) shared the view that opportunities are introduced to the market through innovation. A clear distinction between Kirzner's view and Schumpeter's

view is that innovation may require a level of 'creativity' in order for an individual to see the opportunity, implying that high levels of creativity may lead to innovation of new products which create new markets.

Empirically, Thurik, Wennekers and Uhler (2002) suggest that entrepreneurial activity is influenced by the level of competition in an industry or sector resulting from increased new businesses entering into an industry. They state that provided that there are no barriers to entry or exit, efficient firms will survive, while inefficient firms tend to exit the industry. Audretsch and Thurik (2001) in their empirical work, introduce the concept of 'optimal industry structure'.   They develop an error-correction model to determine the "equilibrium" rate of business ownership as a function of GDP per capita. Through their analysis, they find that an industry may have too many business ventures which may results in limited or no profit opportunities for new entrants. They illustrate this point through using a method of deviation, where divergence above or below the optimal industry structure could have adverse effects on the overall performance of the economy.

Many forces may cause the actual number of firms to differ from the long term "equilibrium rate", such as the regulation of entry into an industry - for example Biotechnology and pharmaceutical industries (Hart, 1999). The discrepancy is usually restored by market forces where new firms enter the market to exploit high abnormal gains. However, Verheul et al (2002) highlight that a market failure may exist where market forces are not able to balance this out – where government intervention may be required. The assumption that there is an infinite number of entrepreneurs waiting to erode profits

The concept of effectively identifying the number of sustainable firms in an industry is also expressed by Burke and Shabbir (2009). Using US data (1998 – 2003), they examine the entry of new firms in a market through a disequilibrium framework, particularly examining the performance of business which enter the market when the industry is saturated (overshoot) or when industry concentration is low (undershoot).They find that

when a new firm enters a market when the industry concentration in high, this seems to have a negative effect on firm performance since there is high competition in the market which may possibly result in early exit for the new entrant. More interestingly, Burke and Shabbir find evidence consistent with a pattern where new firms and, to large extent, policy makers appears to be poor judges of market opportunities. They seem to base their judgment of profit opportunities available in an economy or industry on the level of business entering the market – without first ascertaining whether profit opportunities exist. Burke and Shabbir show that this tends to have adverse effects on entrepreneurial performance, especially since most of the firms will exit, losing a lot of money in the process.

Theoretically Burke and Shabbir show that in the long term an equilibrium number of firms result in an economy, however, since their study was based on 5 year period, this variable was not tested empirically (for long term effects). This would be interesting since if policy makers want to encourage more people to start businesses, it would be worth to ascertain industries where the market is saturated; avoiding a mismatch between opportunities available and the balance between entrepreneurs willing to exploit the opportunities.

Burke and van Stel (2009) based on the Dutch retail industry (1980-2001) model the interrelationship between firm entry and exit rates in disequilibrium and the effects of firm entry and exit on incumbent firms. They raise the question of whether policy initiatives aimed at increasing the supply of entrepreneurs should vary in intensity. They illustrate that firms which enter the market when there are limited or no profit opportunities will either displace incumbent firms or they will simply exit the market (Burke and van Stel, 2009).

Subsequently, other factors which may affect entrepreneurial activity include the behavior of incumbent firms, especially in markets with rapid adjustment and abnormal profits are quickly eroded. In addition, some of the supply side factors highlighted above

which affect the supply of entrepreneurs can equally affect the demand for entrepreneurship as well, for example, Thakur (1999) conducted an empirical study which found that an entrepreneur's access to resources such as finance, infrastructure, and marketing distribution channels shaped the range of opportunities available. In addition, Verheul et al (2001) state that more rigid labour market policies, complex employment legislation and administrative burden have an adverse effect on entrepreneurial activity. These pose actual barriers by influencing a person's decision about whether to start and grow a business (Verheul et al., 2001).

In sum market failures raised from the core studies aimed at addressing the first review question are shown in Table 14 below.

Factors	Relationship to entrepreneurial activity	Market failure raised	Research evidence
Access to finance	The inability to access finance is a barrier to firm formation or firm growth	Asymmetry of information Financial Gap, where potential high ability entrepreneurs are constrained	Evans and Jovanovic (1989), Blanchflower and Oswald (1998), Lindh and Ohisson (1996)
Formal education	Education can play a key role in fostering quality Entrepreneurship; Higher levels of education correlate with lower levels of entrepreneurial quantity but it also correlates higher with entrepreneurial quality	Asymmetry of information applies here – education can be used to signal entrepreneurial ability. Foster social outcome – educated entrepreneurs are said to be of better quality – they create more jobs.	Blanchflower and Oswald (1998), Evans and Leighton (1989), Evans and Jovanovic (1989), Cressy (1996), Naude (2008) Burke et al (2000);
Age and Gender, ethnicity and size or sector	Demographics of a population	Foster social outcome - Level playing field where young people and females may be facing constraints	Jovanovic (1982), Burke et al (2000);Blanchflower and Oswald (1998), Evans and Leighton (1989) Greene (2005)
Labor Market experience	Experience in the same field of the start-up increases the ability to identify and exploit opportunities based on information gained through experience of working in the field	Asymmetry of information – experienced entrepreneurs are perceived to be superior in using information to identify profit opportunities	Storey (1994); Parker (2004); Cressy (1996)
Risk Aversion	Stigma attached to failure may inhibit individuals from entering entrepreneurship	Externalities	Kihlstrom and Laffont (1979)

Factors	Relationship to entrepreneurial activity	Market failure raised	Research evidence
Profit opportunities and Opportunities for market entry (exit) and Industry structure	Monopolies may result – where only a small number of businesses dominate the market. This means entrepreneurs may be prohibited from participating.	Information asymmetry – all three forms can apply here. Monopolies can result. And externalities may also apply here, e.g. Fostering innovative entrepreneurship where it may be unprofitable for the business but yield positive effects for society as a whole.	Burke and Shabbir (2009), Audretsch and Thurik (2001), Burke and van Stel (2009), Career et al (2002)
Unemployment	Individuals may be 'pushed' into entrepreneurship, increasing the total entrepreneurial activity	Information asymmetry, all three forms. This group may face financial constraints, some may not have enough funds to solicit private consultants for advise etc Externalities – governments may issue grants for unemployed to start firms	Parker (2004)
Real wage in the market as well as the size of the public sector to provide employment	An oversized public sector distorts or inhibits the creation of new firms - if there are jobs in abundance in the public sector this may presumably have an impact on the supply of entrepreneurs	Externalities - inflexible labor market may retard entrepreneurship.	Kihlstrom and Laffont (1979)

Factors	Relationship to entrepreneurial activity	Market failure raised	Research evidence
Public sector	Start-up process, how to register the business. Availability of government tenders – which may be skewed towards those that have 'insider' information. Public sector policies such as black economic empowerment, e.g Malaysia, South Africa, US. Destructive or even unproductive entrepreneurship, resulting from corrupt government officials.	Information asymmetry - in the forms of Information, especially start-ups who do not know where to gain information and do not realise the private benefits of getting expert advise. Externalities may also apply here – where governments try to minimize the effects of unproductive and even destructive entrepreneurship	Blanchflower and Wainwright (2005); Baumol (1990),
Flexible labor markets and moderate non-wage labor costs	Flexible labor laws facilitate the flow into and out of self-employment. Stringent labor laws make it difficult for new firms to hire employees; high nonwage labor costs prohibit resource-poor start-ups from hiring and stunt their Growth.	Externalities - Poor labor regulation. It may be difficult to hire or fire employees due to inflexible regulations as a result entrepreneurs may forgo job creation	Reynolds et al. (2000). OECD (1997) Acs et al (2008)
Well-functioning, decentralized market economy	Open markets offer potential for new business entries	Imperfect property rights, and poor regulation	Davidsson and Henrekson, (2000)

Table 14 : Factors and market failures identified

4.3.2 Themes emerging from core papers concerned with: '*identifying whether there is policy addressing the market failure'*

A large number of factors which affect entrepreneurial activity have been identified above as well as resulting market failures. The eclectic framework put forward by Verheul et al. (2001) provides a prescription on how policy makers and governments could address potential market failures. The foundation of the framework lies within the labor market literature; emphasizing that its ultimate focus in on the individual entrepreneur, since it is the individuals who make a choice whether or not to engage in entrepreneurial activities. However, they put forward an integrated framework that encompasses factors affecting entrepreneurial performance at a firm level as well as factors affecting entrepreneurial performance at the aggregate level; adopting a 'big picture' and coherent approach.

The framework deliberately distinguishes between factors shaping the supply of entrepreneurship and factors influencing the demand for entrepreneurship. This approach highlights the different sets of policy interventions available to policy markers and governments depending on the perspective taken. The framework set down five types of policy interventions that could have an impact on entrepreneurial performance. In an attempt to summarise the broad approach of policy instruments now taken to promote entrepreneurial activity, Verheul et al (2001) state that there are five broad types of policy instruments used by governments to promote entrepreneurial activity. Through these instruments governments are able to affect: -

- ✓ The type, number and accessibility of business opportunities (through entry barriers or deregulation, grants and access to foreign markets)
- ✓ The supply of potential entrepreneurs (for example through in-migration policy)
- ✓ the availability of resources and knowledge for potential entrepreneurs (through advice and counseling services, direct financial support, and entrepreneurship education);
- ✓ The shape of entrepreneurial values in society (through the education system and the media);

✓ The risk-reward profile of entrepreneurship directed at the decision-making process of individuals and their occupational choices (through bankruptcy policy taxation, labor market legislation and bankruptcy policy).

The most complete list of policy instruments that may influence entrepreneurial activity is offered in the work of Stevenson and Lundström (2001, 2005; see also OECD 1998; Lundström and Stevenson, 2002). Stevenson and Lundström (2001), through an empirical study based on ten countries (US, UK, Ireland, Australia, Canada, Netherlands, Finland, Taiwan Spain and Sweden) put forward a collective categorization of policy and create a framework for entrepreneurship policy measures. Table 15 below provides evidence of some of how the market failure raised above could be addressed.

Factors	Market failure raised	Policy addressing market failure	Research evidence
Access to capital needed to start or grow new firm	Information asymmetry - Funding Gap,	Start-up financing: loan and seed capital for new business; Reduction of the asymmetry of information through education programs, financing databases and matchmaking services	Storey (1999); Reynolds et al (2000); Stevenson and Lundstrom (2001, 2005);
Education	Information asymmetry where education signal ability. Foster social outcome.	Provides of opportunities to learn entrepreneurial skills and gain experience; Role Models and media campaigns	Greene(2005); Storey,(1999); Stevenson and Lundstrom (2005)
Labor market experience	Asymmetry of information – experienced entrepreneurs are perceived to be superior in using information to identify profit opportunities	Information centres, education centres, government consulting agencies; Flexible immigration policies; Foreign direct investment	Storey (2003), OECD (1997) Acs et al (2008)
Age and gender and size or sector, ethnic minority	Foster social outcome - Level playing field where young people, ethnic minority and females may be facing constraints	Grants targeted at special groups; target group-specific centres, advisory, training and mentoring services	Greene (2002), Verheul et al (2001); Stevenson and Lundstrom (2001,2005)
Risk aversion	Externalities –	Bankruptcy laws etc and education policy can play a role in increasing awareness	Verheul et al (2001)
Size of the public sector	Externalities - inflexible labor market may retard entrepreneurship.	Privatization policy; Competition policy Privatize government-owned enterprise; reduce unfair competition between the public and private Sectors	OECD (2005)

Factors	Market failure raised	Policy addressing market failure	Research evidence
Public sector procurement	Information asymmetry - start-ups who do not know where to gain information and do not realise the private benefits of getting expert advise Externalities may also apply here – where governments try to minimise the effects of unproductive and even destructive entrepreneurship	Procment regulation; Access to information through advisory services;	Stevenson and Lundstrom (2005)
Profit opportunities, ease of market entry (exit) and Industry structure	Information asymmetry – all three forms can apply here. Monopolies can result. And externalities may also apply here, e.g. Fostering innovative entrepreneurship where it may be unprofitable for the business but yield positive effects for society as a whole.	Competition policies may be introduced, through government intervention, in some of the industries where monopolies dominate Entry barrier/deregulation Grants to attract SMEs in a sector/industry Access to foreign markets Technology transfer	Verheul et al (2001) Carree et al (2000), OECD(2005,2007) Stevenson and Lundstrom (2001, 2005)
Well-functioning, decentralized market economy	Externalities - Imperfect property rights, and poor regulation	Deregulation of industry sectors; privatization of government enterprises; review of Competition Policy.	OECD, (2005) Davidsson and Henrekson, (2000)
Flexible labor markets and moderate non-wage labor costs	Externalities - Poor labor regulation. It may be difficult to hire or fire employees due to inflexible regulations as a result entrepreneurs may forgo job creation	Labor and Market regulations- employee contracting requirements; Reduction of non-wage labor costs; Immigration policies etc	Reynolds et al. (2000). OECD (1997) Acs et al (2008)

Table 15: Policy Instruments aimed at addressing the market failure

A recent stream of research is starting to emerge presenting policy instruments to address some of the market failures raised above. Much of it is still limited to examining the influence of isolated policy effects (Stevenson and Lundström, 2002). A framework by Stevenson and Lundstrom seem to form the basis of how these policy instruments are combined in a more coherent approach to address the market failures. This framework was developed based on countries characterized by different GDP per capita; so as to ensue application in a much wider context. The typology is shown in Figure 3 below while Table 16 compares and contrasts the different approaches that can be adopted when developing entrepreneurship policies. The typologies will be largely based on the fact that individual governments emphasize some areas more than others in their policy mix. Their choice reflects the nature of economic or social problems they seek to address as well as the level of development of their country.
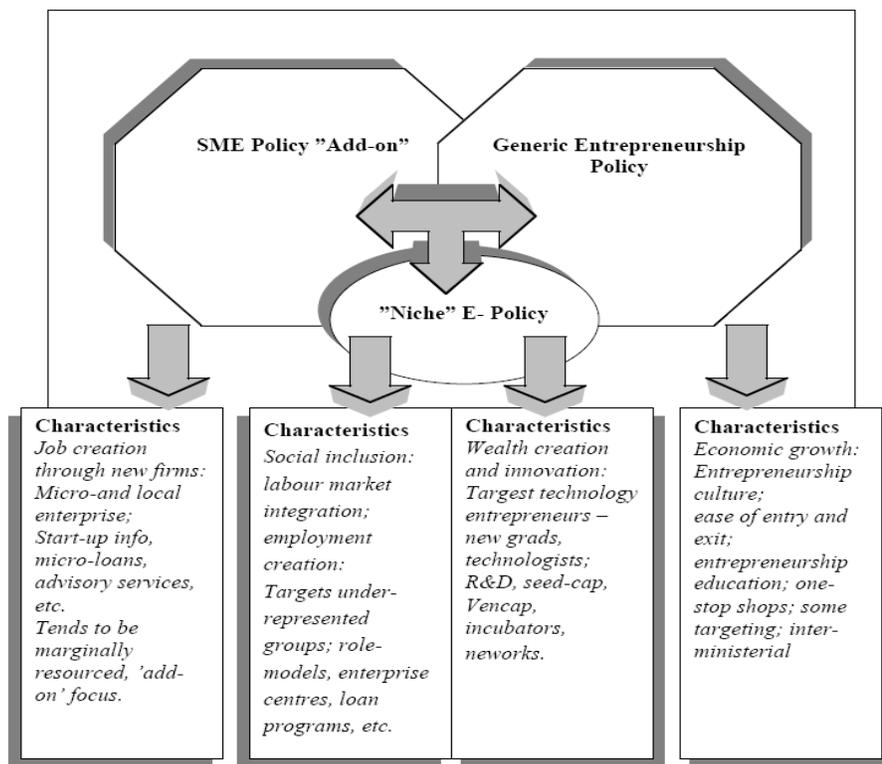

Figure 3: Policy Typologies

Source: Stevens and Lundström (2001)

Features	E-extension policies	New firm creation policies	'Niche' target group policies	'Holistic' E-policy
Objectives	Improve access to start-up supports through existing SME support structures; better service to starters.	Reduce barriers to business entry and exit; simplify start-up procedures and requirements; increase the start-up rate.	Increase the start-up rate among groups underrepresented as business owners or potential starters of innovative firms.	Strengthen entrepreneurial culture, enhance entrepreneurship as a career option, create dynamic start-up markets/better growth conditions.
Policy rationale	Market failures; information Asymmetries.	Government failures; market Failures.	Systemic failures; social equity; Market failures.	Government failures; education Failures; market failures; information asymmetries.
Policy areas	Business information; advisory, planning and training services; regional and community economic development programmes.	Competition; bankruptcy; company law; business registration procedures; social security regulations; employment rules and taxation.	Immigration policies; business support policies; financing; incubation; innovation policies; gender policies.	Entrepreneurship awareness; entrepreneurship in national education curricula; start-up support, information, financing; infrastructure; regional policy.
Measures	Micro-loans; business advisory services; web portals; self-employment training programmes; local services.	Flexible labor markets; open competition; less stringent bankruptcy laws; fewer business registration steps, lower cost, faster approvals; simplified incorporation processes; one-stop shops; reduced tax burden.	Tailored supports for each identified target group – enterprise centres; promotion and awards programmes; start-up loan funds; web portals; networks and mentoring programmes; incubation units; role-models.	Promotion and awards programmes; role-models; entrepreneurship in the schools; one-stop shops; enterprise centres; incubators; mentoring and peer networking programmes; start-up advice and web portals; seed capital and micro-loans.
Most likely policy structure	Vertical; limited interaction with ministries of education or regulatory departments.	More horizontal; many government departments implicated.	Vertical; limited interaction with ministries of education or regulatory departments; could be links with S&T ministry.	Horizontal, interministerial structure. Recognize that many areas of government impact on business start-up and growth.
Limitations	Start-up initiatives are 'added-on' to existing local SME support structures on a piecemeal basis; limited focus on entrepreneurship in the education system; and removing barriers to entry.	Primary focus on changes to the 'business environment'; simplifying the business start-up phase; less emphasis on longer term strategy of promoting enterprise culture and integrating Entrepreneurship in schools.	Focus on target groups may lead to overlooking the growth potential of non-targeted groups or low-tech sectors; may have limited focus on regulatory changes or fail to address overall weaknesses in the Culture for entrepreneurship.	Difficulty in managing policy interdependencies across departments and levels of Government.

Table 16: Adopted from Stevenson and Lundstrom (2002:60)

4.3.3 Themes emerging from core papers concerned with: '*identifying impact of policy*'

Several specific forms of government intervention designed to promote entrepreneurial activity are discussed above. In principle, these interventions are adopted so as to address perceived market failures. Despite the enormous proliferation of support for entrepreneurial activity, evaluating its effectiveness remains poor (Curran and Storey, 2002).The aim of this section is to review the evidence on the impact of these policies; to what extent has more entrepreneurial activity in an economy attributed to public policy instruments identified above? Storey (2000) defines impact of policy to be "the difference between what actually happened and what would have happened in the absence of the policy".

The papers by Curran (2000), OECD (2004) and Storey (2000) address the question of the impact of the policy instruments. In terms of themes observed from these papers, it was apparent that impact of policies can be limited to examining the influence of isolated policy effects which we assigned the label 'Impact of individual policy' – where impact of the individual programme is assessed. Alternatively, the impact of policy intervention can be assessed from a more coherent approach, where the impact of the sum of the adopted programmes is assessed.

From the paper by Stevenson and Lundström (2005) a second theme emerged where it became apparent that we can examine a range of public policies that impact directly on entrepreneurship. These are usually at a Micro level, for example direct financial payments in the form of subsidies aimed to encourage investment in human or physical capital. We can examine a range of public policies at the Macro level that impact indirectly on entrepreneurial activity (OECD, 2004), for example macro policies aimed to create a stable economic environment, with low inflation, interest rates and unemployment.

It is important to note that this section does not seek to present a comprehensive review of the impact of each policy instrument identified in table 16 above; instead we examine the approaches adopted to evaluate the impact of enterprise policy.

Approaches adopted to evaluate Impact of Policy

The paper by Storey (2000) captures insight about the impact of policy by describing a "Six Step" framework that articulates the methodology which can be adopted when evaluating the impact of policy. As stated by the Storey's framework, the most common form of evaluating impact of policy is quantitatively estimating the take up of the program being evaluated. This may include measures assessing size of firm, regional distribution of firms. Another common approach is to gather data on recipients' opinions on how useful or satisfying the found the program. Non-participants' views may also be collected. Both these approaches although useful to gather participants opinions about initiatives, they both tell us very little about the impact of the policy. Thus, Storey defines the third form of evaluating policy by asking recipients to provide quantitative estimates on what they think the impact of the programme was.

There are fundamental problems with the third approach however, since it is difficult to know whether respondents are answering accurately. Firstly, respondents will not be experts in evaluating policy impact hence they may not be able to disentangle the effects of other factors from that of the policy. Second, respondents may give answers they think the interviewer wants to hear, while others may be reluctant to admit that benefits were due to the implementation of the program and instead attribute the changes or impact to their own business management ability. Lastly, asking people what they think may result in a lot of answers at best being guessed and inaccurate.

The fourth, fifth and six approach of evaluating policy according to Storey's framework are more rigorous. With its fundamental approach adopted from the work of Heckman et al. (1997), these approaches takes the difference of cross-sectional matching estimates constructed before and after participation in a program. The aim is to ascertain what would have happened if the policy was not introduced. The fourth

approach compares assisted firms with typical firms. But quickly faces challenges of ensuring that samples are comparable for evaluation purposes as well as defining what is meant by a typical firm. Entrepreneurial firms are heterogeneous, for example they differ by size, by skills of the owner, by sector, by demographic information such as age, gender etc. Approach five attempts to solve this problem by defining that the firms that participated in the programme be matched with identical firms who did not participate in the program. This may include the demographics as defined above as well as firm age, size etc. However, Storey (2000) highlights that there may be pitfalls in "unobservable" differences which may otherwise be missed thus rendering the firm non identical.

The six and final approach adopts statistical techniques to try and address the selection bias described above, since even with very careful matching, it is very difficult to detect self-selection and its impact (if any) on outcomes. The most common statistical technique adopted to estimate self selection effects originates form the work of Heckman (1979). Consequently, the sixth approach is seen as the most sophisticated and most difficult to conduct – hence only a handful of studies have managed to adopt this approach. Curran and Storey (2002) highlight that when self selection issues are not addressed, the impact of the policy may be overstated. Table 18 below shows a few studies which have adopted the evaluation approaches described above.

Methodology adopted

The traditional approach to evaluation of policy has been quantitative in nature based on econometric evaluation of programs (Curran and Storey, 2002). The quantitative approach seems attractive to policy makers as they view this method to be more rigorous than the main alternative qualitative approaches. Since quantitative studies tend to be based on large, statistically representative samples, they only deal in aggregates; hence they suggest statements about populations of firms rather than about individual firms. Individual firms in the population may or may not reflect the statistical associations found to hold across the population.

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The two most common qualitative methods of evaluating impact of policy are based on face-to-face interviews and case study. The interviews much as the first three approaches described in the precious section; although how the data analysis is carried out may be different. The case study reviews a single case in great depth, usually over an extended period of time. Thus the advantage of qualitative methods is that one can focus on individual firms to find out the impact of the policy, which is fitting in the case of evaluation enterprise policy since small medium enterprises are heterogeneous in nature.

One of the key threads articulated that emerged in the studies by Curran, 2000; OECD, 2004; Storey, 2000 is that it remains relevant to state that evaluating impact of policy remains a difficult task. This may be attributed to the fact that the outcome measures of the policy are not always identified (Storey, 1998; Curran, 2000; OECD, 2004; Storey, 2000). Further, the timeline of evaluating impact may also be a challenge since other policies may have immediate impact while others may have their impact possibly sometime in the future for example the impact of education policies.

Study	Country & Time period	Policy Evaluated	Objective of the policy	Policy Approach	Method	Key Findings
Stephen R and Hewitt-Dundas, N (2001)	Ireland: 1991 -1994	Financial assistance by support grant	Enhance the performance of SMEs in Northern Ireland and the Republic of Ireland	Approach Six – the study takes into account selection and	Quantitative	Grant support for SMEs in both Northern Ireland and the Republic of Ireland has a positive effect on growth of employment
Wren and Storey (2002)	UK -1988 - 1994	Government support	Enhance firm survival of SMEs by offering support	Approach Six – the study addresses self selection problems based on statistical techniques	Quantitative	When no account is taken of self-selection, survival rates among firms helped appear better than those not helped. When self selection was addressed, not taking account of self-selection in led to the effectiveness of the policy being overestimated by a factor of three
Westhead et al., (2001)	UK: 1994 – 1997	Graduates in SMEs	Raise awareness of the possibility of working in, or starting a SME after graduation	Approach Five. - Study matches students in STEP program with other similar students who did not participate in the STEP program	Quantitative	Upon graduation students were less likely than the control group to get a job in an SME, but more likely to enter quickly into employment.
J.H. Surder, D. Ghosh and P. Rosa	India: 1993	Advice assistance	Enhance the performance of SMEs by the provision of business support services.	Approach Five - Authors flag random selection problems by recognizing that their results may reflect non-random selection process by support agencies	Quantitative	Significantly better performance is shown by SMEs receiving support services.
Maton, K (1999)	UK: 1994 – 1998	SME training loans	Small Firm Training Loans are offered to small firms (less than 50 employees) to invest in training	Approach Two – the study was based on telephone interviews. No control group was included. The opinion of the participants was scored on a scale of 1 - 5	Qualitative	In terms of client satisfaction the scheme scores very highly, with 81% of businesses saying it works well, as a way of funding training for small firms.

Table 17: Identifying impact of public policy

4.4 Summary to Chapter Four

Chapter Four describes the review findings. First, the descriptive analysis was undertaken and key themes emergent from this analysis show that majority of the papers do not necessarily aim to identify market failure; instead they investigate factors that may influence the supply of and demand for entrepreneurship. There are, however, some studies that explicitly identify market failure that result. We found that there was a spread between theoretical and empirical studies; with the majority of the papers being empirical in nature. In addition, it also transpired that majority of the papers were from developed economies. What was also interesting is that the majority of the studies were from 3* and 4* journals – although this was not explicitly defined in the inclusion/exclusion criteria, interpreted this as a validation of our quality process.

From the thematic analysis, key emergent themes from the factors that may inhibit entrepreneurial activity levels include access to finance and liquidity constraints; entrepreneurial capabilities as well as individual risk aversion. At the firm or industry level, access to opportunities proved to be the most dominant theme in the found studies largely concerned with identifying the optimum number of businesses in an industry. Subsequently, a list of policy instruments were identified that may be used to increase or decrease the level of entrepreneurial activity. In particular, a framework was presented articulating how the policy instruments can be coordinated to form a policy mix that aim to address identified market failure.

Lastly, within papers aimed at addressing the impact of the policy, the dominant theme that emerged was based on the approach followed. In particular, the rigor of the evaluation process was highlighted. Interestingly, it was found that majority of the papers adopted quantitative evaluations as compared to qualitative methods when conducting the evaluation.

Chapter Five

5.0 Discussion and research directions

5.1 Introduction

The objective of this chapter is to discuss the review findings, with the aim of answering the raised research questions in Chapter Two. The discussion will be arranged as follows: First the findings pertaining to market failure are discussed, with the aim of answering the first review question in Chapter Two. Then findings concerning policy instruments available to address the perceived market failure as well as the findings concerning the impact of the policy are discussed; with the aim of answering the second and third review questions respectively. Chapter Five end with a chapter summary.

5.2. Discussion

(i) ***"Do market failures exist in practice, which inhibit the supply of or demand for effective entrepreneurship, and cause more or less entrepreneurship than is socially desirable?"***

Our review of the theories and evidence about characteristics of entrepreneurs and their impact on the level of entrepreneurial activity in chapter four revealed that economists regard entrepreneurial ability and willingness to take risks as key factors when determining who becomes an entrepreneur.

Furthermore, since successful entrepreneurship is about recognising and exploiting business opportunities, from the reviewed papers we also recognize that people who choose to become entrepreneurs and are on average reasonably well educated will be relatively better suited at reading the market conditions (pattern recognition), identifying business opportunities. In addition, there is evidence from the papers reviewed that levels of education may also lead to different levels of capabilities - especially people's access to finance. Access to finance has been one of the highly cited

themes, where it is believed that financial constraints inhibit individuals from starting businesses – thus having adverse effects on the level of entrepreneurial activity in an economy. Lastly, we also acknowledged that age, gender and ethnicity may have adverse effect on the level of entrepreneurial activity. Those who choose to be entrepreneurs are on average older and predominantly male.

Methodology – Variables and the challenge of Proxy

Probit/Logit models to identify the empirical importance of the factors above have been conducted. Generally, these probit models are concerned with the question of what factors affect the decision to become self employed as opposed to remaining in wage work. The probit models regressed a binary variable z_i on a vector of explanatory variables W_i where (i) indexes an individual observation. Almost all the papers aiming to address the first question follow this format.

By adopting the Probit/logit regression approach these studies tend to be faced with two main challenges. The first challenge is that of omitted variables bias where other variables not included in the model, may also account for the results obtained. Second, the problem of unobservable variables may also account for some of the results. However, the introduction of fixed effects models among others has the ability to address these problems (Parker, 2000).

Starting with risk and risk aversion, since there are different ways of measuring risk, the result of whether market failure are mixed. Studies that base their method on interviews which 'ask people' tend to agree with the hypothesis that less risk adverse individuals choose self-employment (Reynolds et al, 2000; Fairlie, 2000). Another measurement of risk has also been adopted in literature. Based on panel data one could calculate the level of risk in an economy as the variance of individuals' previous incomes: an ex post measure of risk.

While based on time series data at the aggregate level several proxies for risk have been proposed, including the inflation rate and number of strikes which can affect the

business, etc. The time-series applications cited in Parker (1996) found that these measures of risk are significantly and substantially negatively related to the aggregate self-employment rate.

In sum, Reynolds et al, (2000) state that market failure may result where individuals who are less risk-averse refrain from choosing entrepreneurship even when the cost of starting a business is low. This may be due to the fear and stigma attached to business failure. In this case, the perceived cost of business failure can act as a disincentive for individuals - resulting in lower levels of the supply of individuals who might have otherwise became entrepreneurs.

In many cases, data limitations have forced researchers to use proxies in the place of variables suggested by the theory. In the study of risk and risk aversion by Fairlie (2000) they use drug dealing as a proxy for entrepreneurial characteristic which is problematic since not all individuals who are entrepreneurs sell drugs. This approach raises the issues associated with bad construct validity. Overall, on the balance of evidence, it is still unclear based on the studies in this review to confirm or conclude whether market failure exist that may affect the level of entrepreneurs based on individual's perception of risk or based on risk levels.

Similarly when examining whether market failure exist based on entrepreneurial ability and borrowing constraints it is not clear whether the result observe confirm market failure since in principle other explanations are possible. In terms of entrepreneurial ability, Lucas' model treats entrepreneurial ability as exogenous; however, one could also argue that this may be inappropriate as part of entrepreneurial ability is accumulated through leanings over time. But more interestingly, in terms of borrowing constraints, within literature it is not well established that there is actually shortage of debt finance for any new start-ups. Instead the perception of borrowing constraints among entrepreneurs might discourage them from applying for funds from banks and other lenders. Another plausible explanation is that individuals may prefer to self finance their start-ups, perhaps they regard the terms of debt finance to be

unreasonable. Thus, these individuals may opt to wait until they have accumulated (or inherited) enough wealth to enter into self employment without borrowing; even though the bank may have been willing to lend the required funds for every loan (Parker, 2000).

Furthermore, in the previous chapter we reviewed the evidence about borrowing constraints including studies that find a positive relationship between personal wealth, windfall gains and inheritance, and participation in self-employment. The studies reviewed were all based on debt finance – which reflects the emphasis in the literature. Yet majority of start-ups obtain finance from family members, and a small fraction of ventures obtain finance from venture capital (equity finance). In addition, other instruments of finance such as trade credit, franchising etc exist which may be able to cater for any shortfalls from debt finance.

Lastly, the issue of non observables may also apply here; where the observed results may be due to omitted variables; for example positive association between start-ups and wealth (or lottery winnings or inheritance) might simply reflect the effects of decreasing absolute risk aversion rather than borrowing constraints. Based on Kihlstrom and Laffont's model above, risk aversion an increase in the wealth of the marginal risk-averse individual makes them more willing to enter risky entrepreneurship, so increasing the aggregate rate of entrepreneurship (Cressy, 2000).

Most of the variables associated with demographics - age, gender, education and ethnicity were found to have mixed effects as a result we remain inconclusive to whether the evidence points to any market failure. However the view that: market failure may arise where marginalised groups are unable to start businesses based on their demographic composition even though they may display high entrepreneurial ability; continues to be raised in literature. Alternatively, lack of awareness may hinder some groups from transitioning into self-employment.

Looking at the demand side; in particular opportunities to be exploited by entrepreneurs, market failure may results due to ease of firm entry and exit, competition regulations, monopolies and asymmetry of information. Information asymmetry occurs when businesses possess different information with respect to resources, markets and opportunities. Businesses capitalizing on information asymmetries in the marketplace are most likely to engage in opportunity exploitation by leveraging informational advantages and complementary resources (Verheul et al, 2001). Although it is understood that asymmetry of information, may result in market failures - In the papers reviewed, none of the studies adopted an empirical approach with the view to prove existence of market failure. This may suggest that although Information asymmetry has been researched at great length with respect to the relationship between entrepreneurs and investors (in particular debt finance).Little empirical research, however, has explored the conditions under which information asymmetries lead to entrepreneurial opportunities.

(ii) Is there a policy that aims to address the identified market failure?

The previous section above discussed the rationale for government intervention. This section aims to provide a picture that emerged on government interventions.

Evidence from developed countries has shown that currently there is diversity of policy instruments in operation which seek to enhance the levels of entrepreneurial activity (for a comprehensive list see OECD 2007). Stevenson and Lundström (2005) provide a useful framework (which has been adopted by OECD countries) that groups the identified policy instruments.

Governments are faced with choices on which typology to adopt. Seemingly there are two key choices to be made (Storey,2003) – The first choice is over the emphasis placed on Entrepreneurship policy as opposed to SME policy. A second choice is whether to focus on lowering "barriers" or "offering support". Based on the choice adopted, Stevenson and Lundström illustrate that governments can adopt one or more of the following typologies (1) an 'add-on' or extension to SME policy; (2) a 'niche' target group

approach; (3) a 'new firm creation' approach; and (4) a 'holistic' entrepreneurship policy approach.

(iii) what, according to literature, is the impact of the policy?

The section above sheds light on the policy instruments that aim to address the market failure; however it says little about the effectiveness of those policies. As shown above there are Micro level policies particularly targeted at small businesses and Micro level policies which have impact on small businesses even though they are not directly targeted at them.

At the micro level, we found that generally tool exists that enables for the impact of policy to be evaluated. This is by no means a simple task since there may be numerous numbers of other influences that may affect the performance of a firm, other than that of programme participation. These include macro-economic conditions, the skill of the owner, the sector and location of the firm. In principle, only when these exogenous factors are fully accounted for can the impact of the programme be estimated.

The framework adopted by Storey (2003) articulates a "Six Step" approach that ranges in methodological sophistication which has contributed a great deal in the field of enterprise policy evaluation. This framework has been applied in the evaluation of individual policy interventions. Parker (2004) highlights that although examples of evaluating individual policy interventions exist; policies tend to work jointly rather than in isolation- which may explain the complexities that may be encountered when evaluating impact of policy initiatives. Nonetheless, from reviewed studies there were virtually no papers which attempted to evaluate the integrated "policy mix" or coherence of policies - especially to ascertain whether the policy adopted works in tandem or whether they oppose or even contradict each other.

Virtually no studies addressed whether prioritizing or sequencing policy interventions matters. Does it matter which policy intervention is addressed first? For example if both education and finance raise market failures – should governments educate individuals

first before providing access to finance? Or should they first provide access to finance, and then later educate them? Or should these policy interventions be implemented at the same time? Furthermore, although it is widely accepted that there is no "IDEAL POLICY MIX" since different environments are faced with different challenges etc, is it plausible though to articulate what an achievable policy mix would look like?

5.3 Future research directions

In the beginning of this paper, it was stated that it is perceived by governments and policy makers in the EU, US and elsewhere that economies might have unexploited entrepreneurial potential - thus they advocate for policies that aim to boost the level of entrepreneurial activity by encouraging more people to start business.

The argument put forward in this paper is that the decision to encourage the supply of entrepreneurs will be influenced by a number of factors. If there are not enough entrepreneurs in an economy, it would be worth to ascertain whether it is a supply problem, and what tends to 'block' the supply (finance, not the correct type, not enough skills, low quality).

It may be that there are individuals willing to start businesses; however there are not enough opportunities to be exploited in the market- yielding a demand problem. Further, Baumol (1990) raises that not all that is entrepreneurial is good, thus it may be that the market has too many of the 'wrong type' of opportunities such as corruption.

However, even after solving the demand problems and there is still not enough opportunities, literature above has shown that entrepreneurs could, through innovation, create a new market; resulting in new opportunities. Policy makers normally assume that if there are not enough entrepreneurs, increasing the supply of entrepreneurs will solve the problem.

Parker states that as governments and policy makers continue to look towards entrepreneurship as a vehicle to economic prosperity, they can improve matters by

being clearer about their objectives (2004). Instead of formulating entrepreneurship policies that aim to boost employment creation and growth; they should address only specific and demonstrable market failures.

Therefore, following on the analysis above, if an economy suspects that they might be underperforming based on their level of entrepreneurial activity, we advocate ascertaining what the issue is systematically:

➢ Firstly, it should be demonstrated (empirically) whether there are any market failures at play that cause more or less entrepreneurship than is socially desirable – this will ensure that policy makers can ascertain what the real challenges are.

➢ Secondly, policy makers should ascertain what policy interventions are best suited to address the identified market failures – what is the ideal policy mix within the specific evaluated context. In addition, it would also be useful to ascertain whether there is a sequence in which effective polices have to be implemented. *–The general framework will build on Stevenson and Lundström (2005)*

➢ Following from the previous point, Hoffman (2006) puts forward an argument of prioritizing the list or implementation of policies. Is it possible to identify the prioritization of these policies? Taking this one step further, it would also be interesting to find out which policy mix will represent cost effective interventions.

➢ Lastly, policy makers should evaluate the impact of the adopted policies – *The general framework will build on Storey's "six step" discussed above.*

 Our suggestion for future research therefore is that this kind of systematic approach could be useful to apply within the context of South Africa. According to the published ten year review policy document:

"South Africa needs a different approach because, despite ten years of policies designed to promote the small business sector, we still seriously underperform in this economic sector when compared with other developing countries "

In order to narrow down to a manageable scope – I am interested in paying attention to the public-private partnership context. The government is looking for different ways of promoting the small business sector, shifting the direction of enterprise support from government bureaucracy to public–private partnership. Currently it is very difficult to comment on the contribution that the private sector makes towards entrepreneurship. Within this context – look at the role of debt finance and ascertain whether entrepreneurs face financial constraints in participating within the public-private partnership. What is the role of other sources of finance? In particular trade credit (or trade finance). When trade finance is introduced as an alternative source of finance, do market failures perceived by individuals still persist? Thus, it remains relevant to raise the following questions: (i) have the right challenges been identified within this context? (ii) Has the most appropriate policy measures been suggested?

In terms of operationalizing the above, simulation models have a long history within the field of economics – According to Parker (2004) simulation methods would enable researchers to extend the scope of their theoretical enquiries, and to incorporate several useful 'real-world' features of the market.

6.0 Final Conclusion

Returning to the starting point, governments look to entrepreneurship as a vehicle to economic prosperity. The key findings from the papers reviewed reveal that policy making in the field of entrepreneurship is complex and often very messy. The analysis above demonstrates that there are many ways in which the level of entrepreneurship can be influenced.

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