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SMEs and Access to Finance: An Investigation of Different Sources of Funding

Submitted in partial fulfilment of the degree of Doctor of Philosophy

November 2016

Abstract

Access to finance is a necessity for the start-up, growth, innovation and survival of any organisation. As a result, access to finance has become an important theme in small business research. Although there is overwhelming research evidence on access to finance, there are still research gaps in the knowledge base of different forms of access to finance, especially in times of uncertainty and economic distress. Specifically, more research is needed on the identification of relevant theories of access to finance, the role of venture capital and crowdfunding, the effect of financial education and self-confidence on access to micro finance and the role of institutions in small firms financial liquidity. The thesis aims to fill these gaps and provide comprehensive reviews and new empirical evidence related to the above issues.

Reviewing the academic literature, this research supports the view that venture capital and crowdfunding are both relevant in access to funding for firms as they represent worthy alternatives for different types of firms. Venture capital firms (VCF) have targeted their investment on later-stage, management buy-out and buy-in to limit their risks and increase returns. Although VCF traditionally have huge appetite for high risk and high returns, research show that they concentrate their funding on older innovative firms. In their risk aversion, VCF have become more stringent in their entrepreneurial project selection and monitoring with reduced funding of seed and early stage of projects.

Turning to empirical parts of the thesis, a series of interesting and new findings have emerged. First, this thesis supports the view that financial self-confidence of the owner manager contributes to successful access to finance for UK firms whereas financial education is found to have weak explanatory power. However, financial education is found to increase financial self-confidence, and thus can be used as a means of improving access to micro-finance for SMEs. Self-confidence is also found to be affected by past poor performance of the owners' credit outcomes stressing the importance of building a successful credit history and experience with the financial sector. Finally, at international level this thesis stresses the importance of regulation and institutions in Baltic States and South Caucasus countries in SME access to finance. The analysis points also towards some gender differences which add to the existing debate on differences between males and females.

Acknowledgements

I would like to thank the following for their guidance and support throughout this research. First and foremost, Professor George Saridakis being my Director of Studies and First Supervisor. Professor David Smallbone and Professor Robert Blackburn are my second and third supervisors respectively. Their immeasurable guidance contributed to my conclusion of this research work. I thank the delegates at the Institute for Small Business and Entrepreneurship (ISBE) conference held at Cardiff City Hall in Cardiff, Wales on 12-13 November 2013. The ISBE delegates attended my Venture Capital (*Conference Track: Business Creation, Early Stage Development and Business Closure*) and Human Capital (*Conference Track: Finance, Venture Capital, Taxation and Regulation*) presentations at the conference and provided feedback afterwards to support further research work. I also thank Professor Colin Mason of the University of Glasgow in Scotland for his Venture Capital advice. All errors and omissions remain my own.

Table of Contents

Abstract 2

Acknowledgements 3

Table of Contents 4

List of Tables 8

List of Figures 10

Chapter 1 Introduction: SMEs and Access to Finance 11

1.1 Introduction 11

1.2 Definition of SMEs 11

1.3 The Research Project 12

1.4 Methodology 14

1.5 Structure and overview of this thesis 15

1.5.1 Chapter 1 15

1.5.2 Chapter 2 15

1.5.3 Chapter 3 16

1.5.4 Chapter 4 16

1.5.5 Chapter 5 17

1.5.6 Chapter 6 18

1.5.7 Chapter 7 19

1.5.8 Chapter 8 20

1.6 Conclusion 20

1.7 References 23

Chapter 2 SME Access to Bank Finance 25

2.1 Introduction 25

2.2 The problems of information asymmetry 27

2.2.1 Collateral 28

2.2.2 Relationship lending 30

2.2.3 Credit scoring 31

2.2.4 Market intermediation 32

2.2.5 Law and regulations 33

2.3 Key theories for SME financing 35

2.4 The financial crisis and its role in SME funding 38

2.5 Personal characteristics: ethnic minorities and female entrepreneurs 40

2.6 Government intervention 43

2.7 Conclusion 44
2.8 References 47
Chapter 3 Firm Growth: Access to Venture Capital Finance 55
3.1 Introduction 55
3.2 Main focus of the chapter 56
3.3 Background 58
3.4 Conceptualisation of venture capital 58
3.4.1 What is venture capital and private equity 58
3.4.2 Comparison between debt financing and equity financing 61
3.4.3 Expansion and exposure of venture capitalists 63
3.5 Competitive business environment 64
3.5.1 Competition among entrepreneurs 64
3.5.2 Competition among venture capital firms 66
3.5.3 Geographical situation 67
3.6 Government and the law in venture capital funding 69
3.6.1 Legal and regulatory framework 69
3.6.2 Government intervention 71
3.7 Behaviour of venture capital firms 72
3.7.1 Exit strategy 72
3.7.2 Investment decision 72
3.7.3 Risks and returns 74
3.7.4 Valuation of entrepreneurial ventures 77
3.7.5 VC involvement 78
3.8 Conclusions and future research directions 79
3.9 References 83
Chapter 4 Exploring the Spheres of Crowdfunding 89
4.1 Introduction 89
4.2 Main focus of the chapter 92
4.3 Background 94
4.4 Theories relevant to crowdfunding 96
4.5 Investment or equity-based crowdfunding 99
4.6 Credit-based crowdfunding 102
4.7 Reward-based crowdfunding 104
4.8 Donation-based crowdfunding 105
4.9 Recommendations 107
4.10 Conclusion and future research directions 107

4.11 References 110
Chapter 5 Does financial education pay? 116
5.1 Introduction 116
5.2 Literature review and hypotheses development 119
5.2.1 Financial education, human capital and access to bank finance 119
5.2.2 Business start-up, human capital and access to bank finance 122
5.2.3 Gender and access to bank finance 122
5.3 Data 124
5.3.1 The 2004 and 2008 business finance surveys 124
5.3.2 The variables 125
5.4 Sample analysis 126
5.4.1 Financial management qualification and bank finance rejections 126
5.4.2 Bank finance rejection rates and gender 128
5.4.3 Bank finance and firm age 129
5.4.4 Variables included in the model 130
5.5 Empirical methodology 131
5.6 Analysis and empirical results 132
5.7 Potential endogeneity of the financial qualification variable 134
5.8 Conclusion 140
5.9 References 142
5.10 Appendix 149
Chapter 6 Do bank credit rejection and financial education affect self-confidence in finance? 151
6.1 Introduction 151
6.2 Background and hypotheses development 153
6.3 Data 157
6.3.1 Sample analysis 158
6.4 Empirical methodology 160
6.5 Empirical results 161
6.6 Conclusion 170
6.7 References 172
6.8 Appendix 178
Chapter 7 Access to Finance for SMEs in Post-Socialist countries: the Baltic States and the South Caucasus compared 180
7.1 Introduction 180
7.2 Background and literature review 182

7.3 Hypothesis development 184
7.4 Data 187
7.4.1 Sample Analysis 190
7.5 Empirical methodology 195
7.6 Empirical analysis and findings.. 196
7.6.1 Country by country analysis 196
7.6.2 Region by region analysis 199
7.7 Discussion 201
7.8 Conclusion... 205
7.9 References 208
7.10 Appendix 213
Chapter 8 General Conclusion 214
8.1 Introduction 214
8.2 Importance of access to finance for SMEs 214
8.2.1 Increased business start-up, growth and survival 214
8.2.2 Improved entrepreneurship... 214
8.2.3 Increased employment.. 214
8.2.4 Reduced household poverty.. 214
8.3 Research gaps identified.. 214
8.4 Summary of research findings and their importance............................. 215
8.4.1 Provides a research knowledge base of SMEs and access to finance............... 215
8.4.2 Positive effect of financial education in boosting financial self-confidence..... 215
8.4.3 Partial credit rejection boost financial self-confidence during financial crisis.. 215
8.4.4 Start-up firms suffered greater credit rejections 215
8.4.5 Gender of the owner has no significant effect on credit rejection rates 216
8.5 Limitations of this research work 216
8.5.1 SME finance data for 2004 and 2008 are based on UK firms 216
8.5.2 SME finance data for 2004 and 2008 are cross-sectional................................ 216
8.5.3 Financial self-confidence data was limited to sole proprietor and partnership . 216
8.6 Further research recommendation 217
8.6.1 Explore the role of financial education and financial self-confidence 217
8.6.2 Explore the role of panel data... 217

List of Tables

Table 4.1	Date chronology of key crowdfunding research and policy literature	95
Table 5.1	Financial management qualification and bank finance rejections	129
Table 5.2	Gender and bank finance rejections	130
Table 5.3	Start-up and bank finance rejections	131
Table 5.4a	Marginal Effect Probit estimation of bank finance rejection – Part 1	138
Table 5.4b	Marginal Effect Probit estimation of bank finance rejection – Part 2	139
Table 5.5	Instrumental Variable Probit estimation of bank finance rejection	140
Table 5.A1	Variables and summary statistics for 2004 dataset	150
Table 5.A2	Variables and summary statistics for 2008 dataset	151
Table 6.1	Sample properties (%)	161
Table 6.2ai	Ordered probit of self-confidence in finance – Part 1	165
Table 6.2aii	Ordered probit of self-confidence in finance – Part 2	166
Table 6.2b	Ordered probit of self-confidence in finance for overdraft users	167
Table 6.2c	Ordered probit of self-confidence in finance for loan users	168
Table 6.3	Ordered probit of self-confidence in finance (male only estimate)	169
Table 6.4	Ordered probit of self-confidence in finance (female only estimate)	170
Table 6.A1	Summary list of dependent and explanatory variables for 2004	179
Table 6.A2	Summary list of dependent and explanatory variables for 2008	180
Table 7.1	Summary statistics for the Baltic and South Caucasus Region	191
Table 7.2a	Proportion of the biggest obstacles to business operations by country	194
Table 7.2b	Proportion and summary statistics by country	195
Table 7.3a	Ordered Probit estimations of businesses with access to finance obstacle (country by country)	204
Table 7.3b	Ordered Probit estimations of businesses with access to finance obstacle (general and regional)	205

Table 7.A1 Strength of Legal Rights index (SLRi) 214

List of Figures

Figure 3.1	Venture capital and private equity funding	61
Figure 6.1	Conceptual framework of self-confidence and credit finance application	159
Figure 7.1	Conceptual framework of access to finance obstacles	190

Chapter 1 Introduction: SMEs and Access to Finance

1.1 Introduction

Small and medium-sized enterprises (SMEs) need finance for their start-up, innovation, growth and survival (Saridakis et al., 2008, 2013; Jackson et al., 2012). There are many ways businesses access finance including personal savings, friends and family support, debt finance, equity finance, hire purchase, trade credit and invoice discounting (McGuinness and Hogan, 2016; Fraser, 2008). Although these methods of accessing finance have some similarities, each of the ways of accessing finance has a level of uniqueness.

The volume of research on SMEs and access to finance has expanded as SMEs have become worldwide phenomena. Indeed, SMEs create jobs and improve the economic wellbeing of nations (World Bank, 2015; OECD, 2006).

The literature review chapters on bank finance (chapter 2), VC finance (chapter 3) and crowdfunding (chapter 4) provides a general and conceptual knowledge base about access to finance for SMEs. The empirical chapters (5, 6 and 7) provide an in-depth investigation of access to bank finance. The empirical chapters investigate access to bank finance (overdraft and loan) as the most important source of funding for SMEs.

This chapter briefly sets out the objectives and content of the thesis. At the outset, it is important to define the phenomena under study.

1.2 Definition of SMEs

The definition of SMEs varies across the world. International organisations such as the World Bank and the European Commission have given their own definitions of SMEs. Whilst SMEs may be defined in terms of the size of their workforce, there are other definitions relying on business turnover or the total financial value of the business as contained in the balance sheet.

The EU recommended definition for SMEs is as follows:

"1. The category of micro, small and medium-sized enterprises (SMEs) is made up of enterprises which employ fewer than 250 persons and which have an annual turnover not exceeding EUR 50 million, and/or an annual balance sheet total not exceeding EUR 43 million.
2. Within the SME category, a small enterprise is defined as an enterprise which employs fewer than 50 persons and whose annual turnover and/or annual balance sheet total does not exceed EUR 10 million.
3. Within the SME category, a microenterprise is defined as an enterprise which employs fewer than 10 persons and whose annual turnover and/or annual balance sheet total does not exceed EUR 2 million." (EU Recommendation, 2003).

In the UK, Companies Act 1985 section 248 provided legal definition for small and medium-sized businesses as follows:

> "*248 (1) A company qualifies as small in a financial year if for that year two or more of the following conditions are satisfied: (a) the amount of its turnover for the year is not more than £1.4 million; (b) its balance sheet total is not more than £700,000; (c) the average number of persons employed by the company in the year (determined on a weekly basis) does not exceed 50.*
>
> *(2) A company qualifies as medium-sized in a financial year if for that year two or more of the following conditions are satisfied: (a) the amount of its turnover for the year is not more than £5.75 million; (b) its balance sheet total is not more than £2.8 million; (c) the average number of persons employed by the company in the year (determined on a weekly basis) does not exceed 250.*" (Companies Act 1985 section 248(1-2)).

Moreover in the UK, the following describes the most recent legal definition of small and medium-sized enterprises. These descriptions are contained within the legal framework of Companies Act 2006 section 382(3) and 465(3):

> "*The qualifying conditions are met by a company in a year in which it satisfies two or more of the following requirements—*
>
> 1. *Turnover not more than £5.6 million*
> 2. *Balance sheet total not more than £2.8 million*
> 3. *Number of employees not more than 50*"
>
> (Companies Act 2006 section 382(3)).

> "*The qualifying conditions are met by a company in a year in which it satisfies two or more of the following requirements—*
>
> 1. *Turnover not more than £22.8 million*
> 2. *Balance sheet total not more than £11.4 million*
> 3. *Number of employees not more than 250*"
>
> (Companies Act 2006 section 465(3)).

This research will adopt the European Commission definition of SMEs as described in EU Recommendation (2003) because the research discussions draw numerous instances and examples from within European countries. Also, the data used for investigation originate from the UK (SME finance survey data) and Central and Eastern Europe (BEEPS data).

1.3 The Research Project

This thesis is divided into different sections and each section has a level of uniqueness to it. Each of the sections is presented in individual chapters as a research output

worthy of publication or as a whole to expand knowledge. Hence, each chapter reports on a unique concept in access to finance.

The motivation for this research is my background as a property entrepreneur. I interact with other entrepreneurs from time to time and a common narrative is the issue of access to finance. Although access to finance is a common theme among many entrepreneurs, there are different entrepreneurial experiences in sourcing finance for business projects. As a way to discuss the research gaps, it is necessary to identify the main objectives of this research. Therefore, each research topic will be determined from the main objectives and discussed in detail within each chapter.

The main objectives of this research are:

- To provide a relevant and reliable knowledge base on access to finance to support research students, researchers, entrepreneurs, owner managers and their businesses.
- To examine the determinants of access to finance for entrepreneurs and raise awareness among researchers and businesses.
- To investigate the gender dimension in access to finance for business ventures.
- To explore the relevance of the financial crisis of 2007 and its aftermath in creating financial constraints in SME access to finance.
- To examine the relevance of the court system in supporting access to finance transactions between funders and borrower businesses in a globalised domain.
- To explore the relevance of creativity and innovation in entrepreneurial access to finance.

The UK government, research organisations and international organisations such as the World Bank and the OECD support the sharing of data for research purposes. Indeed, the sharing of statistical data to provide research based solutions to different societal issues is very important for mankind and continuous civilisation. First, this thesis utilised data from the UK Data Archive accessible via the University of Essex. The data acquired was made up of two cross-sectional datasets including the 2004 and 2008 surveys of 2500 SMEs in the UK. Thus, the datasets covered the period before the financial crisis of 2007 and afterwards. Second, another dataset was collected from the Business Environment and Enterprise Performance Survey (BEEPS) of 2009 on SMEs in Central and Eastern Europe (CEE) countries. The BEEPS dataset was sponsored by the World Bank and the European Bank for

Resettlement and Development (EBRD) as a way to promote development in the business environment across the CEE countries.

1.4 Methodology

The research approach for this thesis adopts a quantitative paradigm. However, it is to set out the important theoretical frameworks and concepts behind the approach adopted. Data was acquired externally from two sources, the UK Data Archive and The World Bank/European Bank of Settlement. While the UK Data Archive provided data for the financial self-confidence and financial education researches, the World Bank/European Bank of Settlement provided the BEEPS dataset for exploring access to finance in the Baltic States and South Caucasus countries as part of the CEE countries. It was also necessary to make references to reports from Global Entrepreneurship Monitor and World Justice Project.

The approach adopted for this thesis is positivist (Robson, 2011). To this end, the positivist tradition attempts to provide opportunities for explaining empirical correlations using predictions to explain events that reflect the natural environment.

There are arguments for and against quantitative and qualitative methods of research. Bryman (2008) introduced mixed methods as a solution to merge the benefits contained in each of the quantitative and qualitative research methods. The terms deductive and inductive in social science research also provide links to positivist and interpretivist paradigm respectively.

The research approach adopted for this research is the quantitative method and this is contrasted with qualitative method in Leedy and Ormrod (2005) as follows:

> *"In general, quantitative research is used to answer questions about relationships among measured variables with the purpose of explaining, predicting, and controlling phenomena. This approach is sometimes called the traditional, experimental, or positivist approach.*
>
> *In contrast, qualitative research is typically used to answer questions about the complex nature of phenomena, often with the purpose of describing and understanding the phenomena from the participants' point of view. The qualitative approach is also referred to as the interpretative, constructivist or postpositivist approach." (Leedy and Ormrod, 2005, p. 94).*

Apart from the presence of the mixed method approach to research (Bryman, 2005), researchers may adopt either quantitative method or qualitative method. As specified in the quote attributed to Leedy and Ormrod (2005), quantitative research approach explains, predicts and controls the behaviour of variables. On the other hand,

qualitative research approach describes phenomenon on the basis of the point of view of research participant.

1.5 Structure and overview of this thesis

This thesis has eight substantial chapters and each chapter provides an analysis of different aspects of funding for SMEs.

1.5.1 Chapter 1

This chapter introduces the thesis as a single unified document containing the definition of SMEs, research project overview with objectives, methodology and structural definition. The methodology section discussed the methodological approach used for this research as well as a general philosophical and epistemological foundation, quantitative and qualitative concepts.

1.5.2 Chapter 2

This chapter discusses access to bank finance. SMEs play a significant role in both the national and international economy and social life related to employability and promoting urbanisation. Small firms, however, have traditionally encountered problems with both raising and approaching providers of finance, and the link between SMEs and external finance has been widely researched in small business literature. Hence, this chapter will review the related literature developed by both economists and management experts, discusses theories of SME financing and critically reviews these studies. The chapter will add to the understanding of access to finance for small firms in the UK with particular emphasis after the credit crunch, highlights the most important issues and concepts that affect the SMEs' finance today and provides useful information to academic, practitioners and policy makers. Particularly, the chapter will cover key issues related to information asymmetry, the financial crisis, government intervention and personal characteristics such as ethnic minority and female entrepreneurs, and discusses the challenges faced during the financial crisis providing an objective assessment of various points of view.

This chapter fills the knowledge gap and makes a contribution of providing a concise knowledge base of access to bank finance as the most common source of funding for SMEs. Bank finance is a source of debt finance made up of overdrafts and loans. We focus on bank finance because overdrafts and commercial loans are the most common credit facilities available to small firms. We empirically examine the

effect of financial education (Chapter 5) and financial self-confidence (Chapter 6) on bank finance rejection outcomes.

1.5.3 Chapter 3

This chapter discusses formal venture capital (VC) as an alternative or substitute form of access to finance as it involves equity finance or equity-linked investment in potentially high growth unquoted companies. Venture capital is an alternative means of access to finance for innovative SMEs to sustain their innovation, growth and survival. Although VC firms are well established in the UK and USA, it is not well-known worldwide and many SMEs are unaware of their potentials. This chapter will review research literature on VC, its conceptualisation and synthesis over four decades. VC is gaining increased and varied significance worldwide as a way for innovative SMEs to access fund. Globalisation has provided entrepreneurs the opportunity to seek VC globally as reputable VC firms are able to fund innovative projects across countries and continents. As the legal and regulatory regimes improve around the world, VC finance opportunities increase with impact on the demand and supply of VC. Innovative SMEs are encouraged to take advantage of globalisation and competition among VC firms in their search for VC. Recently, VC firms have become more risk averse regardless of their traditional competence in screening and monitoring.

This chapter also fills the knowledge gap and makes a contribution of providing a concise knowledge base of formal VC finance as an alternative source of funding for SMEs, albeit equity based finance. However, VC finance was not empirically examined in this thesis.

1.5.4 Chapter 4

This chapter discusses crowdfunding[1]. This chapter analyses research and policy literatures in the spheres of crowdfunding. It identifies reward-based, donation-based, equity-based and credit-based crowdfunding with a view to collate relevant information to support crowdfunding knowledge base and further research. Crowdfunding is a relatively new concept, increasing in popularity in social media, business and research communities. Academic research in crowdfunding is limited

[1] This chapter was recently published as a book chapter (ISBN 978-1-4666-9604-4) - Imarhiagbe, B. O. (2016) Exploring the spheres of crowdfunding. In D. Assadi (Ed.), *Strategic Approaches to Successful Crowdfunding* (pp. 190-209). Hershey, PA: Business Science Reference. doi:10.4018/978-1-4666-9604-4.ch009

and the subject is still evolving as a way of access to finance for seed capital, entrepreneurial projects and other early stage projects. European and North American organisations have recognised the relevance of crowdfunding for project fundraising. However, the World Bank confirmed that developing countries are at different stages of recognition of crowdfunding in their policy framework. Although the UK financial regulator, the Financial Conduct Authority, produced a policy statement for crowdfunding and approved some service providers such as crowdfunding platforms, it is still interacting with stakeholders and providing guidance to potential entrepreneurs on the operational models. Crowdfunding is an innovative way of raising small amounts of money from different contributors over the internet for different types of projects. There are huge management implications in the spheres of crowdfunding.

This chapter fills the knowledge gap and makes contribution of providing a concise knowledge base of crowdfunding as a systematic review of the different spheres of crowdfunding literature and describes relevant theories. However, crowdfunding was not empirically examined in this thesis. Although crowdfunding has been recognised as a source of entrepreneurial business finance, it is an innovative, new and technology savvy concept requiring exploration. Accordingly, crowdfunding is said to be increasing in popularity all over the world using the internet platform as a medium linking the electronic crowd contributors and entrepreneurs seeking project fund.

1.5.5 Chapter 5

This chapter presents an empirical study of the human capital of the owner manager of a business. It discusses the relevance of human capital (such as experience, financial education and academic qualifications) in access to bank finance for businesses. This chapter empirically examine the association between financial education and bank finance rejection of owner managers in their access to bank finance for their business. This chapter use data from 2004 and 2008 surveys of 2500 UK small and medium-sized enterprises (SMEs). Although there is limited research evidence, the relationship between financial education and bank finance outcome is interesting and important from academic and policy perspective. This chapter use micro-econometrics techniques to measure and assess the effect of SME owner

manager's financial education on bank finance rejection rates. It was found that the financial education of owner managers have no significant effect on bank finance rejection rate. However, there is a significant effect that the financial self-confidence of owner managers lowers their bank finance rejection rates. It follows that financial self-confidence is an important predictor for bank finance rejection. Hence, it is argued that financial self-confidence determines financial behaviour and performance and should be integral part of educational programmes related to financial capabilities and knowledge.

This chapter examines the role of financial education on bank finance outcomes for small firms. We focus on bank finance because overdrafts and commercial loans are the most common credit facilities available to small firms. This chapter contribute to our understanding of the relevance of financial education as a form of human capital as well as the dimension of business age and gender aspects in the course of seeking bank finance. Following the importance of bank finance and credit rejection outcomes, we present empirical investigation on Chapter 5, Chapter 6 and Chapter 7.

1.5.6 Chapter 6

This chapter[2] presents an empirical study of the self-confidence in finance among owner managers. It describes how self-confidence in finance among owner managers can contribute to improved access to finance. This chapter will empirically examine the determinants of owner manager self-confidence in finance using the data from 2004 and 2008 surveys of 2500 UK small and medium-sized enterprises (SMEs). The analysis finds evidence that outright bank credit rejection reduces financial self-confidence among owner managers whereas partial bank credit rejection is found to help boost confidence prior to the financial crisis. Furthermore, financial self-confidence is partly gender dependent. In particular bank credit rejection is found to reduce self-confidence among men entrepreneurs after the crisis whereas the association is found to be weak for women. There is also strong evidence that financial education increases financial self-confidence.

This chapter empirically examines the role of financial self-confidence on bank finance outcomes for small firms. We focus on bank finance because overdrafts

[2] This chapter was recently invited for major revisions in the International Journal of Entrepreneurial Behavior & Research.

and commercial loans are the most common credit facilities available to small firms. This chapter contribute to our understanding of the relevance of financial self-confidence and bank finance outcomes. Following the importance of bank finance and rejection outcomes, we present empirical investigation in Chapter 5, Chapter 6 and Chapter 7. This chapter makes a contribution in empirically examining the determinants of financial self-confidence of small firm owner managers, pre and during the recent financial crisis. In particular, the chapter provides the effect of bank credit rejection on the financial self-confidence of business owners in times of booms (pre financial crisis) and busts (during financial crisis).

1.5.7 Chapter 7

This chapter examines access to finance for SMEs in the Baltic States and South Caucasus countries immediately after the financial crisis of 2007. Specifically, we use the cross-sectional dataset from the Business Environment and Enterprise Performance Survey (BEEPS) for 2009 to empirically examine access to finance for SMEs and the court system in the Baltic States and South Caucasus countries. We find variations from one Baltic State and South Caucasus country to another about the fairness, speed of justice and court decision enforcement. We suggest that if access to finance is no obstacle to business operations and the court system is fair, impartial and uncorrupted, it determines the likelihood of strength in entrepreneurship. Additionally, we find that businesses that face obstacles in accessing finance are more likely to have a female as their top manager in the Baltic States. However, for the South Caucasus region we find no gender differences.

This chapter investigates the Baltic States and South Caucasus countries immediately after the financial crisis of 2007 to differentiate between the EU and non-EU countries. The rationale for this choice was the contrasting development paths of the countries involved with emphasis on the pace of institutional change and geography. As well as investigating access to finance for entrepreneurs in these post socialist countries, this chapter also examine the effectiveness of the court system which can be a major constraint if there are significant institutional deficiencies. Therefore, this chapter provides a comparative study between the Baltic States and South Caucasus countries as part of a study on the EU and non-EU.

1.5.8 Chapter 8

This chapter provides a general conclusion for this research. It discusses the importance of access to finance for SMEs and described the research gaps. This chapter also describes the summary of the research findings and their importance as well as the limitations of this research work.

1.6 Conclusion

This thesis presents a multi-analysis of access to finance for SMEs. These various aspects are contained in individual chapters in this thesis. This conclusion captures a summary of each of the research chapter and an overall assessment of the position of access to finance for SMEs.

The research creates an awareness of the theories of access to finance and improves the research based knowledge base to support businesses, researchers, students and other business practitioners. Gender related research in access to finance should consider and exploit other factors including collateral, credit history, banking relationship, use of financial intermediary and human capital.

Venture capital firms (VCF) have targeted their investment on later-stage, management buy-out and buy-in to limit their risks and increase returns. In their risk aversion, VCF have become more stringent in their entrepreneurial project selection and monitoring with reduced funding of seed and early stage of projects. As UK VC funders are influential in global VC finance, their risk aversion has spread abroad. UK VCF invests more in the UK than other countries and this may reflect a localisation bias. Moreover, the VCF in the USA have localisation bias in their investment as there are concentrations in some localities such as San Francisco, New York and Boston. VCF have become more risk averse even in a globalised business environment amidst their financial risk management, screening and monitoring capabilities. This is not compatible with their previous appetite for high risk and high returns. Therefore, this is an area requiring further research.

Crowdfunding is a new, innovative, alternative and additional method of access to finance for seed, start-up and other early stage project fundraising from many small contributors via the internet. The existing economic and management theories (e.g. pecking order, signalling, stakeholder, social capital and agency cost) of SMEs are also applicable to crowdfunding. Globalisation and web technology has provided the driving force for a quicker expansion of crowdfunding all over the

world. Crowdfunding is increasing in popularity amongst SMEs as demonstrated in social media, business and research environments. It is very important that researchers explore crowdfunding widely with a view to broaden the knowledge of project initiators (such as entrepreneurs, business owners and managers). The necessity for further research is centred on the need for better information sharing and knowledge exchange to support new and existing entrepreneurs all over the world.

The analysis shows that the financial education of owner managers has no significant effect on bank finance rejection rate. However, there is a significant effect that the financial self-confidence of owner managers lowers their bank finance rejection rates. We suggest that financially self-confident owner managers can provide a potential signalling effect on bank lenders in their access to bank finance. Although there were high bank credit rejection rates in 2008, financially self-confident owner managers had better access to bank finance in comparison to their non-financially self-confident counterparts. It is recommended that further research explores the role of financial education and financial self-confidence among owner managers in limited liability businesses, charities and social enterprises to support their strong growth. Start-up firms face greater challenges in accessing finance for their project and established firms are found to be less likely to be rejected or had reduced funding by banks. It is argued that the government may provide direct support through start-up training and start-up finance in the form of micro credit. The government may target financial support and counselling to the start-up entrepreneur on the basis of business potential and viability.

Outright bank credit rejection is negatively associated with financial self-confidence whereas partial bank credit rejection may boost self-confidence. Moreover, the results show that financial education has a strong and positive effect on self-confidence in finance providing support for increasing entrepreneurial and financial education in higher education.

Further research is recommended to evaluate and assess the self-confidence in finance of owner managers in limited companies, social enterprise and charities to determine their credit rejection rate and their gender aspect. This knowledge will allow owner managers to resolve their deficiencies in financial education as a way to increase their self-confidence in finance and determine their readiness for entrepreneurship.

The study of the Baltic States and South Caucasus region finds that the court system is a good legal regulatory system measured by their level of fairness, impartiality and uncorrupted. There are remarkable differences in access to finance and court systems between these countries but there are also similarities. In both the Baltic States and South Caucasus region, firms that report fairness, impartiality and uncorrupted court system have a reduced likelihood of access to finance obstacle. Although access to finance is identified as an obstacle to business operations in each of the Baltic States and South Caucasus countries, it is not the biggest obstacle in all of the countries. The biggest obstacle to business operations is access to finance in Azerbaijan. The practice of competitors in the informal sector is the biggest obstacle to business operations in Armenia. Inadequately educated workforce is the biggest obstacle to business operations in Estonia. Political instability is the biggest obstacle to business operations in Georgia. Tax rate is the biggest obstacle to business operations in Latvia and Lithuania.

Overall, these chapters contribute to our understanding of SME finance. The specific issues discussed and analysed within each of the chapters provide the contexts but collectively add to the wealth of analysis of the challenges that SMEs face in accessing finance for their entrepreneurial endeavours.

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Chapter 2 SME Access to Bank Finance

2.1 Introduction

The funding of small and medium-sized enterprises (SMEs) is an important part of the smooth functioning of the UK economy seeking to promote entrepreneurship, innovation in both production and management that leads to performance, productivity and thus, to profits and economic growth after the financial crisis (Cornett et al., 2011; Saridakis et al., 2013). SMEs are a vital part of the economy as they constitute more than 95 per cent of enterprises in OECD countries and are responsible for 60-70 per cent of new job creation (OECD, 2006, 2013a). The World Bank also acknowledged the role of SMEs in the economic growth of nations (Hallberg, 2000) and, hence, good financial sector development can support SMEs and reduce poverty (Lin and Li, 2001). Given that SMEs contribute to better economic development, the UK government over many decades echoed the need for SME funding through reports such as the Macmillan Report (Stamp, 1931), Bolton Report (Bolton, 1971) and the Cruikshank Report (Cruickshank, 2000). Although the UK government introduced different SME funding schemes, some SMEs are still financially constrained following the credit crunch (Kay et al., 2014; BIS, 2013a, 2013b). Our review concentrates on the UK, the effect and aftermath of the financial crisis of 2007.

Nevertheless, SMEs face significant constraints to access finance from the banking system and some of them fail as a result (see, for example, Kay et al., 2014; Saridakis et al., 2013, 2008). Nowadays, finance is even limited accentuating the already dismal economic climate since individuals are discouraged in setting up new businesses and a substantial part of the existing businesses fail to meet their financial obligations and seek alternative solutions. Indeed, overdrafts and bank loan rejection rates were significantly higher since the start of the financial crisis suggesting potential credit supply constraints (Kay et al., 2014; Fraser, 2008; Popov and Udell, 2012). In the midst of financial constraints from overdraft and loans in the aftermath of the crisis, some vulnerable SMEs explored trade credit (McGuinness and Hogan, 2016). As far as we are aware, however, there is no single and concise review containing information and analysis relevant for major aspects of UK SMEs and their access to funding as well as the effect of the recent financial crisis.

Our contribution is a broad knowledge base as the subject of access to finance in small firms in the UK has assumed a different dimension in the credit crunch induced by the recent financial crisis of 2007. Therefore, this chapter contributes to the small business research literatures as an authoritative knowledge base as follows. First, it provides a review of the key theories for SME financing cut across multiple disciplines including economics and management. The understanding of these key theories will provide adequate knowledge of owner-manager behaviour in accessing finance for their business venture. Second, it provides the critical review of the economics and management research literatures related to debt financing and equity funding, focusing particularly in the UK small firms sector in the aftermath of the 2007 credit crunch, provides an accumulation of knowledge for access to finance derived mainly from research sources. Third, this knowledge base is also relevant and provides a rich source of information for small businesses, entrepreneurs, practitioners, policymakers and researchers of SME financing in the UK and beyond. Fourth, it provides a review of the global financial crisis of 2007 and its impact on countries. Although the crisis originated in the USA, it impacted other countries in varied measure. Hence, businesses across international boundaries were impacted dependent on the country-level severity. A notable example is the UK and New Zealand research of Smallbone et al. (2012). Fifth, the discussion also includes a critical account of debates (such as collateral, gender and ethnicity) in small firms with suggestions of potential avenues and directions for further academic research.

To achieve our aim, we use EBSCO, Econlit, Emerald, Google Scholar and ScienceDirect electronic databases in our search for academic journal papers using keyword search method and manual search of leading academic journals. We also used reports published by government bodies and international organisations. In section 2, we discuss the problem of information asymmetry and focus on the importance of collateral, the relationship between lenders and borrowers, credit scoring, market intermediation and law and regulations. Section 3 reviews key theories of SME financing. Section 4 discusses the financial crisis and its role in SME financing. Section 5 discusses the ambiguous link between personal characteristics (such as ethnicity and gender) and external finance. Section 6 presents UK government interventions to support SMEs. Finally, in section 7, the chapter presents a conclusion with suggestions for further research and directions.

2.2 The problems of information asymmetry

Holmes et al. (2003, p. 97) defined information asymmetry (IA) as ‘a situation in which agents have information on the financial circumstances and prospects of the enterprise that is not known to principals’. IA is a major problem in SME funding because lenders and borrowers do not agree on the level of information perfection – one often claims superiority over the other. The level of information perfection impacts credit decision making. In the previous discussion we highlighted that IA may impact SME access to finance in diverse ways (Bester, 1987; De Meza and Webb, 2000; Leland and Pyle, 1977; Mattesini, 1990) and it appears the phenomenon tends to exhibit a variety of meaning from lenders to borrowers. Indeed, the concept of perfection in credit market information is somewhat a fallacy as perfect information varies between borrowers and lenders. Certainly, IA is a major link in the credit decision making process with many parameters (e.g. credit scoring, availability of collateral, banking relationship, human capital and legal/regulation) from one lender to another towards rejection or acceptance of credit application. These parameters have the capacity to impact one another in the credit decision making process. In the analogy of Hodgson and Drummond (2009), IA could be synonymous with uncertainty and, consequently, any credit decision based on uncertain parameters run the risk of failure. Although Holmes et al. (2003) discussed IA in relation to management and SME research in general, the phenomenon assumed a different dimension in the financial crisis.

Following various research findings and conclusions (Berger and Udell, 2002; Stiglitz, 2002; Mattesini, 1990; Jensen and Meckling, 1976), it is necessary to define some key relevant concepts including information asymmetry, adverse selection and moral hazard. Information asymmetry is a situation where one party to an economic transaction has better information than the other. Adverse selection refers to a situation where borrowers have information that lenders do not, or vice versa, about accessing finance. A moral hazard may occur where the actions of one party may change to the detriment of another after a financial transaction has taken place. Researches (Berger and Udell, 2002; Stiglitz, 2002; Mattesini, 1990) show that information asymmetry simply means imperfect information. Thus, adverse selection and moral hazard are the result of information asymmetry.

There is benefit in the separation of ownership and control of entrepreneurial ventures as a way to improve IA (Acemoglu, 1998). However, the owner of the firm

still holds the power of the business because he remains the employer. Hence, the reduction of IA through transfer of business control may not be a sustainable argument. Venture capitalists provide funding for start-up and technology firms regardless of the high IA and the associated high risk (Greene et al., 2001). In a more recent paper, Cowling et al. (2012) showed that IA may not cause reduced investment as there are increasing numbers of finance providers who are still willing to lend to less risky firms. Thus, it can be argued that the issue of IA are being resolved as some lenders (e.g. venture capitalists and business angels) have devised ways to mitigate the risks. In mitigating the risk factor associated with IA, Lean and Tucker (2001) and Jensen and Meckling (1976) discussed the concept of agency cost made up of monitoring cost, screening cost and residual loss.

The problem of IA, however, stresses particularly the importance of collateral, the relationship between lenders and borrowers, credit scoring, market intermediation, and law and regulation in which we now turn our discussion. This review will discuss each problem of IA in turn.

2.2.1 Collateral

Collateral is important in a lender-borrower relationship to eliminate or reduce IA because it can act as a signal to lenders of potential borrower performance. Collateral is an asset pledged by a borrower to secure credit. The presence or absence of collateral in a lender-borrower relationship can impact the credit market positively or negatively (Bester, 1987; Besanko and Thakor, 1987; Mattesini, 1990). According to Fraser (2008, p. 7), 'overdraft rejections due to the firm having no security/collateral have more than doubled in 2005-2008 (accounting for 9.5% of overdraft rejections; up from 4.1% in 2001-4)'. Whilst the absence of collateral can impact negatively on the borrower, it can also impact negatively on the lender as every unsuitable borrower reduces the potential customer base of the lender. Likewise, the presence of collateral can impact positively on both lender and borrower in a lender-borrower relationship. For their lack of or inadequate collateral, start-up firms experience greater problems accessing finance (OECD, 2006). According to Bester (1987, p. 887), there are 'different riskiness' associated with different borrowers. Fraser (2004, 2008) confirmed that firms with greater collateral tend to experience fewer credit rejections. This agrees with Cowling et al. (2012) in that lenders prefer to lend to larger and older businesses as they are able to show more collateral, especially during the period of

economic uncertainty. Therefore, although collateral provides security for credit and act as a measure of assurance against potential repayment default of the borrower, credit risk can become riskier in the time of economic volatility.

Mattesini (1990, p. 1) disclosed that 'there are serious limits to the use of collateral as a screening device.' Although Bester (1987) and Besanko and Thakor (1987) supported the use of collateral to determine lending, Mattesini (1990, p. 2) found that the extent to which lenders can use collateral to determine lending is dependent 'on the proportion of high- and low-risk firms in the market.' It is possible that moral hazard and adverse selection (Berger and Udell, 2002; Mattesini, 1990) may hamper collateralisation and credit rationing. Although there is a limit to the use of collateral for credit rationing, adverse selection can still lead to collateralisation (Mattesini, 1990). However, the availability of collateral does not rule out credit rationing (Coco, 1999). Thus, the availability or no availability of collateral in a credit transaction is only a single measure amidst a plethora of criteria and lender decision facilities. Coco (1999) suggested that the availability of collateral may not signal any potential project risk. Therefore, it is not possible for lenders to weigh project risk based on available collateral alone. Indeed, the credit crunch posed a major project risk for businesses.

Saridakis and Storey (2009) suggested that banks may incur significant cost of valuing collaterals to enable lending decision. Hence, the cost of valuing assets and risks of using property as collateral in a market characterised by falling prices can be a discouragement for lending. This is particularly relevant during the period of the financial crisis, as Fraser (2008) revealed that negative equity sets in when the current asset value falls. Cornett et al. (2011) interpreted the financial crisis induced volatility as managed liquidity which can lead to credit rationing or outright credit rejections. Borrowers who possess large collateral may have access to high value loans for their business but may not require it (Wang, 2010). Therefore, the existence of a high value loan which is greater than the entrepreneurial project requirement may signify risk of 'inefficient resource allocation and over-borrowing' (Wang, 2010, p. 220). Hanley and Girma (2006) identified the dilemma of a large and indivisible asset which could allow for borrowing but the collateral value is greater than the credit requirement. Hence, the lender could still be at risk if the borrower has inadequate human capital (e.g. qualification and experience) to make full use of the credit facility provided.

2.2.2 Relationship lending

Relationship lending is important in a lender-borrower relationship because it allows the lender to have adequate information about the potential borrower to support lending decision. Money lending through an established banking relationship could be an alternative funding provision for potential SME borrowers who fail collateral requirement of their lender (Voordeckers and Steijvers, 2006). This can only work in favour of the borrower where there is a good and established relationship with the lender (Cotugno et al., 2012; Saridakis and Storey, 2009). While trust in bank relationships with SMEs result in more credit facilities and reduced credit constraints, agency cost and transaction cost are also reduced (Moro and Fink, 2013). On the other hand, a good and established relationship can only be formed over a reasonable period of time (Saridakis and Storey, 2009). Hussain et al. (2006) found that 85.7% of SMEs based in the UK have either good or excellent relationship with their banks and Fraser (2004) showed that 61 per cent of UK SMEs were satisfied with their bank charges. Fraser (2008) also confirmed the usefulness of good banking relationship in SME funding. In the 1st quarter of 2013, 77% overdraft and 69% loan applications succeeded for repeat SME borrowers (BDRC, 2013). However, they show that first time applicants had 38% overdraft and 41% loan success. Thus, where good or excellent relationship exists between lender and borrower, it can lead to favourable borrowing terms as IA problem would have been resolved. However, Cenni *et al.* (2015) confirm that credit rationing and relationship lending are not the same for different firm size.

According to Berger and Udell (2002), lenders who form a relationship with borrowers improves their lending commitment over time. Cotugno et al. (2012) investigated the relevance of relationship lending during the period of financial crisis and found that a consolidated relationship can diminish credit rejections. However, it can be argued that relationship lending can be a type of risk misperception (Rötheli, 2010) because relationships between banks and their customers are different, varied and has the potential to be complex. Interestingly, Fraser (2008) found that bank switching rates were higher over the credit crisis suggesting that SMEs were forced to seek alternative financial providers.

In emphasising the significance of relationship lending, Voordeckers and Steijvers (2006, p. 3067) asserted that 'the collateral requirement decreases in the length of the bank-borrower relationship.' Saridakis and Storey (2009, p. 91) also

disclosed the significance of 'good and longer financial relationships' in SME funding. Credit lenders are able to reduce their cost of borrower assessment and monitoring as the information at their disposal is relatively adequate to make lending decisions (Saridakis and Storey, 2009). According to Voordeckers and Steijvers (2006) and Saridakis and Storey (2009), the length of time of the lender-borrower relationship is very significant because IA may not be resolved in a short time towards making a good lending decision.

2.2.3 Credit scoring

Credit scoring is important in a lender-borrower relationship because it informs the lender about the credit performance of the potential borrower. UK credit reference agencies have been engaged in checking the credit score and credit history of individuals to help lenders determine the propensity of individuals (e.g. owner-managers, entrepreneurs) to pay back loans without repayment default on credit agreements (Banasik et al., 2003). Credit reference agencies keep records which are made up of previous individual credit information, electoral roll data, court judgments and existing credit defaults (Saridakis and Storey, 2009). The decision to establish a bank branch can depend on the ready availability of efficient credit bureaus and quality credit reporting facilities (Tsai et al., 2011). Therefore, the availability of credit bureaus is a signal of stability in the financial environment to support credit transactions. It was found that credit bureaus assist to reduce the information costs to the lender in the process of making credit lending decision (Tsai et al., 2011). Beck and Demirguc-Kunt (2006) identified the sharing of credit information as a way of facilitating SME funding. The number of SMEs defaulting on their credit liability increased during the recession (Bruche and González-Aguado, 2010). Accordingly, the financial crisis of 2007 caused an increase in the credit default rate which can lead to lesser creditworthiness and Fraser (2008) confirmed that the increase in the rate of bank credit rejections was a strategy used to reduce high risk.

In the process of determining SME funding, lenders perform credit scoring which involves a consideration of the 'owner's wealth and firm assets…business and owner characteristics…financial ratios…financial delinquency' (Fraser, 2008, p. 109). The credit scoring of the small firm extend to the owner-manager of the firm as a way to get a clearer understanding of the business history and performance (Berger and Udell, 2006). Credit scoring models have varying levels of bias and the credit scores are predicted values derived from the probability of repayment (Banasik et al., 2003).

Different lenders tend to keep their credit scoring approach a secret to gain competitive advantage and lenders whose credit scoring technique is too strict may become uncompetitive in the financial market as borrowers may approach lenders with reduced strictness in their credit scoring system (Blöchlinger and Leippold, 2006). The level of strictness of a particular credit scoring model does not determine its quality (Banasik et al., 2003). According to Blöchlinger and Leippold (2006), when there is an increase in the use of credit scoring, it could increase the discriminatory power of one bank. They suggests that the bank which discriminates against low quality borrowers through credit scoring could affect its profits and systematically improve the market share of competitive lenders, and lenders who adopt a better credit scoring model will enjoy higher loan portfolio with less risk of borrower default.

2.2.4 Market intermediation

Market intermediation is important in a lender-borrower relationship because it acts as an intermediary between a lender and borrower. Market intermediation defines the activities of market intermediaries who are middlemen in lender-borrower relationship. As development in the financial market increases, tools like intermediation for improving market processes also increase (Aggarwal and Goodell, 2009; Meon and Weill, 2009). The emergence of intermediaries in market transactions supports both buyer and seller in their seemingly indirect relationship (Spulber, 1996). Market intermediation may improve IA but in an earlier paper Leland and Pyle (1977) suggested that the authentication of the true circumstances of the borrower by intermediaries may be costly or impossible. There is costly monitoring in the course of seeking better information to enable lenders in making better lending decision (Williamson, 1987b). The intermediation function of supplying information to the lender makes the intermediary provide the 'microstructure' of the financial and credit market (Spulber, 1996, p. 135). The market for information has become very important and this has originated a big business for market intermediaries (Allen, 1990). Leland and Pyle (1977) argued that the existence of intermediaries is dependent on the presence of IA and market intermediation can be viewed as a natural response to IA in the credit market.

Financial intermediation is more developed in countries where the law and regulation are efficient and effective (Levine, 1999) and hence impacts funding for

small firms. Aggarwal and Goodell (2009) and Williamson (1987a) reiterate the significance of financial intermediation and show the tendency of the financial market to grow with effective intermediation connected to quality regulatory environment. The efficiency of the legal and regulatory framework will determine the strength of financial intermediaries and the extent of lender-borrower relationship formed through intermediation (Levine, 1999). As the relationship between a lender and borrower can be strengthened using a legal contract (Qian and Strahan, 2007), it is also possible to use a legal contract to strengthen intermediary relationship with the lender and borrower. However, Meon and Weill (2009, p. 296) discovered that 'financial intermediary development influences macroeconomic technical efficiency'. Thus, the weakness of the economic development of a country can negatively impact the financial intermediary processes and significance. Aggarwal and Goodell (2009) suggested that the increase in globalisation has improved the relevance of financial intermediation. The financial market preferences increases with a stable political environment and decreases with a low quality regulatory system and ambiguous regime (Aggarwal and Goodell, 2009).

2.2.5 Law and regulations

Law and regulations are important in a lender-borrower relationship because it provides justice and fairness between lenders and borrowers. The relationship between a borrower and lender can be sealed within a legal contract (Qian and Strahan, 2007). Law and regulation may also reduce IA in registered small firms (Klapper et al., 2006). Williamson (1987b) expressed support for the use of loan contracts to ensure better performance as it reduces the cost of monitoring on the lender. Investors favour a quality legal system to support financial contracts and the investors are more inclined to provide additional support to the business to attain success (Bottazzi et al., 2009). Thus, the legal contract will serve as a performance monitor for the lender and borrower. However, the jurisdiction of the legal framework can determine whether the lender will have regard for any contractual engagement, especially in emerging economies with weaker regulatory regime (Qian and Strahan, 2007). Goodhart (2008) exposed the regulatory failures (e.g. inefficient money market operations, unreliable bank insolvency regimes and inadequate crisis management) that contributed to the financial crisis with particular reference to the UK. The weaknesses of the Basel Accords are other regulatory failures identified (Blundell-

Wignall and Atkinson, 2010). Hence, although a weaker regulatory regime is a characteristic of emerging economies, developed economies may experience occasional weakness in their regulatory provision with dire consequences (e.g. the financial crisis of 2007).

According to Demirgüç-Kunt and Maksimovic (1998), the higher the indicative measure on the Law and Order numeric indicator, the better the legal framework to support credit contracts. 'Law and Order Indicator is scored 0-6. It reflects the degree to which the citizens of a country are able to use the existing legal system to mediate disputes and enforce contracts. Higher scores indicate sound political institutions and a strong court system. Lower scores indicate a tradition of depending on physical force or illegal means to settle claims' (Demirgüç-Kunt and Maksimovic, 1998, p. 33). They stated that countries with better legal framework have better loan regulations leading to longer-term loan finance for businesses and better financial system development. They further argue that there is access to finance limitation in countries where the legal framework is inadequate and structurally weak. A good legal framework is one of the institutional development measures for an effective banking market structure and economic growth (Beck et al., 2004). Qian and Strahan (2007) and Williamson (1987b) identified the usefulness of laws and regulation in the inception of loans. These researches show that lending and borrowing can be successful if both parties commit to an authentic contractual engagement within a legal and regulated environment. Thus, good financial sector development can depend on the excellence of the legal and regulatory framework which can improve the finance gap and increase access to finance in small firms.

La Porta et al. (1998) and Pistor et al. (2000) reiterate the findings of Demirgüç-Kunt and Maksimovic (1998) and Qian and Strahan (2007) in that legal and regulatory regimes in less effective economies have negative effect on SME funding. Therefore, there is a link between SME access to finance and effective legal and regulatory system to support associated financial transactions such as finance contracts. In particular, La Porta et al. (1998) showed that effective legal regime can provide protection for creditors in the process of credit lending. Stable government, good governance and less corruption improves entrepreneurial venture formation and a notable example is Peru where positive political changes in governance caused improvement in entrepreneurial venture formation (Klapper et al., 2009). Developing economies are characterised by high agency cost of monitoring associated with IA,

difficulty in contract enforcement and weak regulatory regime (Dutz et al., 2000). On the basis of testable hypotheses, Cook and Nixson (2000) disclosed that common law legal systems are better than civil law in providing better protection for investors. Therefore, the quality of the legal framework documented in the national law books should be adequately implemented to make it relevant in financial transactions for the protection of creditors and debtors alike.

2.3 Key theories for SME financing

This part of the investigation discusses the relevant key theories for SME financing. It is often difficult to identify the relevant theories that impact SME access to finance in management and SME finance research. These include agency cost, signalling, credit rationing, pecking order and discouraged borrower theories. Economists and management scholars developed these theories to explain small business financing behaviour and financial institution lending to SMEs. An economic theory considered in relation to SME financing is the agency cost theory (Ross, 1973). This theory is derived from the theory of agency and embraces the concepts of information asymmetry, moral hazard and adverse selection (Jensen and Meckling, 1976). Previously, economic models of decision-making processes were largely based on the assumption of perfect information (Stiglitz, 2002) or when minor information imperfections are present in markets, the market would still behave similarly to markets with perfect information (Stiglitz, 2000). The information asymmetry (IA) research, however, suggests that the borrower may have more superior information over the lender about their business (Saridakis et al., 2008). Lenders are risk averse and more so in the period of the financial crisis (Saridakis et al., 2013). As a result, they engage in protective and preventive measures to limit their risk. These measures are not without cost implications and agency cost is the sum of monitoring costs, bonding costs and residual loss (Jensen and Meckling, 1976). Thus, as lenders engaged in financial risk management after the credit crunch, they incurred agency costs and this is regardless of the success or failure of the transaction.

Moreover, in signalling theory, lenders are able to make an assessment of potential borrower information to determine the potential borrower behaviour to inform lending decision. Thus, the potential borrower information reduces IA between the two parties (Spence, 1973). For example, in signalling research, the human capital of owner-managers of the business can act as a positive indication of potentially good

performance (Colombo and Grilli, 2005; Saridakis et al., 2008). Whilst Weiss (1995) also discussed the relevance of human capital as a signalling effect in labour economics, Ross (1977) revealed the role of incentive-signalling in the determination of corporate financial structure. There are limited but growing researches in the human capital area indicating that the experience (Gruber et al., 2012) and education (Saridakis et al., 2008, 2013b) of the owner-manager can have a positive signalling effect on lenders in SME access to finance and business lifespan. A notable example is the human capital signalling effect of owner-managers on venture capital funding (Hsu, 2007). Moreover, business registration with limited liability status can improve IA (Klapper et al., 2006). Thus, limited liability status acts as signal of improved IA and encourage lenders to lend. A good legal system can act as signal of improved financially developed environment (La Porta et al., 1998; Levine, 1999).

Economists have also argued that uncertainty and IA may lead to credit rationing (Saridakis and Storey, 2009). Simply we can say that there is a critical level of interest rate where any further increase in interest rate reduces loan supply. This is due to moral hazard and adverse selection problems discussed in Saridakis and Storey (2009). It can be argued, for example, that using high interest rate to determine lending can be counter-productive because on the one hand if the borrower is ill-informed, it may opt for the high interest loan with no regard for high premium interest rate and on the other hand, it may discourage low-risk businesses (Kay et al., 2014; Besanko and Thakor, 1987; De Meza and Webb, 2000; Mattesini, 1990). The concept of credit rationing was introduced by Stiglitz and Weiss (1981) who showed that borrowers who are willing to pay high interest rate may exhibit the propensity for high risk as they may not be able to honour the repayment of the loan. Credit rationing reduces the credit finance available for SMEs and it can be affected by uncertainties in the business environment (such as the financial crisis) and the non-availability of collateral. Earlier review by Storey (1994), however, suggests that credit rationing does not exist on a major scale in the UK and a more recent work by Kremp and Sevestre (2013) shows that French SMEs have not been significantly affected by credit rationing since the recent economic/financial crisis. Moreover, Cowling et al. (2012) used the UK longitudinal dataset spanning the crisis period to show that credit rationed firms in the UK peaked in 2009 as 10% of small businesses were refused.

Another theory that emerges as a result of the presence of IA problems, such as moral hazard and adverse selection in financial markets, is the pecking order theory (Frank and Goyal, 2003). Myers (1984) suggests that pecking order theory is the hierarchy of financing pursuit of SMEs where owner-managers prefer debt finance over equity. The pecking order theory allows owner-managers to determine their financing option and keep full control of their business (Holmes and Kent, 1991) as well as reduce transaction cost (Lopez-Gracia and Sogorb-Mira, 2008). According to the pecking order theory, owner-managers of small firms consider internal sources of business financing before external sources. Lopez-Gracia and Sogorb-Mira (2008) considering a large sample of Spanish SMEs over a 10-year period found that SMEs follow a funding source hierarchy. Therefore, this can be likened to the UK SMEs as the UK and Spain are in the European Union with somewhat related business environment.

Finally, in condition of imperfect information and positive application costs, creditworthy borrowers who fear credit rejection may not apply for any credit and according to Fraser (2008) and Kon and Storey (2003) this group of borrowers is described as discouraged. This brings the recently developed theory of discouraged borrowers to the forefront in SME research. It has been estimated that 4.2% and 4% of US and UK businesses respectively are discouraged borrowers at any one time (Fraser, 2004; Levenson and Willard, 2000). Han et al. (2008) using US data found that riskier borrowers have higher probabilities of discouragement, low risk borrowers are less likely to be discouraged in concentrated markets than in competitive markets. Also, Han et al. (2009) argued that good borrowers may not apply for a loan fearing rejection. Hence, this identifies another dimension in the theory of discouraged borrowers. It has been revealed that good and bad borrowers can be discouraged thereby creating a self-rationing credit device (Kon and Storey, 2003). Interestingly, the number of owners not applying for a loan increased over the economic crisis (Fraser, 2008). Discouragement may point to discrimination in the market for SME finance (Blanchflower et al., 1998; Cavalluzzo et al., 2002). However, Cowling et al. (2012) does not believe that discrimination is relevant, especially in the period of the financial crisis. To this end, it can be said that the financial crisis impacted the theory of discouragement as good and bad borrowers could not easily be exempted from being discouraged in their credit application rejections. Financial constraints and SME

borrower discouragement affect greater proportion of small firms than larger firms (Kay et al., 2014).

2.4 The financial crisis and its role in SME funding

The problem of IA existed prior to the financial crisis and it can be said to have gained more popularity and momentum during the crisis. The financial crisis originated in USA and extended all over the world (Clarke et al., 2012; Ivashina and Scharfstein, 2010). Although the crisis started in the banking sector, some banking institutions were more exposed to higher risk associated with their lending style (Cowling et al., 2012). According to Clarke et al. (2012, p. 372), 'access to external credit' during the crisis contributed to the survival of many firms. Firm size and age played a major role in the lending decision making process as credit lenders favoured larger and older firms during the recessionary period (Cowling et al., 2012). Small firms were particularly more vulnerable during the financial crisis and the vulnerability was more noticeable in the microfinance sector (Wagner and Winkler, 2013). Ahlin et al. (2011) also believe that microfinance firms can be hampered by their operating environment and do better in richer countries as a result of more financial competition, lower interest rate and lower operating cost. According to European Investment Fund (2013), microfinance contributed immensely to reduce the impact of the financial crisis on vulnerable businesses in Europe. To this end, microfinance providers were not exempted from the harshness of the financial crisis and this had a consequent effect on micro-borrowers.

The financial crisis affected small firms and financial institutions causing reduced availability of credit (Cornett et al., 2011) and expensive credit (Fraser, 2008). During recessionary times, many SMEs performed badly (Angwin and Meadows, 2012). Smallbone et al. (2012) found that the financial crisis had a differential effect between the UK and New Zealand. Whilst domestic factors (such as slow housing market activity, temporary drought on the agricultural sector and falling household demand) contributed to the crisis in New Zealand, the UK was affected by global factors. According to Smallbone et al. (2012), the UK was particularly affected as a result of its economic closeness to the USA, the epicentre of the financial crisis. They found that the UK was one of the major economies to exit the recession late. As a way of survival, Smallbone et al. (2012) found that small firms from the UK and New Zealand became resilient, adaptable and flexible. SMEs are required to shift their

strategic focus in recessionary times in order to survive the economic turbulence (Huu and Kock, 2011). Indeed, the shifting of strategic focus enabled some small firms to survive the credit crunch. There were short term policy impacts (such as interest rate cut, reduction of VAT and quantitative easing) resulting from the 'credit crunch' (Cosh et al., 2009, p. 7). However, these short term policy impacts were part of the UK government intervention to support the economy in turbulence.

Whilst Goodhart (2008) attributed the cause of the financial crisis to regulatory failures, Rötheli (2010) identified the misunderstanding of complex risk factor among banks. The complex event that led to the financial crisis can further be explained by the 'shortcomings on the side of monetary policy, rating agencies, and bank regulation' (Rötheli, 2010, p. 119). Moshirian (2011, p. 502) discussed issues of 'regulatory arbitrage and the lack of adequate cross border information and data' to resolve matters concerning the global financial crisis. It appears that the hope of a lasting solution to the financial crisis is not near as researchers say it is now time to look beyond Basel III (Blundell-Wignall and Atkinson, 2010). Indeed, the Basel I and II Accords could not stop the recent financial crisis because they prescribed a global financial risk management and the recent Basel III Accord also prescribed a similar solution, perhaps surreptitiously. Thus, the inadequate cross border information and data will render the solution ineffective.

Bruche and González-Aguado (2010) disclosed that some small firms were unable to fulfil their loan repayment responsibilities during the crisis. The crisis was incomparable and caused a sharp contraction in output lasting many years (Cecchetti et al., 2009). They confirmed that there was increase in the cost of borrowing and reduction in credit availability. There were also credit rejections among SMEs (Fraser, 2008). The venture capital funding provision was affected by the harsh financial crisis (BIS, 2012). They found that there was a 31% reduction in venture capital funding for UK SMEs in 2010. There was a sharp decline in the UK venture capital funding between 2008 and 2009 (OECD, 2013b). European Investment Fund (2013) believe that the venture capital funding provision is still very disappointing in Europe as government fundraising contributed up to 40% of venture capital funding in 2012 to support the market counter-cyclically. They confirmed that the venture capital funding gap is partially being filled with local business angels. National Audit Office (2010) reported that there was a shortfall of £30 billion in the business lending commitments of two major UK banks during 2009 to 2010. The 'net monthly flows of

business lending fell from £7.4bn in 2007 to an overall net repayment of £3.9bn in 2009' (Cowling et al., 2012, p. 778). SME credit rejections in the financial crisis show that the lenders were managing their available liquidity (Cornett et al., 2011). Amidst the credit rejections recorded in the aftermath of the crisis and the reduction in the available credit facilities, SMEs seeking finance increased from 23% in 2007-2008 to 26% in 2010 (OECD, 2013b). They reported that 68% of finance seeking SMEs received their sum while 6% received less than they requested.

The volatile economic environment during the credit crisis caused SMEs to apply changes to their funding strategy (Smallbone et al., 2012). Although some entrepreneurs failed to secure their desired funding during the financial crisis, disadvantaged borrowers reduced their desire for funds (Fraser, 2008). Small firms were found to be more credit constrained during the crisis than before (Popov and Udell, 2012). SMEs using external finance are now 39%, reduced from 50% in 2012 (BDRC, 2013). They confirmed that during the 4th quarter of 2012 or 1st quarter of 2013, 38% of SME credit applicants identified a challenging borrowing process while 36% of them were totally discouraged from applying. The use of personal savings, reduced investment and debt reduction were some of the strategic financial changes applied to some businesses (Fraser, 2008; Smallbone et al., 2012). Indeed, the small firm sector took the greatest shock in their funding during the credit crunch and afterwards (Kay et al., 2014; Cowling et al., 2012).

2.5 Personal characteristics: ethnic minorities and female entrepreneurs

There is an on-going debate in the management literature regarding the role of personal characteristics on external finance (Wright et al., 2015; Irwin and Scott, 2010; Muravyev et al., 2009; Ram and Smallbone, 2003; Blanchflower et al., 1998). In the aftermath of the financial crisis, research show that ethnic minorities and female entrepreneurs suffered more challenges in accessing finance (Irwin and Scott, 2010; Muravyev et al., 2009). For example, ethnic inequality and marginalisation in entrepreneurs seeking business finance caused diversity issues for the UK small firm sector and these marginalised business owners were 'ethnic minority owner managers' (Irwin and Scott, 2010, p. 245). Ram and Smallbone (2003) also identified marginalisation as a major hindrance for ethnic minority owner-managers to accessing finance in the small firm sector. Afro-Caribbean owner-managers suffer the greatest disadvantage in accessing finance for their business start-up, innovation and growth

(Smallbone et al., 2003). They found that Afro-Caribbean owner-managers were more educated amongst the ethnic groups while the Chinese were least educated. However, the Afro-Caribbean owner-managers were more likely to be unsuccessful in accessing bank loans than their white and other ethnic minority counterparts. In a USA study, Blanchflower et al. (1998) found that blacks are far more likely to report problems associated with access to credit for their business as they suffered more loan rejections and were charged higher interest rates in comparison to their white counterparts. Although it was acknowledged that ethnic minority owner-managers in the UK suffer more financial problems in their business start-up, the situation cannot automatically be attributed to discriminatory practice of finance providers (Cowling et al., 2012). However, the researchers were unable to ascertain the reasons for the funding discrepancy associated with differential funding provisions between ethnic and non-ethnic minority owner-managers in the UK. Recent research shows that the challenges to ethnic minority businesses are complex but concern access to finance amongst other factors (Wright et al., 2015).

The UK government has not actually recognised disadvantaged entrepreneurs in its policy statement (BIS, 2012). Unless disadvantaged owner-managers are duly recognised in the UK society, it will be difficult to identify their actual entrepreneurial issues. Smallbone et al. (2003) suggested the need for targeted support provision for certain ethnic groups in their business start-up but as the UK government did not specifically identify disadvantaged groups, it may not have any targeted provision. In a more recent study, BIS (2012) showed that the UK government has not investigated the ethnic related issues in small firm finance. Hence, no targeted provisions exist. Ethnic minority owner-managers preferred 'less intrusive' financial options for funding their business to ensure they keep full control of their venture (Hussain and Matlay, 2007, p. 487). Thus, ethnic minority owner-managers may have difficulty accessing venture capital and angel capital funding because these fund providers tend to participate in running the venture-backed business to ensure greater chance of success.

Female owner-managers do not experience greater level of credit rejections than their male counterparts (Kim, 2006). De Bruin et al. (2007) and Lean and Tucker (2001) also show inconclusive findings in their gender related research. The limitation in the venture capital funding of female entrepreneurial ventures is 'extremely small' (Greene et al., 2001, p. 78). They discovered that disproportionate venture capital

funding provisions exist for male centric entrepreneurial ventures as compared to their female counterparts. Regardless of gender characteristics, venture capitalists provide funding for early stages of start-up and high technology firms where IA and high risk exists (Gompers, 1995). The trend of venture capital funding is changing in support of both gender entrepreneurs (Greene et al., 2001). The 'lower levels of financial capital that women business founders achieve are associated with lower early business growth compared with their male counterparts' (Alsos et al., 2006, p. 667). Whilst female entrepreneurs are more likely to pursue social priorities, their male counterparts prioritise financial/economic considerations in their entrepreneurial ventures (Saridakis et al., 2014). Muravyev et al. (2009) concluded that some evidence exist to suggest positive differential treatment of male against their female counterparts. Although there are seemingly gender differential treatment in entrepreneurial access to finance (Muravyev et al., 2009), the research did not explore other considerations such as collateral, entrepreneurs with track record, relationship lending and uncertain economic environment. New firms encounter difficulties in accessing finance for lack of adequate collateral and the risk associated with their start-up (OECD, 2006). Therefore, the early stages of business start-up are characterised by high risk causing lenders to be cautious of the risk factor by rejecting more credit applications or seeking collateral.

Female owner-managers are 'disadvantaged' in their access to business finance as their innovation and growth are impeded (Marlow and Patton, 2005, p. 721). In evidence, they referred to an Australian study involving both male and female owner-managers in their entrepreneurial ventures. However, Marlow and Patton (2005) revealed that male owner-managers had more assets than females in the research. Irrespective of gender, various researches (Bester, 1987; Besanko and Thakor, 1987; Hanley and Girma, 2006; Mattesini, 1990; Wang, 2010) show that the availability of assets can determine the approval of credit as lenders favour collateralisation, especially in times of credit crisis (Cornett et al., 2011; Ivashina and Scharfstein, 2010). Therefore, it is well established in research that male or female owner-managed small firms that cannot provide adequate collateral for their credit application, suffer more credit rejections. However, it is a worry that BIS (2012) show that there was no investigation of gender related issues in SME access to finance and, hence, the UK government has not taken any action on the matter. In the

circumstance, unless the UK government identifies the gender related issues in SME finance, no intervention will suffice.

2.6 Government intervention

The UK government over many decades recognise the value of SMEs in economic development and, hence, made efforts to support businesses (BIS, 2013a, 2013b). In the Macmillan Report there was need to support businesses in the aftermath of the 1931 stock market crash and the report recognised the existence of a finance gap in the financing of SMEs (Stamp, 1931). The Bolton Report particularly favoured the establishment of small firms as a way to increase entrepreneurship, economic activities and improve societal wellbeing (Bolton, 1971). However, the Bolton Report acknowledged that small firms were in long term decline following numerous challenges including bureaucracy, excessive taxation and lack of access to finance. The Cruickshank Report (Cruickshank, 2000) also identified the existence of a finance gap in SME funding and the lack of competition in the UK banking industry. Indeed, although the UK government has increased its understanding of the small firms sector since 1931, the SME funding challenges have not been resolved.

The UK government supports SME funding using different types of schemes such as Funding for Lending (FLS) and Enterprise Finance Guarantee (EFG) schemes (BIS, 2013b). Other UK government schemes include Enterprise Capital Funds (ECFs), Enterprise Investment Scheme (EIS) and Seed Enterprise Investment Scheme (SEIS) (OECD, 2013b). Hence, although there are different government funding support schemes directed at different types of businesses, there are still some SMEs that experience funding challenges. In particular, BIS (2013a) show that the number of EFG facilities offered in January 2009 was 1221 but dropped to 759 in December 2012 with knock-on effect on SME funding. Whilst the numbers of EFG facilities offered to SMEs continue to decrease quarterly, the value of the EFG facilities also continue to decrease quarterly from £104.25million in January 2009 to £70.69million in December 2012 (BIS, 2013a). OECD (2013b) confirmed that the level of guaranteed loan in OECD member countries declined in both 2010 and 2011 as a result of reduction in the level of government guarantee limit for lenders. Although the EFG fund providers are made up of banking and non-banking institutions, the UK Parliament identified poor communication between the government, EFG fund providers and potential borrowers (UK Parliament, 2009). According to BIS (2013a),

the EFG scheme has offered £2 billion credit and SME borrowers have drawn £1.77 billion between January 2009 and December 2012. Accordingly, a total of 20013 credit finances were offered and 17517 were drawn, being 87.5% drawn over four years and the EFG scheme is benefiting some target businesses. In the FLS, the UK central bank provides funding to lenders at below the prevailing market rates for over a period of four years to facilitate loans to businesses (OECD, 2013b). As at the 4th quarter of 2012, 25% of SMEs were aware of the FLS and 20% of them think such schemes is encouraging (BDRC, 2013). Furthermore, 50% of SMEs were aware of the various schemes for encouraging SME access to finance. Thus, the inadequacy of awareness about the available SME support schemes and non-existent policy support can discourage non-banking sector (the informal sector lending institutions) participation with negative effect on small businesses and the economy.

2.7 Conclusion

This chapter critically reviews key studies from leading economics and management journals to provide understanding of access to finance in the UK for small firms, especially after the credit crunch. SMEs faced varying levels of challenges in accessing finance and the financial crisis increased the difficulty. Start-up firms encountered greater challenges in their survival as a result of their young age, low level track record and the absence of collateral to secure credit. Venture capital and angel capital firms assess funding applications on a case by case basis and there is competition among entrepreneurs for these funds. IA is a major concept linked to key themes (e.g. collateral, credit scoring, market intermediation, business status, collateral, law and banking relationship) in SME finance research. IA is a major problem in SME funding because lenders and borrowers disagree on the level of information perfection – one often claims superiority over the other. IA has become a controversial concept as a result of conflicting research views and lenders have varying interpretation of the level of information perfection expected for success in SME credit applications. IA and finance gap tends to be directly related in small firm research because larger firms do not suffer the same level of finance deprivation and rejections.

Our review shows that the availability of collateral is a major determinant of SME access to finance but the financial crisis affected the collateral value of property assets causing negative equity. Also, the lender is able to rely on a trusted and/or good

long term banking relationship in assessing the eligibility of the owner-manager of the business. A good credit history of small firms and their owner can contribute to successful access to finance. Financial intermediation and registered business status can reduce IA towards favourable bank lending. Further, a good legal and regulatory environment improves SME funding as lenders have more confidence. Good legal and regulatory environment provides a progressive financial sector development. In the quest for business funding after the credit crunch, owner-managers should exploit their strong human capital, build a positive banking relationship, exploit non-bank lending platforms, seek lending information widely and use intermediaries (e.g. mortgage broker, financial adviser, etc.).

Turning to individual characteristics, Black ethnic minority owner-managers face the greatest challenge in raising finance for their businesses as they are often marginalised, more so in the credit crunch. Although research show that the non-availability of credit for Black ethnic minority owner-managers is not attributed to discrimination, there is need for further research to find out the reasons for the bias. Moreover, it is not clear whether there is a stereotypic connotation against female entrepreneurs and favouritism for male owner-managers because research results tend to be inconclusive. Though there are many gender related research in management and SME finance, the issue of gender related bias remain unresolved. Further research in this area, however, should consider other factors (such as collateral, credit history, banking relationship, business status, the use of intermediary, human capital, age of the firm, type and size of the business) since researching gender related issues in isolation could result in false conclusions being drawn without achieving any positive outcomes.

Whilst research indicates that the UK government has been playing an active role in making finance more accessible for SMEs over many decades, it is suggested that there be further research into the sustainability of SME funding provisions to ensure that key sections of the small firms sector are not isolated. This will also ensure targeted SME funding to meet the desired needs of businesses. Undeniably, the various government funding schemes are benefiting some businesses while others suffer but it will take time for recent intervention to take effect. The businesses that are suffering for lack of funding need to be supported before they fail and the available schemes should be communicated widely among SMEs, advisory organisations and government agencies to ensure adequate awareness.

Indeed, the financial sector development of the UK is advanced yet the financial crisis of 2007 was able to propagate bad effects. A good financial sector development relies on an efficient regulatory framework. Thus, although research has discussed a number of possible causes and effects of the financial crisis (e.g. regulatory failures, inadequate cross border information, weakness of the Basel Accords, etc.), there should be further research to review and evaluate the financial sector development of the UK with a view to providing a coherent policy response to mediate future situations. Accordingly, the globalised nature of Basel I and II rendered them ineffective during the 2007 financial crisis and the recent Basel III with perceived better risk management still has a globalised dimension. Therefore, a UK solution is inevitable for better financial risk protection and prevention, albeit an additional and parallel solution to the Basel Accords.

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Chapter 3 Firm Growth: Access to Venture Capital Finance[3]

3.1 Introduction

Access to finance is important for small and medium-sized enterprises (SMEs) to start-up, innovate, grow and survive (Jackson et al., 2012; Megginson, 2004). SMEs use different cocktails of methods of raising funds for their businesses (Saridakis et al., 2008). Venture capital (VC) is an 'alternative' (Denis, 2004, p. 301) or 'substitute' (Maier and Walker, 1987, p. 207) method of raising finance for business venture because VC funding can be used instead of debt finance. According to Maier and Walker (1987, p. 207), VC is a 'substitute, but not a perfect substitute' for funding entrepreneurial ventures following the different approach to access VC funding and debt finance. VC or private equity is one way that innovative SMEs use to raise money for their start-up and growth (Cumming and MacIntosh, 2003; Jackson et al., 2012). Utterback and Abernathy (1975) described innovation in firms in terms of their innovative capacity, competitive strategy and production resources. However, in the business environment, there is no clear definition of best innovation because there is no universal standard of measurement for innovation from one business environment to another (Downs Jr and Mohr, 1976). Therefore, the reliance of VC firms (VCF) on innovation in their entrepreneurial funding decision varies across VC industry; and they employ their funding criteria in making investment decisions. VCF often target their funding towards innovative SMEs as they have the potential for high growth and job creation (OECD, 2002; Smallbone et al., 1995). New growth SMEs are most likely to pursue external funding and they are more susceptible to rejections (Riding et al., 2012).

Although VC is useful for raising finance for business ventures, they are not widely available worldwide (Cumming and MacIntosh, 2003; Megginson, 2004). For example, Pistor et al. (2000) disclosed the legal and regulatory bottlenecks in transitional economies which are having negative effect on finance contracts. On the other hand, Megginson (2004) discussed the value of a strong legal and regulatory framework to protect the VC investment environment and participants alike. The financial crisis of 2007 caused a reduction in the availability of VC in Israel (Avnimelech and Harel, 2012), the UK (BIS, 2012; Fraser, 2008) and other parts of

[3] An earlier version of this chapter was accepted and presented as a conference paper at the ISBE Conference 2013 at Cardiff City Hall, Cardiff, Wales, UK. Hence, the chapter was published as part of conference proceedings for delegates.

the world. For example, there was a 31% decrease in VC for UK SMEs in 2010 (BIS, 2012). VCF in the UK, USA, Netherlands and France identified strategic involvement as their key role in their investment (Sapienza et al., 1996). In the USA, VCF and their investments tend to be concentrated within some geographical areas (Chen et al., 2010). According to Revest and Sapio (2012), UK VCF helped the European VCF to catch up with their USA counterparts in their funding provisions. The USA and Europe VCF have similar prospect of initial public offering (IPO) exit (Axelson and Martinovic, 2013). There is competition among VCF and these increases funding prospects and provisions for entrepreneurs (Elitsur and Gavious, 2011; Sapienza et al., 1996). Also, there is competition for VC among SMEs and some of them do not get their desired fund. However, VC was largely unknown and clouded in secrecy about four decades ago (Bean et al., 1975).

3.2 Main focus of the chapter

This chapter aim to answer the following research questions associated with SMEs and their access to VC finance: (a) To what extent do innovative SMEs in the UK access VC finance? (b) Is there supply and demand equilibrium in access to VC finance in the UK? (c) Does globalisation and competition play a role in the supply of and demand for VC? (d) How has legal and regulatory regime supported VC expansion? (e) How could entrepreneurs and innovative SMEs benefit more from VC finance? These questions are very important in further understanding the VC terrain in the UK and beyond. In a research of 21 European countries, Popov and Roosenboom (2013) found that VCF are actively involved in funding new businesses. According to Guo and Jiang (2013), VC-backed businesses in China outperform their non-VC-backed firms considerably and VC-backed firms encounter astronomical growth after their IPO exits. Although Cornelius (2005) identified risk aversion in VCF, numerous research (e.g. Chen et al., 2010; Guo and Jiang, 2013; Jackson et al., 2012; Megginson, 2004; Popov and Roosenboom, 2013) show that VCF have the capacity to fund innovative entrepreneurial projects.

There is a plethora of information about formal VCF in the research and theoretical literature. Although research (Jackson et al., 2012; King, 2008) shows that formal VCF constitute a great source of access to finance, many entrepreneurs and business people are not fully aware and informed of the potentials of VCF and their investment behaviour. This is particularly apparent in the popularity of VCF in the

UK and USA but less so in developing countries in Asia and Africa (Lingelbach, 2012). Different VC research literatures tend to explore minor areas at a time and it is difficult to find a single research literature resource containing enormous information relevant for key aspects of VC and VCF behaviour. The absence of such a literature resource is a research gap. This research will fill the gap in providing a concise, critical and relevant historical information resource about formal VCF, encompassing the evolutionary trend, for researchers, graduate students, business owners, entrepreneurs and policymakers. This inquiry conceptualises, synthesises and integrates the historical perspectives and evolutionary trend of VCF over a period spanning four decades to inform, especially in times of economic uncertainty. This chapter explores a range of published research literature over four decades with the aim to provide research perspectives on VCF and their relationship to entrepreneurial funding activities relevant to developed and developing countries, advanced and emerging economies. Research literature will provide a more realistic account of VCF, their behaviour and investment environment. This research mostly differs from Wright and Robbie (1998) that adopted a combination of industry and firm level analytical techniques to review and synthesise the concept of VCF and private equity. Similar to their work, this research differentiate VCF as distinct from other sources of business finance but used key themes derived from different research literature to explain the behaviour of VCF and their investment environment over many decades.

The remainder of this chapter is divided into sections made up of key themes. Conceptualisation of venture capital examines the VC concept and private equity including the expansion and exposure of VCF worldwide, how debt financing differ from equity financing; Competitive business environment provides a discussion of the competitive business terrain involving the VCF and entrepreneurs as well as their investment geography; Government and the law explores the government and legal aspects of VC with reference to the legal and regulatory framework and government intervention to support VCF and participants; Behaviour of VCF reviews the behaviour of VCF including exit strategy, investment decision, the valuation of entrepreneurial project for VC purpose and the involvement of VCF in their VC-backed investment; and further discussions provide solutions and recommendations, future research directions and conclusions.

3.3 Background

Formal and informal VCF are two different concepts in business, management and finance research. Harrison and Mason (2000) identified formal and informal VCF as lacking adequate research and, generally, wider research (Cumming and MacIntosh, 2003; Megginson, 2004) shows that VCF were not available worldwide until about two decades ago. Thus, as VCF were not available, their popularity was restricted to few countries such as the UK, Canada and USA. Formal VCF are the VC companies or fund managers (Mason and Stark, 2004) while informal VCF are business angels (van Osnabrugge, 2000). In discussing the difference between formal and informal VCF, researchers (e.g. Harrison and Mason, 2000; van Osnabrugge, 2000) described informal VCF as 'business angels'. The behaviour of business angels and VCF in the society tends to be similar in some ways but they are different (van Osnabrugge, 2000). Business angels may invest in VCF and vice versa, hence, there is a complex disparity between VCF and business angels in modern times. However, formal and informal VCF have some complementing features such as 'co-investing in deals; sequential investing in ventures; business angels as investors in venture capital funds; and deal referring' (Harrison and Mason, 2000, p. 223). As a major difference between formal and informal VCF, van Osnabrugge (2000) shows that they adopt a different approach in resolving agency risks associated with their investments. According to Mason and Stark (2004), business angels are more attentive to the entrepreneur than formal VCF in the process of making funding decision. To this end, it can be argued that formal VCF and business angels have some similar characteristics but they exhibit different investment behaviour, especially in the currently complex business environment characterised by globalisation and a global financial crisis. Consequently, this chapter focuses on formal VCF only.

3.4 Conceptualisation of venture capital

3.4.1 What is venture capital and private equity

Venture capital and private equity finance have some similarities and differences. The following definitions and descriptions provide more clarity between both phenomena:

Private equity is medium to long-term finance provided in return for an equity stake in potentially high growth unquoted companies. Some commentators use

the term "private equity" to refer only to the buy-out and buy-in investment sector. Some others, in Europe but not the USA, use the term "venture capital" to cover all stages, i.e. synonymous with "private equity". In the USA "venture capital" refers only to investments in early-stage and expanding companies (BVCA, 2010).

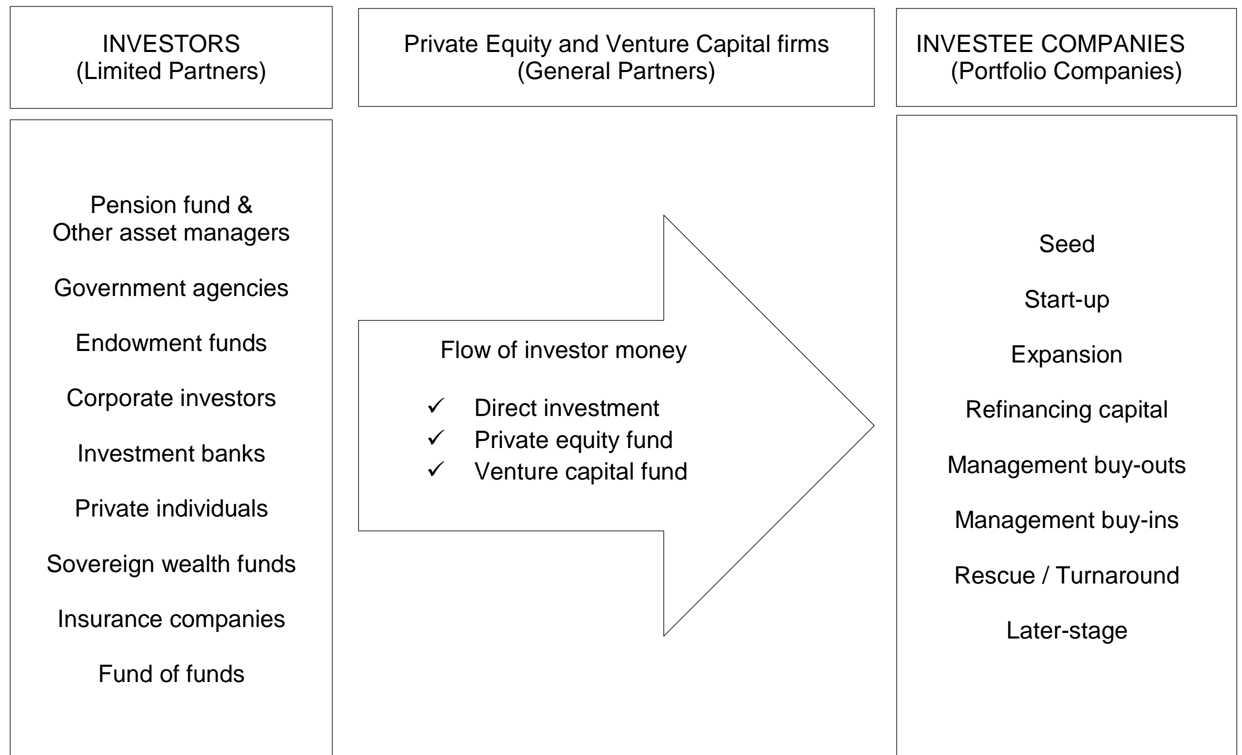
Venture capital firms are professional investors who dedicate 100% of their time to investing and building innovative companies on behalf of third party investors or their limited partners… Venture capital is a subset of the larger private equity asset class. The private equity asset class includes venture capital, buyouts, and mezzanine investment activity. Venture capital focuses on investing in private, young, fast growing companies (NVCA, 2013).

[Venture capital]…*this is when private equity is invested into young, entrepreneur-led, high-potential companies that are typically driven by technological innovation* (EVCA, 2012).

VC is defined as an 'independent, professionally managed, dedicated pools of capital that focus on equity or equity-linked investments in privately held, high growth companies' (Gompers and Lerner, 2001, p. 146). The definitions of venture capital and private equity attributed to BVCA (2010), ECVA (2012) and NVCA (2013) indicate little differences in the meaning of VC from one country to another. However, for the reason of simplicity, this research will adopt VC as a professionally managed fund focussed on equity investments in private and high growth unquoted business.

Figure 3.1 shows venture capital and private equity in the context of the flow of money from investors to investees. Limited partners fund is illiquid and exist for up to ten years to allow funds to be utilized for funding innovative businesses via VCF (EVCA, 2012). Although investors are able to invest directly in any investee or portfolio companies of their choice, they are also at liberty to invest in VC and private equity fund. Private equity and VCF are general partners in their fund management role. Therefore, venture capital is a subset of private equity.

Figure 3.1. Venture capital and private equity funding



The concepts of technology and biomed venture capital are extensions of the VC dynamics worldwide. According to NVCA (2013), the VCF in USA invest in different innovative SMEs which include, but not limited to, clean technology, healthcare and information technology. There is also the dynamics of seed, earliest-stage, early-stage, mixed stage and later-stage financing in VCF (Elango et al., 1995). However, regardless of the financing stage of a VCF, the basic principle of pursuing high returns and risk mitigation remains apparent in their character.

Clustering in the VC industry assume different characteristics and descriptions. VCF that are concentrated in terms of their geographical location or co-location with their investment or similarity in the type of business tend to be described accordingly. For example, Rosiello and Parris (2009, p. 185) described the co-location of VC investments in dedicated biotech firms in Scotland and Cambridge as 'bio-clusters'. As VC start-up co-evolution and technology advancement started and grew in Israel, Avnimelech and Teubal (2004, p. 33) referred to the phenomenon as 'high tech cluster'. The VC investment in clean environmental technology in USA has seen

a drastic increase (beside biotechnology and computing) and majority of VCF in the USA are concentrated in the region of California, New York and New England as a result of the presence of other financial institutions as well as co-investment and syndication opportunities (Florida and Kenney, 1988). They described this regional concentration as regional cluster made up of reputable VC networks and investments. This research will now explore the differences between equity financing and debt financing.

3.4.2 Comparison between debt financing and equity financing

There are similarities and differences between debt financing and equity financing in access to finance for SMEs (Winton and Yerramilli, 2008). Entrepreneurships in the high growth sector tend to embrace equity funding as a result of the potential size of their funding requirement, the inherent high risk and their desire for strategic support from VCF (Gompers, 1995; Greene et al., 2001; Hellmann and Puri, 2002). Amongst the many tasks of VCF in new start-up ventures, they help to ‘review business plans and design contracts’ (Gompers, 1995, p. 1461). VCF engage in high innovative start-up firms such as technology firms in Silicon Valley in USA to exploit their potential high returns (Hellmann and Puri, 2002). This may explain why VCF are very selective in determining their entrepreneurial venture funding (Maier and Walker, 1987; Tyebjee and Bruno, 1984). Debt finance sources provide overdraft or loan facilities to entrepreneurs for their business after credit assessment of the owner has been made, and they tend to support less risky projects as well as businesses with track records (Saridakis et al., 2008). Generally, businesses with track records attract more funding opportunities from investors (Gompers et al., 2006). According to BVCA (2010), creditors have legal right to contractual interest and repayment of capital for their debt finance, whether the debtor profits or not. However, equity funding is an investment in exchange for a stake or part ownership of the funded business with the proviso to share in the risks and returns.

According to Winton and Yerramilli (2008), whilst debt finance sources are associated with less intensive monitoring, VCF engage in more intensive monitoring of the entrepreneurial venture to protect their investment. Researchers (De Bettignies and Brander, 2007; Hellmann, 1998; Kanniainen and Keuschnigg, 2004; Megginson, 2004; Pruthi et al., 2003; Sapienza et al., 1996) explored the monitoring character of VCF worldwide and it can be argued that the monitoring of VC-backed investments is

associated with information asymmetry inherent in existing businesses as well as new start-up ventures. The major reason for the existence of VCF is their ability to resolve information asymmetry (Amit et al., 1998) and this is quite unlike debt finance sources. VCF have a competitive edge over debt finance sources in resolving issues of information asymmetry as they are able to use investment monitoring and selection techniques in an efficient manner (Amit et al., 1998). Thus, while traditional debt finance institutions (e.g. banks) do not monitor borrower businesses, VCF have the traditional competence in screening and monitoring of their investments.

Debt finance takes the form of overdraft or loans from banks while VC or equity funding is in the form of convertible debt (Winton and Yerramilli, 2008). A debt owed to a bank is in the form of a loan which is expected to be paid back with interest but the VCF acquires or purchases shares in the entrepreneurial venture as an investment (Cumming and MacIntosh, 2003). According to them, the number of shares purchased or acquired by the VC in relation to the total shares of the business will determine its percentage ownership and control of the business. VCF use more equity features as a way to ensure business continuity in the most difficult and risky situation (Winton and Yerramilli, 2008). According to Gatchev et al. (2009), firms with high potential for agency cost problems and high asymmetric information are most likely to seek equity financing. However, they found that firms with high asymmetric information pursue debt financing for fixed assets.

In relation to debt finance, De Bettignies and Brander (2007: 808) disclosed that 'the entrepreneur keeps full control of the firm and has efficient incentives to exert effort.' However, with equity finance, De Bettignies and Brander (2007, p. 808) further revealed that 'there is a two-sided moral hazard problem' because both parties in the transaction provides 'unverifiable effort'. Entrepreneurs tend to perform better where they possess high value stake in the business and they reduce their incentive to provide effort where VCF have greater value stake (Amit et al., 1998). There is a potential to favour VC finance over debt finance because VCF contribute high productivity even with less entrepreneurial effort (De Bettignies and Brander, 2007). Also, VCF are more active in supporting their VC-backed companies while debt financiers are 'captive' because they are not involved in the running of their funded business (Bottazzi et al., 2008, p. 488). On the other hand, VCF are described as active investors because they actively participate in the affairs of their VC-backed businesses and hence, they create value (Megginson, 2004). The expansion and

exposure of VCF are not the same as debt finance institutions because they have different funding behaviour.

3.4.3 Expansion and exposure of venture capitalists

VCF started in the USA and expanded throughout the developed world including the UK, Canada and Israel (Hege et al., 2009). Venture capital expansion and exposure in entrepreneurial business finance tend to vary from country to country and from locality to locality (Jackson et al., 2012; Megginson, 2004; Cumming and MacIntosh, 2003). These variations in VCF existence means that exit behaviour, risks, returns and strategy are different (Cumming and MacIntosh, 2003). It has been revealed that VCF involvements in their portfolio of VC-backed investments can be affected if the VCF over-commit its available but limited resources (Jackson et al., 2012).

In 1975, 'very little' was known about VC and the government of USA could not formulate a policy to support VC because it was largely unfamiliar and the available VC information was not in the public domain (Bean et al., 1975). According to their study, whilst many VCF were looking for investment opportunities, potential entrepreneurs were looking for investors. The lack of adequate information about technological innovation and sources of funding meant that VCF were largely unidentified, unfamiliar and wrapped in confidentiality (Bean et al., 1975). However, the expansion of VCF has continued for two and a half decades (Megginson, 2004).

The international expansion of VCF has given a good funding alternative to innovative entrepreneurs to support their businesses (Sapienza et al., 1996). Hege et al. (2009, p. 1) stated that VC is an 'American invention'. The USA has 'about two-thirds of the world's total private equity fund-raising and investment'; VCF are part of 'American practices' and other countries are following the same idea to experience growth in their private equity market (Megginson, 2004, p. 89). The expansion and growth of VCF in the USA has been widely researched and Hege et al. (2009) show that the growth of VCF in the USA is continuing at a higher rate in comparison with other parts of the world. VCF are the 'primary and unique source of funding for small firms' because these small firms have limited access to the capital market, hence, they are very restricted in seeking traditional ways of accessing fund for their business innovation, growth and survival (Maier and Walker, 1987, p. 207). VCF fund 'high-risk, potentially high-reward projects' regardless of the high level of uncertainty associated with the business ventures (Gompers and Lerner, 2001, p. 145).

Alsos et al. (2006) assert that the VC industry is very underdeveloped in many countries except the UK and USA. Although VCF are expanding worldwide, from developed to developing countries and from advanced to emerging economies, the expansion and exposure of VCF originated in the USA (Riding et al., 2012; Sapienza et al., 1996). According to Sapienza et al. (1996) and Hege et al. (2009), it can be argued that VCF in the USA is continuously expanding and other countries are following the pace already set by VCF in the USA. VCF in the UK and USA generated the most value in comparison with other countries (Sapienza et al., 1996). However, Hege et al. (2009) disclosed that USA VCF generate the highest value in comparison to their European counterparts. While the global VC activity is currently 80 per cent in USA, it is 13 per cent in Europe (Mason and Landström, 2012). Revest and Sapio (2012) discussed the wide expansion of UK VCF and their support for European counterparts to increase their value to reach the USA. A more recent research (Axelson and Martinovic, 2013) show that VCF in Europe and the USA have similar IPO exit but Europe underperforms in trade sales compared to the USA. Thus, the expansion and exposure of VCF may not be as important as their business funding potential. However, it can be argued that the expansion and exposure of the VCF should be measured based on their VC-backed investment in their locality and global reach. Thus, the expansion and exposure of VCF across borders encouraged greater competition between VCF and entrepreneurs locally, nationally and internationally.

3.5 Competitive business environment

3.5.1 Competition among entrepreneurs

It is widely recognised in research that VCF provide funding for entrepreneurial ventures but there is competition for VC among entrepreneurs (Bowden, 1994; De Bettignies and Brander, 2007; Elitzur and Gavious, 2011; Gifford, 1997). Therefore, in keeping with simple economic principles, the competition among entrepreneurs for VC can affect the supply of VC available for innovative SMEs. Chen et al. (2010) and Cumming and Dai (2010) discussed the impact of localising VC-backed investments in the same location as their VCF. The major impact of localising VC-backed investments in the same location as their VCF is the competition for VC finance (Chen et al., 2010). Local bias is more prevalent if the VCF is the only investor in the area (Cumming and Dai, 2010). Although it can be argued that entrepreneurs seeking

finance within the locality of VCF may be more advantageous than their counterpart outside the zone, the full assessment of a viable investment opportunity is often conducted by the VCF prior to any investment decision. Thus, the competition for funding among entrepreneurs may become more and more unfavourable the further away they are from the VCF but Megginson (2004) show that the principle of globalisation can make a positive difference to help entrepreneurial ventures. This indicates that globalisation can alter the demand and supply of VC as entrepreneurs will be able to exploit the funding opportunities available in the global VC environment. Cumming and Dai (2010) supports Megginson (2004) in that globalisation can make a difference in reducing local biases. Cumming and Dai (2010) stated that reputable VCF exhibit lesser local bias as they have the tendency to expand their reach far beyond their locality. This suggests that VCF that exhibit local, regional or sector bias are susceptible to be outperformed in the global community. However, high competition for VC finance suggests that some entrepreneurs may face timewasting in a futile pursuit resulting from a lack of VC.

Elitzur and Gavious (2011) revealed the stiff competition for VC finance among entrepreneurs but VCF are able to provide funds for proven entrepreneurial ventures. The huge effort exerted by entrepreneurs in the VC finance seeking process means that valuable entrepreneurial time are wasted in the event of funding rejection (Elitzur and Gavious, 2011). According to Cornelius (2005, p. 599), ‘Competition for ever increasing pools of capital, combined with an increasingly homogenized experiential background for venture capitalists world-wide, has resulted in increased risk aversion and a preference for later stage investments’. Whilst some VCF prefer later stage investments to reduce risk, some others provide fund for early-stage investment with value-added services to mitigate the risks (Gompers and Lerner, 2001; Jackson et al., 2012; Winton and Yerramilli, 2008).

In discussing the BVCA members’ funding engagements, BVCA (2013) revealed that the UK has the greatest number of companies funded as well as the greatest amount invested during 2010, 2011 and 2012. Apart from the UK, they show that BVCA members invest more in Europe than the USA and Rest of the World put together. During 2010, 2011 and 2012, BVCA members’ VC-backed investments in the UK increased but declined in other parts of the world. Although the number of VC-backed companies and amount of funds invested were greater in the UK, the extended funding in the USA, Europe and Rest of the World indicate a globalisation

effect and supports the globalisation phenomenon as shown in Cumming and Dai (2010) and Megginson (2004). Therefore, the increasing availability of VC through globalisation impacts positively on the entrepreneurs and SMEs seeking VC opportunity to start-up, innovate and grow their businesses.

BVCA (2013) shows the distribution of global investments of BVCA members from 2005 to 2012. Although the distribution shows an increase in the amount invested from 2005 (£11,676m) to 2007 (£31,634m), the amount fell drastically in 2008 (£20,025m) and the decline continued to 2012 (£12,288m). The initial decline in 2007 could be attributed to the financial crisis (Saridakis et al., 2008) and the UK government (BIS, 2012) also confirmed the decline in VC associated with the recessionary times. The decline in the amount invested reduced the number of VC-backed companies that could have been funded in the intervening period. As much as there is competition among entrepreneurs for VC, the competition among VCF is also strong as VCF seek good investment opportunities in their habit of screening entrepreneurial ventures.

3.5.2 Competition among venture capital firms

The expansion of VCF has enabled increasing competition in the industry and opened different funding choices such as better funding terms for entrepreneurs (Greene et al., 2001; Hochberg, 2010). VCF competition is on the increase (Gupta and Sapienza, 1992; Hochberg, 2010). According to Gupta and Sapienza (1992), the number of VCF increased in USA by 300% from 1980 to 1989. Thus, the expansion of VCF is a great opportunity for business formation as entrepreneurial competition for funds will become less fierce as more VCF begin to compete for entrepreneurial project funding. As VCF increase locally and globally, their competition will increase with greater supply of VC to satisfy the demand among innovative SMEs.

The international expansion of VC has enabled more entrepreneurs to benefit from business funding from VCF (Sapienza et al., 1996). Their study shows that the international expansion of VCF will encourage globalisation to create a larger market to support entrepreneurs in their start-up, innovation and growth. According to Megginson (2004, p. 89), ‘a global market for venture capital and private equity is emerging’. They added that VCF in Western Europe and North America are experiencing similarly high levels of funding provision, funding patterns and rate of return. Hence, as the number of VCF increase from national territories to the

international stage, their competition will also increase at an alarming rate. That indicates the impact of globalisation on VCF and how innovative SMEs will benefit from the competition.

Tian (2011) suggested that some VCF engage in staged financing of entrepreneurial ventures towards a positive investment outcome. Staged financing can compel the management of entrepreneurial ventures to deliver better returns as a pre-condition for further VC finance. VCF with reputation contribute to better investment performance (Nahata, 2008). They revealed that the reputation of VCF is largely built on their cumulative performance in IPO exits. This suggests that VCF with reputation have competitive advantage over their counterparts and entrepreneurs seeking finance for their ventures are most likely to approach them. It also shows that VCF with reputation have a higher success rate in achieving their funding objective, improved firm growth and contribute to better economic growth. There is competition between one VCF and another (Elitsur and Gavious, 2011). Therefore, as competition is rife between VCF, it creates better funding opportunities for innovative SMEs as they access funds for their businesses. Competition in VCF and among entrepreneurs is not restricted by geographical location and globalisation has played a major enabling role to determine the demand and supply of VC.

3.5.3 Geographical situation

There is an advantage in concentrating VC investments in the immediate locality of the VCF (Chen et al., 2010). Denis (2004) is also in support of the localisation of VC investments. Hence, localisation of VC funding opportunity has the capacity to increase local supply of funds in the immediate vicinity of the VC firm. This shows that the geographical location of the VC can impact the supply of VC if the VCF has locality bias and vice versa. VCF and their investment in the USA were concentrated in San Francisco, Boston and New York (Chen et al., 2010). They also reported that the concentration of the VCF and their associated investment-backed companies in certain geographical locations impacts funding outcomes. VCF consider geographical location for their investment as a result of monitoring requirement because the VCF may not be able to adequately resource the monitoring of distant VC-backed firms (Denis, 2004). It will be better for government to encourage the establishment of new VCF rather than subsidise existing VCF (Chen et al., 2010). Therefore, the establishment of new VCF could improve the existence of more VC-backed

investments and promote competition among VCF to the advantage of entrepreneurs and, eventually, the economy.

The cost of monitoring the proposed VC-backed firm in its geographical location is a key determining factor for VCF investment (Denis, 2004). Consequently, if the perceived monitoring cost cannot be justified for the geographical location, there could be a decision to decline VC for the business. This shows that the cost of monitoring can impact VCF decision to invest causing a possible fall in supply of VC where the monitoring cost is high. Although Chen et al. (2010) show the benefit for VCF in engaging in localised investment, the decision to invest or not in any business is part of the pre-screening assessment of any VCF. Hence, Denis (2004) agreed that the geographical location is very important in reaching that decision. However, Tian (2011) argued that localisation may not be necessary as staged financing can mitigate the high cost of monitoring distant VCF investments.

The use of distant geographical location to determine rejection of VC can be disadvantageous in a competitive market (Hochberg, 2010; Megginson, 2004). VCFs that invest in distant entrepreneurial ventures use staging as a strategic solution to ensure better outcome (Tian, 2011). Staging is a strategic tool for resolving high monitoring cost and Ahlstrom and Bruton (2006) argue that VCF in developed economies have a tendency for rich features in their VC provisions to support their funded businesses. Hence, the strategic staging mechanism for resolving high monitoring costs may not be present in developing, emerging and transitional economies.

VCF in the UK make up 60% of VCF in Europe (BVCA, 2010). This suggests that VCF in the UK are greater in size and reach than VCF in other European countries. According to BVCA (2013), the percentage of VC invested by BVCA members in the UK and Overseas in 2012 was 47% in the UK, USA 12%, Europe 38% and Rest of the world 3%. They revealed that whilst seed capital and total expansion funds have fallen in recent times, other financing stages such as management buy-out / management buy-in had increased VC finance. According to them, although the demand for seed capital VC has increased recently, many VCF have concentrated their investment on later-stage, management buy-out and buy-in thereby increasing the supply of the associated VC.

3.6 Government and the law in venture capital funding

3.6.1 Legal and regulatory framework

Different countries have different rules and regulations guiding their VCF to protect the market and participants (Cumming et al., 2010; Cumming and MacIntosh, 2003). Cumming and MacIntosh (2003) and La Porta et al. (1998) identified the impact of the legal and regulatory regime in VCF across different countries. VCF in mature economies like the UK and USA are more advanced and feature-filled to support business funding engagement (Ahlstrom and Bruton, 2006). According to Cumming et al. (2010, p. 54), 'better laws facilitate faster deal screening and deal origination, a higher probability of syndication and a lower probability of potentially harmful co-investment'. The emerging economies are undergoing the processes of economic changes and institutional transformation to attain maturity (Ahlstrom and Bruton, 2006). Consequently, it can be argued that the main contributory factor to the maturity of VCF in the UK and USA is the advanced legal and regulatory systems protecting all participants through valid contractual engagements. Thus, VCF in emerging and transitional economies could still have some teething problems associated with underdeveloped legal and regulatory systems. VCF are more inclined to fund SMEs where there are valid legal protection for their fund with impact on the demand or supply of VC (Ahlstrom and Bruton, 2006; Cumming et al., 2010).

Developing economies are characterised by high agency fees of monitoring associated with asymmetric information, difficulty in contract enforcement and weak regulatory framework (Dutz et al., 2000). Amidst developed legal framework in law books, there are still constraints on financial markets because the documented legal framework in transition economies (e.g. Bulgaria, Romania, Poland and Uzbekistan) is not adequately exercised by the legal institutions in those countries (Pistor et al., 2000). Therefore, the quality of the legal and regulatory framework documented in the national law books should be implemented to make it relevant in financial transactions for the protection and benefit of all participants. Developing economies are characterised by underdeveloped financial and legal systems (Beck et al., 2005) and these put huge financial constraints on SMEs as VCF are discouraged from investing.

Government policies can exert a remarkable influence on regulating and galvanising financial operations (Jeng and Wells, 2000). Efficient and effective legal

and regulatory regime has the potential to create better financial relationships (Cumming et al., 2006). There are difficulties in initiating VC system through policy formulation in India as the Indian macroeconomic environment is characterised by lack of stability and history of government ownership (Dossani and Kenney, 2002). Thus, the benefit of sound government policies cannot be overemphasised because a reliable and relevant government policy will result in an efficient and effective legal framework to support and protect the VC investment environment and participants. Megginson (2004) and Cumming et al. (2006) discussed the usefulness of a relevant legal regime to protect the investment environment and their participants. Research shows that 'countries with English common law codes offer greater protection to investors' and apart from USA, the 'European Union has had little success in establishing community-wide commercial laws, taxation regimes, or corporate governance policies (Megginson, 2004, p. 89). Each of the countries in the European Union have a 'segmented national markets, and investment also tends to be largely localized' (Megginson, 2004, p. 89). They further argued that the Asian markets are even more fragmented than the European Union markets because VC market is underdeveloped in Japan and China as they lack the requisite basic legal infrastructure to support VCF. Although the introduction of VCF in China can be traced back to the 1980s, substantial development did not start until recently with the support of VCF in major economies like USA (Lu and Tan, 2012). Indeed, the majority of the countries in Asia are either developing or emerging economies, hence the VC industry is still not advanced and this will have effect on the available legal and regulatory framework.

La Porta et al. (1998, 2000) and Cumming et al. (2006) discussed the usefulness of a reliable legal system to support VC relationship with their VC-backed companies. According to Cumming et al. (2006, p. 214), 'Legality is a central mechanism which mitigates agency problems between outside shareholders and entrepreneurs, thereby fostering the mutual development of IPO markets and venture capital markets.' Although the relevance of a good regulatory regime is well established, research shows that countries have varying levels of soundness in their framework (La Porta et al., 1998, 2000). According to Cumming et al. (2006, p. 214), 'the quality of a country's legal system is much more directly connected to facilitating VC-backed IPO exits than the size of a country's stock market.' Therefore, in the absence of a solid legal and regulatory regime, there could be less VCF and the

agency cost will be high. However, staged financing may reduce the high agency cost (Dutz et al., 2000) associated with SMEs in emerging and developing economies but this is largely unproven. Consequently, the demand and supply of VC relies on the quality of the legal framework in operation and where the legal provision supports investors as well as investees, there will be favourable VC funding opportunities.

3.6.2 Government intervention

Governments now recognise the value of VCF in economic development (Megginson, 2004; Cornelius, 2005; Chen et al., 2010). Chen et al. (2010) recommends the establishment of new VCF rather than subsidising existing VCF because new VCF will be able to support new portfolio of VC-backed companies. The government should carefully target support for VC initiatives that can support portfolio companies as a way to boost economic gains (Cornelius, 2005). The governments should direct their effort to support VCF by 'eliminating regulatory road-blocks, lowering taxes, and providing a favourable investor climate' (Megginson, 2004, p. 89). VCF with reputation contribute to greater entrepreneurial venture success (Nahata, 2008). Accordingly, as VCF with reputation fulfil their objective of delivering excellent result for SMEs, there will be a positive impact on economic development. Therefore, the government can encourage VCF to forge an excellent reputation, and thereby provide indirect support for entrepreneurial ventures.

The government of any nation has the responsibility to ensure laws and their enforcements are effective and efficient at all times to support VCF and other financial deals, especially to protect investors and uphold positive corporate governance (La Porta et al., 1998, 2000). Cumming et al. (2006) also argued for the relevance and value of legality in VCF and entrepreneurial venture funding with particular reference to exit strategy. Israeli VC environment was facilitated by the involvement of the Israeli government using targeted programmes at different groups including start-ups, university spin-offs and incubators (Avnimelech and Harel, 2012). The support of businesses with high growth potential and VCF is an encouragement for better economic growth (Lerner, 2010). Therefore, as well as innovative businesses, VCF require government support in policy formulation to contribute to greater economic development.

3.7 Behaviour of venture capital firms

3.7.1 Exit strategy

The exit strategies of VCF vary between countries (Black and Gibson, 1998; Cumming and MacIntosh, 2003). Cumming and MacIntosh (2003) disclosed two levels of VCF exits including full and partial exits. These two levels of VCF exits can be subdivided into 'full acquisition..., partial acquisition…, write-off… and partial write-off' (Cumming and MacIntosh, 2003, p. 514). There are two exit strategies associated with VCF in the USA including rapid exit from portfolio investment and exit through an IPO (Black and Gibson, 1998). Partial exits could be a tax efficient way to limit tax burden on exit thereby eradicating or reducing tax liability at a later date (Cumming and MacIntosh, 2003). Partial exit strategy in VCF ownership shows a signal of quality (Cumming and MacIntosh, 2003). In measuring IPO success, experienced VCF and entrepreneurs contribute to a better exit factor (Axelson and Martinovic, 2013). However, it can be argued that the reason for partial exit could be a ploy to limit losses and make the business appear attractive to potential investors or it could be an attempt to share the huge losses of the business with other potential investors. So, a partial exit signal should not be used to determine VCF investment decision or measure potential returns on investment.

The VCF is unable to exactly time its exit from the market (Ball et al., 2011). Consequently, the entry and exit of VCF from the market is a valid business decision, however, the timing of entry and exit can be impacted by normal market forces, the activities of other participants and economic downturn. To this end, economic downturn such as the financial crisis of 2007 can impact negatively on IPO exit. Axelson and Martinovic (2013) disclosed the use of trade sales as an exit strategy. They believe that Europe VCF have 8% lower probability of achieving trade sales compared to USA. The experience of the entrepreneur and VCF can determine the level of success in their exit (Axelson and Martinovic, 2013). However, VCF exit strategy associated with trade sales could be impacted by economic conditions such as the financial crisis of 2007.

3.7.2 Investment decision

The decision to invest or not in an entrepreneurial venture is the sole responsibility of the VCF considering its investment criteria (Chen et al., 2010; Denis, 2004; Hisrich

and Jankowicz, 1990). Investment decisions take huge management time and depend on the portfolio composition of the VCF (Petty and Gruber, 2011). The role of 'intuition' in the VCF investment decision process is very important and entrepreneurs seeking VC should adopt different approaches to meet the requirements of different VCF (Hisrich and Jankowicz, 1990, p. 49). Although some VCF may adopt intuition in their funding decision (Hisrich and Jankowicz, 1990), the same approach may not be relevant to other VCF because Elitsur and Gavious (2011) show that high competition exist among VCF for entrepreneurial funding opportunities. As there are diverse VCF, entrepreneurs seeking VC finance should widen their approach to different VCF (Hisrich and Jankowicz, 1990). There are different types of VCF and they adopt different approaches to their funding decisions (Elango et al., 1995). Therefore, whilst some VCF engage in early or late stage of project funding, others are more flexible in pursuing a mixed investment agenda. However, recent research shows that there is concentration of VC funding opportunities in the later-stages and management buy-out/buy-in because VCF have become more risk averse (Cornelius, 2005). Hence, entrepreneurs can expand their funding search as wide as possible to attract potential VCF.

Franke et al. (2006, p. 803) acknowledged 'similarity biases' associated with the evaluation of VCF investment. There are VCF that concentrate their investment on entrepreneurial ventures similar to themselves in their investment decision (Franke et al., 2006). They confirmed that VCF with experience of new business formation or large companies tend to give priority to the entrepreneurs exhibiting such contextual traits. Also, 'VCF who themselves have an engineering and managerial education tend to rate teams in which both competencies are present' (Franke et al., 2006, p. 803). According to them, other similarity biases identified are age and educational attainment.

The unwillingness to take risk is dominating the world of VC (Cornelius, 2005); hence, the rejection of funding based on the over riskiness of the entrepreneurial project could become the norm. However, there is overwhelming research which supports the propensity of VCF to take risk both at the early-stage and later-stage of entrepreneurial venture formation and growth (Gompers and Lerner, 2001; Jackson et al., 2012; Winton and Yerramilli, 2008). According to Tyebjee and Bruno (1984), VCF are able to assess the riskiness of projects prior to funding decision in accordance with their criteria. However, VCF have the potential to over-

commit themselves in their VC finance decision (Jackson et al., 2012). Also, some VCF have 'prior business experience' to support their investment decision (Bottazzi et al., 2008, p. 488). Cumming and Dai (2010) argued that some VCF developed a rule whereby their VC-backed firm must be within twenty minutes travel from their office location. To this end, different VCF adopt different approaches to funding projects and whilst some VCF engage in traditional funding approaches, others are more flexible. As a result, the rejection decision of one VCF may not affect the acceptance decision of another.

VCF tend to use excessive control rights as a contract tool in their entrepreneurial venture funding (Hellmann, 1998) but Black and Gibson (1998) show that some VCF give good entrepreneurs the opportunity to retake their rights to control their business through an exit IPO. Hence, at the time of contract, VCF ensure they have control rights over the VC-backed companies so that they can adequately protect their interest in the entrepreneurial venture. There can be tension between VCF and the entrepreneur in determining their rights during their relationship as a result of conflicting interests (Black and Gibson, 1998). According to Hellmann (1998, p. 57), the excessive control rights of the VCF can include 'the right to fire entrepreneurs.' The use of control rights enables the VCF to remove the strong hold-up of the entrepreneur from the leadership of the business venture to allow more 'superior management team' (Hellmann, 1998, p. 57). However, entrepreneurs could interpret the excessive control rights of VCF as meddling with the potential to heighten tension and conflict. Meanwhile, Florin (2005) show that entrepreneurs who do not wish to relinquish business control may not seek VC because Hellmann (1998) suggest that VCF are known to exert control rights over their investment at the possible detriment of the entrepreneur.

3.7.3 Risks and returns

Indeed, to exit or not is a strategic business decision that must be taken to ensure optimal performance of the VCF and the associated portfolio of VC-backed companies. The decision to invest is marred by complexity and difficulty with serious risks of adverse selection (Fried and Hisrich, 1994). VCF have limited resources to invest and they engage in protectionist activities (such as screening, monitoring and controlling) aimed at reducing their investment risks and maximising returns (Jackson et al., 2012). Hence, VCF activism can improve investment performance to a limited

extent unless it is optimally resourced. The growth of the portfolio size has a tendency to over-extend the available scarce resources of the VCF with reduction in returns (Jackson et al., 2012). Kanniainen and Keuschnigg (2004, p. 1935) revealed the existence of 'optimal VC portfolio size with a trade-off between the number of companies and the value of managerial advice.' Using the simple principle of economics, whilst the portfolio size growth of VCF investment increases to an optimum level, there will be increasing returns but at the stage where the VCF investment increases beyond the optimum level, there will be diminishing returns resulting from lesser performance associated with scarce human and financial resources.

The monitoring of VC-backed companies may become reduced with the increase in the portfolio of VC-backed companies (Jackson et al., 2012). VCF increase the monitoring of their investment in response to the inherent agency risks involved (Sapienza et al., 1996). VCF increase monitoring at the early-stage ventures following the intrinsic uncertainty involved (Sapienza et al., 1996). Kanniainen and Keuschnigg (2004) also argued that VCF strictly monitor entrepreneurial start-up investments. Risk is a key reason for VCF monitoring (Gompers, 1995). Many VCF opt for later-stage investments as a way to limit their risk and increase returns (Cornelius, 2005). Thus, the reduced monitoring of high risk VC-backed companies could lead to business failure of the associated investment and financial losses for the VCF.

Pruthi et al. (2003) discussed the investment monitoring behaviour of foreign and local VCF to determine similarities and differences. In India, Pruthi et al. (2003, p. 175) disclosed that foreign VCF were more involved at 'strategic level' while domestic VCF were more involved at 'operational level'. According to them, as a way to limit risks, foreign VCF engage in limiting their VC-backed companies from further borrowing commitments. Thus, the restriction on further borrowing could be a form of staged financing, which is a strategic tool to raise the performance of the VC-backed firm and reduce potential losses.

The VCF financing of projects associated with serial entrepreneurs tend to produce huge success for the VCF investors (Gompers et al., 2006). Entrepreneurs with previous record of accomplishment in their business are more likely to progress than new entrepreneurs without experience (Gompers et al., 2006). Researchers (e.g. Cumming and Dai, 2011; Jackson et al., 2012; Kanniainen and Keuschnigg, 2004;

Sapienza et al., 1996) corroborate the usefulness of experience in entrepreneurial capability in business performance. According to Gompers et al. (2006), the success of a previous business venture is a signal of the capability and quality of the entrepreneurs thereby increasing their chance of getting more funding for further business ventures.

Whilst Beckham et al. (2007) revealed that the composition of the management team of the entrepreneurial venture being VC-backed can determine success or failure of the investment, King (2008) disclosed that the use of funding rounds will ensure the management team perform better with clear milestones. According to Beckham et al. (2007), the presence of rich diversity in the team demography of the management team improves broad access to information about the firm performance and helps to support the VC-backed business. The top management team show huge improvement as a result of a diversity of prior affiliations and extensive experiences with functional diversity in the management team (Beckham et al., 2007). They revealed the value of a diversity of management skills, experience and affiliations in limiting the risk of failure in VC-backed companies. There were better positive outcomes recorded for VCF investment in entrepreneurial businesses with excellent top management team and returns were impacted positively (Beckham et al., 2007). The VCF may introduce the concept of funding rounds as a way to release funding in stages to meet certain critical milestone (King, 2008). Tian (2011) also supported the use of funding rounds as a staged funding arrangement that can lead to positive outcomes. Hence, unless the entrepreneurial venture is able to fulfil the expected milestone, the next funding round could be delayed or cancelled. The release of funds in stages puts the management team of the VC-backed business in check and improves the success of the business or reduces the loss associated with possible business failure (King, 2008; Tian, 2011). VC-backed entrepreneurial ventures in distant places get funding through the process of staged funding rounds and leads to positive entrepreneurial outcomes as the funded business is able to progress to IPO in a short time (Tian, 2011).

The arrival of a new generation of industry participants has changed the original character of VCF from being inclined to take risk to more risk aversion (Cornelius, 2005). This suggests that there is increased risk aversion over time among VCF as they reduce their investment concentration in start-up businesses. Although VCF may reduce their funding for seed and early stage entrepreneurial projects, they

could increase funding for other financing stages like management buy-out or buy-in (BVCA, 2013). Thus, investing in management buy-out or buy-in is a risk reduction strategy. Megginson (2004) and Chen et al. (2011) show that VCF have tolerance for high risk depending on the business venture and King (2008) provided a strategic safeguard against risk using staged financing in different rounds with milestone review. Whilst some VCF specialise in early-stage funding, another type of VCF engage more in later-stage (Gompers and Lerner, 2001; Jackson et al., 2012; Winton and Yerramilli, 2008). However, the early-stage funders in high technology innovative SMEs with high risk have the potential for huge returns. Therefore, VCF may fund a business after successful risk assessment but the real test is the marketplace where the product is expected to outperform its rivals to produce high returns.

3.7.4 Valuation of entrepreneurial ventures

The valuation of entrepreneurial ventures during the initiation of VC finance is a controversial issue and subject to intense negotiations (Cumming and Dai, 2011). VCF aims to maximise their returns on their investment as much as possible (Jackson et al., 2012). Networked VCF can restrict market entrants and determine the valuation of entrepreneurial projects as they force a decrease in actual market valuation to benefit themselves (Hochberg et al., 2010). They found extremely lower market valuations recorded for densely networked markets. Thus, there is a great need for equitable project valuation to ensure fairness during the negotiation stages of the VC finance arrangement. Apart from public company valuation, private company valuations are subject to negotiations between the entrepreneur and the VCF (Cumming and Dai, 2011). Unlike public company valuation, Cumming and Dai (2011) revealed that there are no established guidelines for private company valuation. Hence, networked VCF can limit new entrants with a restricted market in their favour and lead to undervaluing of proposed VC-backed businesses (Hochberg et al., 2010). According to Cumming and Dai (2011, p. 2), 'firm valuations are positively correlated to measures of limited attention.' Thus, the greater the value of the firm on valuation and the greater the VC ownership, the more attention the VC firm will show to the investment and vice versa. The VCF increases its power of negotiation where there is a proportionate increase in the value of its ownership of the VC-backed company (Cumming and Dai, 2011).

Bowden (1994, p. 307) identified the concept of 'cooperative bargaining' as an encounter between the VCF and the entrepreneur in the process of arranging VC finance. It is cooperative bargaining that determines the terms of the funding arrangement between the VCF and the entrepreneur to create mutually beneficial arrangement (Bowden, 1994). A networked VCF environment (Hochberg et al., 2010) could artificially determine the deal between the VCF and the entrepreneur thereby removing cooperative bargaining. Thus, whilst the VC and entrepreneur will cooperatively reach a mutually beneficial arrangement in the funding transaction in a non-networked VCF domain, there could be no mutually beneficial bargain in a networked VC environment. The findings of Hochberg et al. (2010) about networked VCF suggests that market forces of demand and supply could be altered artificially in favour of networked VCF in the valuation of entrepreneurial ventures.

3.7.5 VC involvement

VCF in the UK and USA are more involved in their VC-backed investments than their counterpart in other parts of the world (Sapienza et al., 1996). The involvement of VCF in their portfolio companies is an attempt to reduce information asymmetry and show their desire to protect their investment towards attaining better return while reducing risk considerably (Amit et al., 1998). However, Jackson et al. (2012) show that the involvement of VCF in their VC-backed companies can become overstretched to the point of overextending their limited resources. They further argued that financial and human resources are limited to the extent that when they become depleted, the capacity of the VCF to fulfil further investment opportunities becomes reduced or non-existent. Therefore, VCF cannot overextend their scarce resources and continually attain success in their VC-backed investments. Also, the support and mentoring of VC-backed business in a syndicated arrangement can be problematic (Cumming et al., 2010) but some VCF are involved in co-investment and syndication (Florida and Kenney, 1988) to support their risk exposure.

Sapienza et al. (1996, p. 439) identified 'strategic involvement' as one of the key role of VCF in their investment. VCF provide 'financial and business advice and functioning as a sounding board' (Sapienza et al., 1996, p. 439). Keuschnigg and Nielsen (2003) echoed the significance of good business advice to aid the survival of businesses. Interpersonal and networking roles are other valuable functions of VCF for their portfolio companies (Sapienza et al., 1996). They described interpersonal

roles of the VCF to include mentoring and confidant of the executive officers of the VC-backed business. According to them, the networking role of VCF is characterised by the maintaining of valuable professional contacts to support their VC-backed companies.

Timmons and Bygrave (1986) discussed the involvement of VCF in their VC-backed companies as a way of adding value to the entrepreneurial venture. Timmons and Bygrave (1986) stated that intelligent entrepreneurs who seek VC finance tend to approach VCF with reputation, recognition and experience as a way of adding value to the entrepreneurial venture rather than funding alone. Nahata (2008) also identified the relevance of a reputable VCF in entrepreneurial search for fund because such VCF are able to support their VC-backed investment for a quicker IPO with better asset value. Therefore, knowledgeable entrepreneurs seek funding and value-added involvement from VCF. This shows that apart from VCF verification and validation of entrepreneurial venture suitability for funding, intelligent entrepreneurs also perform checks on their VCF for funding suitability. VCF who are able to play a highly productive role in new and evolving firms will attract better quality ventures (Timmons and Bygrave, 1986). Hence, a highly constructive role for VCF will encompass strategic, interpersonal and networking involvement in their VC-backed companies.

VCF are actively involved in their VC-backed companies as a way to ensure success (Gifford, 1997). The partial ownership of the funded business venture dilutes the incentive of the entrepreneur to provide effort (De Bettignies and Brander, 2007). There is a preference of VC finance over debt finance where the productivity of VCF is higher relative to lower entrepreneurial productivity (De Bettignies and Brander, 2007). The VCF pursues an efficient allocation of attention because it considers the opportunity cost of giving attention to all its VC-backed companies (Gifford, 1997). The VCF allocates its attention optimally to provide for its existing portfolio of VC-backed companies as well as the assessment of potential projects for funding (Gifford, 1997; Shepherd et al., 2005). The selecting and monitoring of investments is a major function of VCF in protecting their business interest (Amit et al., 1998).

3.8 Conclusions and future research directions

Innovative SMEs in the UK have access to VC finance. However, there are limitations in the supply of VC depending on the entrepreneurial project viability and

its level of innovativeness. As there is no clear universally accepted definition of best innovation, VCF make investment decisions on the basis of their criteria. As a result, different VCF make their investment decisions using their selection strategy. There is no supply and demand equilibrium in access to VC finance in the UK because there is no uniform supply of and demand for VC finance. Recently, VCF have targeted their investment on later-stage, management buy-out and buy-in to limit their risks and increase returns. In their risk aversion, VCF have become more stringent in their entrepreneurial project selection and monitoring with reduced funding of seed and early stage of projects. As UK VC funders are involved in global VC finance, their risk aversion has spread abroad. UK VCF invests more in the UK than other countries and this may reflect a localisation bias. However, localisation bias also applies to the USA because VCF are concentrated in some localities (such as San Francisco, New York and Boston) and the total investment of USA VCF in their locality exceeds their investments outside the USA. Therefore, innovative SMEs should first exploit their immediate locality for VC finance.

Globalisation has positively impacted the demand and supply of VC; and innovative SMEs and entrepreneurial projects are at an advantage. The expansion of VCF from the USA, the source of VC civilisation, to outermost part of the world opens a massive potential market for innovative SME access to VC finance. As competition for VC increases among entrepreneurs, competition for entrepreneurial venture funding also increase among VCF following national and international expansion thereby creating a balanced and competitive environment to support businesses from both sides of entrepreneurs and VCF. Hence, globalisation has provided entrepreneurs with the opportunity to seek funding beyond immediate locality as reputable VCF are now global and able to fund innovative SME projects at a distance across countries and continents.

The major contributor to the highly developed VC environment in the UK is the provision of a good legal and regulatory regime. This has allowed a greater chance of VCF expansion, hence, making the UK and USA the pioneers in VC expansion. The level of maturity of the legal and institutional framework impacts positively on the expansion of VCF and their capacity to support VC-backed investment. It is well known that a good legal and regulatory framework provides protection for financial contracts to help VCF and SMEs. The government of other countries should intervene to ensure adequate and valid regulatory framework to support VC provisions and

participants to boost new business formation, business growth and improve job creation towards better economic development. This research could stimulate discussion around existing legal and regulatory regimes around the world as policymakers can refocus their existing policies to support a better VC environment for SMEs, investors and investees. The government and policymakers in emerging, transitional and developing economies can now emulate VC developments in advanced countries like the USA and the UK. However, the UK and other developed economies should promote a stable economic and financial sector development to support the continued existence, growth and advancement of VC. While there are underdeveloped financial and legal systems, there is no encouragement for VCF to invest, expand and flourish.

Entrepreneurs and SMEs are encouraged to use this research as their VC knowledge base to help them make appropriate decision when seeking VC for their innovative business venture. In seeking access to VC finance, knowledgeable entrepreneurs and innovative SMEs could target experienced and reputable VCF suited to the project domain and relevant to the funding stage. Globalisation is a force for good to support entrepreneurs in VC finance-seeking worldwide. Therefore, growth oriented entrepreneurs should be able to channel their funding application widely to a suitable VCF for their innovative project locally, nationally or internationally.

VC-backed firms grow astronomically and outperform their non-VC-backed firms by a wide margin in growth and performance. VCF target high growth companies and innovative SMEs because such businesses exhibit high potential for job creation, high growth and innovative behaviour with consequent positive effect on returns and the economy. As a result, non-innovative SMEs may not be successful in their quest for VC regardless of their firm size. Although VCF have different areas of specialism, they target innovative SMEs at various stages of their formation and existence to take advantage of their innovative characteristics with the potential for higher than average returns.

Formal VCF and their funding behaviour have increased in popularity, reach and significance because globalisation has enabled the expansion and exposure of VCF worldwide, though at a varied pace from one country to another. Debt finance and equity funding satisfies the financial needs of businesses. Whilst debt finance is used for less risky entrepreneurial projects, VCF fund more risky projects with

monitoring and screening as mitigation against risks. Although VCF are selective in their funding, they represent an alternative funding source for entrepreneurial ventures such as high-risk but potentially profitable projects. VCF understand that if high-risk projects are strategically managed, they have the potential to become profitable and VCF exert control rights over their VC-backed investments for their benefit. In recent recessionary times, risk aversion has been introduced to VCF investment decision-making process with the result that less start-up firms are funded, except for management buy-outs and buy-ins. However, there are differences between VCF depending on their specialisation including seed, early-stage, later-stage and mixed group. Different types of VCF make different types of VC-backed funding decisions to support innovative SMEs and entrepreneurs.

Further research is required to advance VC provisions and knowledge base to support innovative SMEs in the UK and worldwide. Specifically, VCF are increasing in popularity but declining in their funding provision and it is not clear why this is the case. VCF have gained increasing popularity since their introduction in the USA during the last four decades; however, VCF have become more risk averse even in a globalised business environment amidst their financial risk management, screening and monitoring capabilities. This is not traditionally compatible with their huge appetite for high risk and high returns. Therefore, this is an area requiring further research.

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Chapter 4 Exploring the Spheres of Crowdfunding[4]

4.1 Introduction

Crowdfunding is a method of fundraising directly from members of the public with small individual contributions using the internet (European Crowdfunding Network, 2014). The spheres or types of crowdfunding are reward-based, equity-based, donation-based and credit-based. These spheres were discussed in FCA (2014a) and Bradford (2012) because the need for regulation in crowdfunding has become apparent. Apart from the UK, the USA has recognised crowdfunding as a way of funding entrepreneurial projects and this initiated the Jumpstart Our Business Start-ups Act (JOBS Act) (Stemler, 2013). Prior to the JOBS Act in the USA, researchers (Burkett, 2011; Hemingway, & Hoffman, 2012) disclosed the conflict between equity-based crowdfunding and the existing United States securities laws. Therefore, for crowdfunding to be operated lawfully in the USA, changes had to be made to existing securities laws. Accordingly, the former President of USA, Barak Obama, stated in one of his speeches that the provisions of the JOBS Act are a potential game changer in the USA as businesses will have the opportunity for start-up and growth to the next level (Thompson, 2012). Apart from business reliance on personal savings, loans, private equity, venture capital and angel capital, crowdfunding is a new concept in access to business finance.

Venture capitalists left a funding gap in the early stage of new business development and crowdfunding is quite capable of filling that gap (Ley, & Weaven, 2011). Thus, crowdfunding is a relatively new, alternative and additional method of access to finance for small and medium-sized enterprises (SMEs) and other early stage projects. As crowdfunding is increasing in popularity in social media, business and research community, it is beginning to make impact as a seed and start-up fund for new firms. Crowdfunding has been identified as one of the alternative finance mechanisms for individuals and businesses to explore for their capital needs (Collins, Swart, & Zhang, 2013). Therefore, members of the public can fund a project with

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[4] This chapter was published as a Business Reference book chapter (ISBN 978-1-4666-9604-4) – Imarhiagbe, B. O. (2016) Exploring the spheres of crowdfunding. In D. Assadi (Ed.), *Strategic Approaches to Successful Crowdfunding* (pp. 190-209). Hershey, PA: Business Science Reference. doi:10.4018/978-1-4666-9604-4.ch009

little individual financial contribution in collaboration with others through the internet.

As crowd funders or investors are distributed all over the world, different regulatory provisions are being introduced from one country to another. Developed countries have introduced crowdfunding associations. One of these is the UK crowdfunding association (UKCFA, 2014) which was formed by fourteen crowdfunding businesses in 2012 and the membership has since grown to forty-three in December 2014; this is a 250% increase in membership over two years. Other crowdfunding related associations include National Crowdfunding Association in USA (NLCFA, 2014), National Crowdfunding Association of Canada (NCFA, 2014), Crowdfunding Professional Association in USA (CFPA, 2014) and Crowdfund Intermediary Regulatory Advocates in USA (CFIRA, 2014).

Web technology is the key driver of all the spheres of crowdfunding (European Crowdfunding Network, 2014; InfoDev, 2013). Entrepreneurial access to crowdfund platform is a globalisation phenomenon (Agrawal et al., 2011). As web technologies provide the enabling platform for many business successes, crowdfunding is being propelled using the internet (European Crowdfunding Network, 2014). Greater levels of crowdfunding campaign are initiated by creative individuals and within metropolitan areas (Antonenko, Lee, & Kleinheksel, 2014). This shows an evidence of spatial proximity in crowdfunding.

European and North American organisations have recognised the relevance of crowdfunding for project fundraising. However, World Bank research confirmed that developing economies are at different stages of recognising crowdfunding in their policy framework with South Africa leading with four crowdfunding platforms (InfoDev, 2013). Although the UK financial regulator, the Financial Conduct Authority, has produced a policy statement for crowdfunding and approved some providers, it is still interacting with stakeholders and providing guidance to potential entrepreneurs on the operational models (FCA, 2014a).

According to Danmayr (2014), North America and Europe represent 98% of the worldwide crowdfunding industry and the crowdfunding industry has grown periodically from 64% in 2011 to 81% in 2012 and the growth has continued unabated. Thus, the growth of crowdfunding has become astronomical over a few years and the future potential of growth is unimaginable. There is a strong positive signal of better access to crowdfunding money and this could lead to improved access

to other forms of finance such as venture capitalists and business angels (Lehner, & Nicholls, 2014). It is now confirmed that crowdfunding is helping to raise money for scientific research and success factors abound (Wheat, Wang, Byrnes, & Ranganathan, 2013).

Successful crowdfunded projects show the value of small contributions in access to finance for entrepreneurial projects (Firth, 2012). Siva (2014) also report a success story of a science based crowdfunded project. In the UK, equity-based crowdfunding increased 618% and reward-based crowdfunding increased 387% from 2012 to 2013 (Collins et al., 2013).

There are huge management implications in the spheres of crowdfunding. These are summarised as follows:

- **A new phenomenon:** As a new manifestation, crowdfunding is a growing business area for expansion.
- **Lack maturity and increasingly popular:** Crowdfunding lack maturity but it is increasing in popularity and some projects exhibit competitive advantage.
- **Subject to regulation:** Equity-based and credit-based crowdfunding will be subject to regulation to protect participants and system integrity, especially the protection of consumers, vulnerable members of the society and investors.
- **Trusting relationship yield reward:** Project initiators such as business owners or entrepreneurs will reap reward from the crowd if their initial crowdfunding engagement is a trusting relationship.
- **Community support agenda:** Some crowd contributors and platforms are targeted for community support only.
- **Crowd investor portfolio mix:** The spheres of crowdfunding and the relative small size of fund contribution provide opportunities for investor portfolio mix likened to a mini venture capitalist.
- **Stakeholder management:** Crowdfunding participants must be managed within strategic stakeholder engagement.
- **Project planning is necessary:** Crowdfunding projects and their associated activities must be planned to ensure success.
- **Feature rich platforms:** Different crowdfunding platforms have different features for the entrepreneur to explore before requests for funding are made, to ensure project funding success.

- **Improve crowd profile and support others:** Entrepreneurs should back other entrepreneurs to increase their community profile and participation.
- **Crowdfund training required:** There is need for crowdfunding training for non-technology savvy entrepreneurs and investors.
- **Increasing entrepreneurial innovation:** There is a bandwagon effect of new innovative firms relying on crowdfunding activities.

4.2 Main focus of the chapter

This chapter aim to answer the following research questions associated with entrepreneurs and their access to crowdfunding: (a) What are the spheres of crowdfunding? (b) What are the theories of crowdfunding in finance, economics and management research? These questions are important for entrepreneurs, small firms and researchers because they provide the meaning and spheres of crowdfunding as well as explore the relevant extant theories.

The contribution of this chapter is a knowledge base containing a systematic review of the different spheres of crowdfunding literature, identifying key relevant theories, support further research and a conclusion. This review is pertinent in understanding the spheres of crowdfunding around the world. Although there is an increasing popularity of traditional methods of access to finance, crowdfunding is innovative, new and a growing phenomenon (Tomczak, & Brem, 2013). Academic research about crowdfunding is limited and the phenomenon is still evolving as a way of access to finance for entrepreneurial projects (Lehner, & Nicholls, 2014; Lehner, 2013; Giudici, Nava, Lamastra, & Verecondo, 2012) and other fundraising projects (FCA, 2014a). As a result, there are limited academic research outputs on the subject as shown in Table 4.1.

To achieve our aim, electronic databases (ScienceDirect, Google Scholar, EBSCO and Emerald) were interrogated using keyword search method. It was also necessary to perform a keyword search of relevant reports published by government bodies and international organisations. In the keyword searches, 'crowdfunding', 'crowdfund', 'credit crowdfund', 'lending crowdfund', 'donation crowdfund', 'equity crowdfund', 'investment crowdfund' and 'reward crowdfund' were the keywords used.

The remainder of this chapter is presented thus. It examine investment or equity-based crowdfunding; credit-based crowdfunding; reward-based crowdfunding;

and donation-based crowdfunding. Further discussion provides recommendations as well as conclusion and further research directions.

Table 4.1. Date chronology of key crowdfunding research and policy literature

Authors	Year	Sphere	Policy/Research	Authors' affiliate country
Antonenko, Lee, & Kleinheksel	2014	Reward	Research	USA
Belleflame, Lambeth, & Schwienbacher	2014	Equity, reward	Research	Belgium, France, Germany
Boeuf, Darveau, & Legoux	2014	Reward	Research	Canada
Canadian Regulators	2014	Equity	Policy	Canada
Danmayr	2014	Donation, equity, lending, reward	Research	Austria
Dragojlovic, & Lynd	2014	Donation	Research	Canada
Financial Conducts Authority (FCA)	2014	Donation, investment, loan, reward	Policy	UK
Kuppuswamy, & Bayus	2014	Reward	Research	USA
Lehner, & Nicholls	2014	Donation	Research	UK
Meer	2014	Donation	Research	USA
Mollick	2014	Equity, reward	Research	USA
Pitschner, & Pitschner-Finn	2014	Donation, equity, lending, reward	Research	Spain, Germany
Rossi	2014	Donation, equity, lending, reward	Research	Canada
Siva	2014	Donation, reward	Research	UK
Yeoh	2014	Investment	Research	UK
Zheng, Li, Wu, & Xu	2014	Donation	Research	China, USA
Zvilichovsky, Inbar, & Barzilay	2014	Donation, reward	Research	Israel
Agrawal, Catalini, & Goldfarb	2013	Equity, non-equity	Research	USA
Belleflame, Lambeth, & Schwienbacher	2013	Equity, reward	Research	Belgium, France, Germany
Collins, Swart, & Zhang	2013	Donation, equity, lending, reward	Research	UK, USA
Cumming, & Johan	2013	Equity	Research	Canada
Gerber, & Hui	2013	Donation, reward	Research	USA
InfoDev	2013	Donation, investment, loan, reward	Research	USA
Lehner	2013	Donation	Research	UK
Stemler	2013	Investment	Research	USA
Tomczak, & Brem	2013	Investment	Research	Germany
U.S. Securities and Exchange Commission	2013	Investment	Policy	USA
Valanciene & Jegeleviciute	2013	Investment	Research	Lithuania
Wheat, Wang, Byrnes, & Ranganathan	2013	Reward	Research	USA
Ahlers, Cumming, Gunter, & Schweizer	2012	Equity	Research	Canada, Germany
Bradford	2012	Donation, equity, lending, reward	Research	USA
Carvajal, García-Avilés, & González	2012	Donation	Research	Spain
Cohn	2012	Equity	Research	USA
Collins, & Pierrakis	2012	Donation, equity, lending, reward	Research	UK
De Buysere, Gajda, Kleverlaan, & Maron	2012	Donation, equity, lending, reward	Research	Germany
Giudici, Nava, Lamastra, & Verecondo	2012	Donation, equity, lending, reward	Research	Italy
Hazen	2012	Investment	Research	USA
Hemingway, & Hoffman	2012	Equity	Research	USA
Knight, Leo, & Ohmer	2012	Equity	Research	USA
Lee, & Lee	2012	Lending	Research	Republic of Korea
Mitra	2012	Donation, equity, lending, reward	Research	Canada
Parrino, & Romeo	2012	Investment	Research	USA
Schwienbacher, & Larralde	2012	Donation, reward	Research	UK
Agrawal, Catalini, & Goldfarb	2011	Investment	Research	USA
Ley, & Weaven	2011	Equity	Research	Australia
Ordanini, Miceli, Pizzetti, & Parasuraman	2011	Investment	Research	Italy, USA

Note: This list represents the key research and policy based literatures relevant to different spheres of crowdfunding since the inception of the phenomenon. This table indicates a chronological list of crowdfunding literatures from 2011 to 2014, compiled from crowdfunding research and policy based sources only.

4.3 Background

The global financial crisis of 2007 caused a huge reduction in the availability of business finance for early stage and existing businesses (Smallbone, Deakins, Battisti, & Kitching, 2012; Saridakis, Mole, & Storey, 2008). Following the crisis and in the absence of adequate access to finance, start-up and existing businesses had financial constraints. Although different businesses explored personal savings, private equity/venture capital funding, invoice finance, loans and overdraft in their attempt at resolving access to finance issues, it was difficult to access the funding required for

their survival and innovation. Crowdfunding came into the limelight in the business environment during the financial crisis of 2007 in the midst of financial constraints in small firms (InfoDev, 2013).

It is possible to think that crowdfunding is in existence to resolve the inherent financial constraints of the time among early stage businesses. However, although the financial crisis caused financial constraints for all levels of businesses, there was a greater financial constraint for small and start-up firms (Saridakis et al., 2008; Smallbone et al., 2012). However, some researchers (Belleflamme, Lambert, & Schwienbacher, 2014; Danmayr, 2014; Zheng, Li, Wu, & Xu, 2014; Gerber, & Hui, 2013) believe crowdfunding existed prior to the financial crisis of 2007 as a way of funding creative projects in the arts, music, film and other specialist terrain. Crowdfunding originated from crowdsourcing, which is a way of getting support from online collaborators towards gaining new ideas, resolving problems and proffering solutions (Hazen, 2012). Moreover, it can be argued that the financial crisis of 2007 and the financial constraints on small firms created the opportunity for the online community to seek to extend funding for creative projects to entrepreneurial projects among online friends and like-minded people (InfoDev, 2013).

The spheres or types of crowdfunding are different as contained in the literature (Bradford, 2012; FCA, 2014a; U.S. Securities and Exchange Commission, 2013). Equity-based crowdfunding (Barnett, 2013) is a subset of investment-based crowdfunding and it involves sharing in the equity ownership of a business by contributing a small amount of money in internet collaboration with other contributors. Donation-based and reward-based crowdfunding are not regulated in the UK because they are classed as not-for-profit (FCA, 2014a). According to Rossi (2014), the proportion of different spheres of crowdfunding in 2012 was: reward-based (43.5%), credit-based (14.5%), donation-based (28%) and equity investment-based (14%). As different countries begin to apply different regulations locally, it can restrict the size of private investors for crowdfunding projects (Schwienbacher, & Larralde, 2012). This is particularly relevant to investment-based crowdfunding because sharing in the equity ownership of firms still apply old regulatory rules to check unwholesome practices. The United States regulatory authorities went through a period of checks and balances in promulgating the JOBS Act regulation and amending current securities laws aimed at supporting equity-based crowdfunding (Clifford, 2013). Therefore, while reward-based and donation-based crowdfunding

will not be regulated through securities laws, credit-based and investment-based crowdfunding will be regulated. The World Bank reported in a recent research that reward-based crowdfunding has a compound annual growth rate of 524% from 2009 through 2012 followed by equity (114%), lending (78%) and donation-based (43%) (InfoDev, 2013).

4.4 Theories relevant to crowdfunding

The key theories that impact access to finance in small and medium-sized enterprises (SMEs) are also systematically relevant to crowdfunding. These key theories include agency cost (Jensen, & Meckling, 1976; Ross, 1973), signalling (Ross, 1977; Spence, 1973; Weiss, 1995), credit rationing (Stiglitz, & Weiss, 1981), pecking order (Frank, & Goyal, 2003; Myers, 1984), discouraged borrower (Kon, & Storey, 2003), stakeholder (Ackermann, & Eden, 2011; Freeman, 1984), social capital (Zheng et al., 2014) and network exchange (Zvilichovsky, Inbar, & Barzilay, 2014) theories.

The agency cost theory identifies information asymmetry, moral hazard and adverse selection (Jensen, & Meckling, 1976). They define agency cost as the sum of monitoring costs, bonding costs and residual loss. Giudici et al. (2012) and Agrawal, Catalini, & Goldfarb (2013) believe that information asymmetry, moral hazard and adverse selection represent major issues in crowdfunding. In agency cost theory, members of the public (the crowd) are unable to determine adequate due diligence of the crowd project prior to making financial contribution. If the crowd make financial contribution without due diligence, it can be astounding (Agrawal et al., 2013). Therefore, in each crowd project, the entrepreneur or project initiator has the superior information which may not be known to the crowd funders or contributors. Giudici et al. (2012) and Agrawal, Catalini, & Goldfarb (2013) indicates that information asymmetry means imperfect information. Thus, moral hazard and adverse selection are the result of imperfect information. There will be cost implications for contributors if they engage third party agency as a way to gather more information about the entrepreneur and the viability of the project for funding. In this case, the actual sum contributed may be too small to warrant monitoring and screening of the project. However, the entrepreneur or project initiator could provide detailed and relevant information about the project to enable contributors to make informed decisions.

Signalling theory provides an indicator to inform lenders of the credulity and potential viability of the entrepreneurial project. Whilst Weiss (1995) discussed the relevance of human capital as a signalling effect in labor economics, Ross (1977) revealed the role of incentive-signalling in the determination of corporate financial structure. The experience and education of the entrepreneur or project initiator can act as a positive signal to lenders, crowd contributors (Gruber, MacMillan, & Thompson, 2012). Signalling theory provides crowd contributors with an indicator of the project initiator to inform their funding decision. According to La Porta et al. (1998), a good legal system can act as a signal of an improved financial sector development. It follows that signalling theory is directly relevant to crowdfunding transactions as the strength of the legal system can determine the efficiency and effectiveness of crowdfunding. However, crowdfunding platforms currently rely on their legal jurisdiction to resolve disputes. Therefore, if the legal system is unable to sustain crowdfunding transactions, there could be unforeseen transaction limitations as investors gain awareness through online due diligence.

Stakeholder theory (Freeman, 1984) in relation to crowdfunding places a responsibility on the entrepreneur or project initiator to manage the affairs of the project diligently with a view to create value ethically for its crowd investors. According to the stakeholder theory, in managing the affairs of any business, there must be interface between multiple stakeholders and the business. A good entrepreneur and business owner should be able to manage the affairs of multiple stakeholders efficiently and effectively (Freeman, 1984). Ackermann, & Eden (2011) advocate the need for a strategic management of stakeholders to ensure business success. Therefore, the project initiator in crowdfunding has a responsibility to all stakeholders to ensure project success.

Pecking order theory (Frank, & Goyal, 2003) shows the hierarchy of methods of access to finance that an entrepreneur use in the process of seeking project funding. In pecking order principles, owner managers of small firms prefer internal sources of business financing over external sources, hence, they prefer debt finance over equity (Myers, 1984). Businesses in the small firm sector prefer the pecking order approach because it allows them to select their funding option while maintaining full control of their business (Holmes, & Kent, 1991). Thus, the application of pecking order theory depends on the sphere of crowdfunding because different rules apply to reward, donation, equity and credit.

Stiglitz, & Weiss (1981) introduced the concept of credit rationing as a way for lenders to reduce the risk associated with borrowers in an uncertain times and in the absence of collateral. Hence, credit rationing reduces the amount of credit finance available for entrepreneurial projects and reduces access to finance for SMEs. Crowd funders may withdraw or reduce their funding support if the entrepreneurial project is not adequately defined with due diligence to reduce information asymmetry and eliminate information distortion. Therefore, as a way to eliminate credit rationing, the entrepreneur or project initiator has a responsibility to provide adequate information about the project to inform the decision making of crowd contributors.

The discouraged borrower theory points to self-rationing credit approach where the entrepreneur may be discouraged from seeking funds for fear of being rejected (Kon, & Storey, 2003). As an example of self-rationing, Mijid, & Bernasek (2013) find that women are self-rationing themselves in the capital market rather than being rejected by the bank for credit facilities. Kickstater (2014) shows that high number of rejections and successes are recorded for projects in its crowdfunding platform. It follows that crowd contributors may withdraw from funding entrepreneurial projects with inadequate prospects and reduced due diligence. Although crowd contributors are not skilled in screening the crowd projects, they have access to online information sources to inform their funding decision (Indiegogo, 2014). Therefore, entrepreneurs who fail to meet their funding target for their project may become discouraged.

Social capital theory is a valuable asset as it allows common problems to be resolved easily with combined effort. Following social capital theory, the online social media environment is an efficient place to develop and nurture social networks that can help to expand social capital. The social network perspective of an entrepreneur helps to define their strategic intent (Aldrich, & Kim, 2007). Zheng et al. (2014) find that the social network of the entrepreneur impacts the crowdfunding of its project. They discussed a multidimensional aspect of social capital in crowdfunding and they believe that social capital is embedded in social network. It follows that social capital is a trusted network connection of like-minded people. However, the herding behaviour of social network participants suggests that the success of crowd projects can depend on the social leaning of network members (Kuppuswamy, & Bayus, 2014).

Zvilichovsky et al. (2014) discuss the network exchange theory and find the principle of reciprocity to be applicable in the crowdfunding environment. They find that the entrepreneurs who double as backers have a funding advantage and higher success rate. This is particularly relevant to a project entrepreneur or initiator who also acts as crowd contributor, a double-sided active participant in the crowdfunding market.

4.5 Investment or equity-based crowdfunding

[Investment-based crowdfunding]*... people invest directly or indirectly in new or established businesses by buying shares or debt securities, or units in an unregulated collective investment scheme* (FCA, 2014a, p. 11). Equity-based crowdfunding (Barnett, 2013) is a subset of investment-based crowdfunding and it involves sharing in the equity ownership of a business by contributing small amounts of money. For example, according to Symbid (2014), there is a minimum investment of €20 for each crowdfunding investor and there are many entrepreneurial projects to be funded. The greatest obstacle to equity-based crowdfunding is regulation (Collins, & Pierrakis, 2012). The regulatory authorities in the UK (FCA, 2014a) and USA (Barnett, 2013; U.S. Securities and Exchange Commission, 2013; Cohn, 2012) believe in the regulation of investment or equity-based crowdfunding to protect investors or contributors. Yeoh (2014) discovered that the fine tuning of the regulatory framework in the UK and USA will lead to better crowdfunding provisions for all stakeholders. The regulatory provisions in Canada are targeting equity-based crowdfunding and many securities laws are earmarked for amendment to meet general crowdfunding needs (Canadian Regulators, 2014).

Apart from Symbid crowdfunding platform based in Rotterdam in the Netherlands, other examples of investment or equity-based crowdfunding are VentureCrowd (Melbourne, Australia), Crowdonomic (Singapore), CrowdCube (Exeter, UK) and Seedrs (London, UK). Although these example crowdfunding platforms currently pursue the investment or equity fundraising approach, their operational strategies are different as a result of their regulatory origin and business choice.

Researchers are sceptical about the amendment to the securities laws of the USA (Hemingway, & Hoffman, 2012). In discussing the JOBS Act amendment of the USA, Cohn (2012) states that the plan was focused on supporting capital raising in

small firms but it appears to be fraught with ‘limitations, restrictions, obligations, transaction costs and innumerable liability traps’ (p. 1445). In Canada, there was a demand-driven regulation of the equity-based crowdfunding environment following the speed of crowd investor acceptance of the phenomenon (Cumming, & Johan, 2013). It is possible to appropriately adopt crowdfunding to compensate for the gap in venture capital funding at early stage of project finance (Ley, & Weaven, 2011).

There is a quiet revolution associated with equity-based crowdfunding relating to the securities laws in the USA (Knight, Leo, & Ohmer, 2012). They argue that crowdfunding platforms would have to support project initiators in satisfying the requirements of equity-based regulatory provisions. Hence, entrepreneurs must be aware of regulation or potential regulation for investment or equity-based crowdfunding. Although different countries have varied regulatory systems, the regulatory provision for crowdfunding is also varied.

FCA (2014a, 2014b) disclosed that the investment-based crowdfunding will be subject to UK regulation to protect participants and system integrity, especially the protection of consumers and vulnerable members of the society. According to the FCA (2014a), investment-based and credit-based crowdfunding platforms are subject to the UK regulation and current approved operators are registered. Barnett (2013) and U.S. Securities and Exchange Commission (2013) report on the regulatory provisions to support crowdfunding in the USA. As much as the regulation for crowdfunding is encouraged, securities laws must not become ineffective for general investor protection (Stemler, 2013; Hazen, 2012).

European Crowdfunding Network (2014) revealed that there is no single European Union in terms of regulatory provisions in crowdfunding. According to them, there are uncoordinated regulatory actions from one country to another in Europe. There are differences in the spheres of crowdfunding and different operational rules apply from country to country. There are differences between investment and donation; hence, the regulatory provisions for investment-based crowdfunding do not include donation-based crowdfunding. De Buysere, Gajda, Kleverlaan, & Maron (2012) provide useful guidelines to inform regulators, crowdfunding platforms, their investors and the general public. According to Thomas (2014), the initial barrier to market entry in crowdfunding requires disclosure of important documents to the regulatory authorities. Therefore, businesses that are

unable to action all the required disclosure could be dissuaded from operating crowdfunding projects.

The principle of mandatory disclosure for crowdfunding has been supported in the aftermath of the approval of the JOBS Act legislation because although it is good to provide funding facilities to support small businesses, it is very important to ensure adequate protection for investors (Hazen, 2012). However, it is important to note that the success and continuous growth of crowdfunding will depend on the efficiency and effectiveness of the regulatory provisions applicable to the given crowdfunding platform (Gelfond, & Foti, 2012). They disclosed that a lean and simplistic set of rules will encourage start-up and other early stage entrepreneurs. Although the JOBS Act has eased the securities regulation to support start-up and small companies, there could be an increase in investment scams and fraud associated with the change (Parrino, & Romeo, 2012). They confirmed that the JOBS Act reduces the regulatory burden on start-up and small companies to enable them to expand unimpeded.

The JOBS Act and the securities regulation of the USA is not a panacea against fraud and it is not intended to prevent fraud but an attempt to promote capital formation for new business (Bradford, 2012). Thus, the fact that there could be investment scams or fraud associated with crowdfunding is not an adequate reason to kick against crowdfunding activities. Crowdfunding has the potential to outperform any type of business funding because the number of people involved in the crowd is enormous; being greater than any one country market.

Whilst investment-based and credit-based crowdfunding aim to make profit (e.g. shared equity and credit interest) for crowd contributors, donation-based and reward-based crowdfunding rely on personal non-monetary reward and community support (European Crowdfunding Network, 2014). The decline in major music industry labels following piracy and online music distribution has created an alternative avenue for artists to showcase their expertise and intellectual property through equity-based crowdfunding (Agrawal et al., 2011). The spheres of crowdfunding and the relative small size of fund contribution provide opportunities for investor portfolio mix. The crowdfunding investor portfolio mix could introduce a type of mini venture capitalists into an otherwise simplistic investment and capital raising terrain.

Crowdfunding has been described as an alternative to the traditional form of venture capital financing (Mollick, 2014). Whilst the traditional form of venture

capital financing involves investment in high-valued entrepreneurial projects, crowdfunding investors contribute small amount in collaboration with many others to create a large crowd of small funders (Zheng et al., 2014). Therefore, there is a one-to-many relationship between one entrepreneurial project and a mix of crowd funders drawn from all over the internet world. In the UK, equity-based crowdfunding increased 618% from 2012 to 2013; a short period of just over one year (Collins et al., 2013). However, the making of financial contribution in the equity-based and non-equity-based crowdfunding platforms without due diligence can be shocking and susceptible to uncertainty (Agrawal et al., 2013).

Researchers produced an investment model with reward models to support crowd investors and investees in their funding decision process (Tomczak, & Brem, 2013). Case studies of three crowdfunding platforms including Sellaband, Trampoline and Kapipal were analysed to identify the variation in their risk factors and associated risk to guide investors and provide guidance on investment payoffs (Ordanini et al., 2011). They show that there are different levels of risk and returns associated with different spheres of crowdfunding. Ahlers et al. (2012) emphasised the significance of financial roadmaps, internal governance and risk factors in the success of fundraising through equity crowd funders.

In the same way that entrepreneurs learnt about other ways of accessing project funding, crowdfunding is not different. It is very easy to assume that all crowd participants such as entrepreneurs and investors are technology savvy. There is a clear need for training for entrepreneurs or project initiators to enable them to present their ideas properly online for crowdfunding. Entrepreneurs and crowd investors need a deeper understanding of crowdfunding to enable them operate efficiently and effectively in the crowd environment (Valanciene, & Jegeleviciute, 2013). A trained entrepreneur will be able to articulate their ideas in the social media platform and failure to present the right information online could jeopardise the crowd funding application with a knock-on effect on the project. Siva (2014) suggests proposal review for entrepreneurial projects prior to submission for crowdfunding to weed out inappropriate and fraudulent ideas submitted for funding.

4.6 Credit-based crowdfunding

[Credit-based crowdfunding]… *people lend money to individuals or businesses in the hope of a financial return in the form of interest payments and a repayment of capital*

over time (this excludes some business-to-business loans) (FCA, 2014a, p. 10). Entrepreneurs or business managers are able to establish a crowdfunding platform or setup an entrepreneurial project for crowdfunding (Greenwald, 2012; Rossi, 2014). Ordinary people are able to invest in credit-based crowdfunding with a view to make profit through credit interest (Symbid, 2011). According to Collins et al. (2013), debt-based securities in the UK grew 170% from 2012 to 2013.

Lenders in the crowdfunding peer-to-peer lending market are not professional investors and they face high risk as no collateral is offered for microloans (Lee, & Lee, 2012). However, the high risk of lending has not dissuaded the increasing platform participation among contributors in the UK, USA and Korea. It follows that capital contribution can be lost totally without any remedy in the event of entrepreneurial project failure.

Notable examples of credit-based crowdfunding are the Prosper (www.proper.com), Zopa (www.zopa.com) and Lending Club (www.lendingclub.com), which are reported to be growing unrelenting. Although all crowdfunding platforms are experiencing phenomenal growth, credit-based crowdfunding has the lowest share of growth (Mitra, 2012). While Symbid (2011) show that contributors in its credit-based crowdfunding platform are paid interest and capital, it is confirmed that Kiva (www.kiva.org) credit-based crowdfunding platform do not pay interest to contributors. Instead, Kiva pays the capital to the contributor at the end of a successful project and the contributor may contribute again in another project.

Researchers confirm that the accrued interest in some of the projects in Kiva crowdfunding platform are used to cover operating cost of providing microfinance to projects across the world (Bradford, 2012; Mitra, 2012). These show that while some credit-based crowdfunded projects pay interest and capital on successful completion, others pay capital only and use interest as operating cost. However, contributors in unsuccessful projects on the Kiva credit-based crowdfunding platform do not get any payment. If contributors are promised interest in a credit-based crowdfunding platform, the investment instrument could be regarded as securities for regulatory purpose (Bradford, 2012).

4.7 Reward-based crowdfunding

[Reward-based crowdfunding]... *people give money to receive a reward, service or product (such as tickets for an event, an innovative product, a download of an e-book or a new computer game)* (FCA, 2014a, p. 10). Reward-based crowdfunding is not subject to regulation in the UK (FCA, 2014a). In the UK, reward-based crowdfunding grew 387% from 2012 to 2013 (Collins et al., 2013). A major determining factor for crowdfunding could be the level of community support and reward associated with the project (Gerber, & Hui, 2013). According to them, crowdfunding supporters are motivated by personal rewards and the support for other people as part of a community of like-minded people. Reward-based and donation-based crowdfunding are the largest operational models of crowdfunding (Antonenko, Lee, & Kleinheksel, 2014; Mitra, 2012).

Kickstater and Indiegogo are two important and global crowdfunding platforms offering rewards for contributions received from the crowd. According to Kickstater (2014), the highest successfully funded projects were in the music, film and video industry. Indiegogo (2014) disclose that there is a minimum of $500 fundraising requirement on its crowdfunding platform and contributors are rewarded with non-monetary incentives called ‘perks’. Kickstater has a funding model of all-or-nothing and this suggest that if entrepreneurs are unable to get their full targeted fund, the amount raised will be withdrawn and returned to the investors (Kickstater, 2014).

According to Dragojlovic, & Lynd (2014), crowdfunding is a big benefit for early stage projects with early proof of concept. Research projects are known to face difficulty in raising finance for their investigation and development of new ideas (Dragojlovic, & Lynd, 2014). Crowdfunding are emerging as a way of funding community support projects around the world (Grossman, 2012). Kickstarter crowdfunding platform was started as a way to fund creative projects but this has grown extensively for funding technology start-up firms (Greenwald, 2012). A number of crowdfunding platforms use a tiered system of rewards for its contributors (Antonenko, Lee, & Kleinheksel, 2014). Contributors to crowdfunding campaigns expect reward and technology-based projects tend to give rewards such as software and performance tickets (Wheat et al., 2013). Although crowd contributors get rewards, their motivation may include social and intrinsic value (Collins, & Pierrakis, 2012).

Project initiators or entrepreneurs will reap reward from the crowd if their initial crowdfunding engagement is a trusting relationship. A lack of trust is one of the deterrents of crowdfunding among supporters (Gerber, & Hui, 2013). It is good practice to engage in an online prelaunch relationship prior to launching the crowdfunding campaign online (Helmer, 2014). The online prelaunch of the entrepreneurial project will introduce the idea to the social media environment and feedback can be systematically collected to guide the crowdfunding campaign towards supporting and building trusted crowd relationships. Zheng et al. (2014) confirmed that the social capital of the entrepreneur can improve access to crowdfunding investors.

Kickstater, a reward-based crowdfunding platform, is one example of a crowdfunding platform that could generate the social information required to better understand the behaviour of crowd funders (Kuppuswamy, & Bayus, 2014). They confirmed that social information can help to understand the behaviour of project backers. Hence, the success or failure of an entrepreneurial project can be dependent on the available social information. According to Zvilichovsky et al. (2014), backing the project of other entrepreneurs is a rewarding fundraising strategy because it introduces a sub-community of active backers. They find that backers who also operate as project initiators have positive funding outcomes.

4.8 Donation-based crowdfunding

[Donation-based crowdfunding]*... people give money to enterprises or organisations whose activities or purchases they want to support* (FCA, 2014a, p. 10). Similar to the reward-based crowdfunding system, donation-based crowdfunding is not subject to regulation in the UK (FCA, 2014a). According to Grossman (2012), there is a continuous increase in crowdfunding platforms around the world and local people in the UK are using community initiative to fund public projects through the crowd. Research shows that non-profit projects receive greater sums of money from each crowd funder and are more likely to meet the project funding objective (Pitschner, & Pitschner-Finn, 2014). Also, non-profit initiatives in crowdfunding tend to be more successful at reaching fundraising goal (Belleflamme, Lambert, & Schwienbacher, 2013; Collins, & Pierrakis, 2012).

Donation-based crowdfunding is similar in some ways to reward-based crowdfunding. Notable examples of donation-based crowdfunding platform include

CrowdRise (Delaware, USA), GoFundMe (San Diego, California, USA) and RocketHub (New York, USA). Although these example platforms are donation-based, it should be noted that different crowdfunding platforms have their operational strategy and subject to local laws.

In the UK, donation-based crowdfunding and peer-to-peer online fundraising constitute the largest fundraising market sector with £785million raised over a period of three years from 2011 to 2013 (Collins et al., 2013). Crowdfunding entrepreneurs should endeavour to contribute towards the fundraising of other entrepreneurs in the crowd community (Boeuf et al., 2014). They consider it advantageous for an entrepreneur to support the project of other entrepreneurs in the crowd environment.

Extending support to other entrepreneurs in the crowd increases the profile of the entrepreneur and shows full participation in the community and cohesion; hence, the entrepreneur will get increased support from the crowd (Boeuf et al., 2014). Mollick (2014) confirmed that personal networks and signal of project quality contribute to successful crowdfunding. This shows that the personal networks of the entrepreneur made up of other entrepreneurs and like-minded people can lead to successful fundraising. The price of giving a donation has an effect on the behaviour of crowd contributors and the higher the competition, the lower the likelihood of donation (Meer, 2014).

The availability of crowdfunding in the form of online donation has challenged traditional journalism and removed the revenue and profit making paradigm into a non-business model concept (Carvajal, García-Avilés, & González, 2012). Crowdfunding as a form of social enterprise fundraising can provide the positive signal of potential funding through mainstream sources such as venture capitalists and business angels (Lehner, & Nicholls, 2014). They assert that crowdfunding can provide the legitimacy and leverage to enable fundraising in a venture capitalist and business angel environment. Crowdfunding is useful in the social entrepreneurship context and a model is provided to guide crowdfunding platforms and contributors (Lehner, 2013). The forms of returns associated with donation-based crowdfunding are intangible and contributors are motivated by social and intrinsic value (Collins, & Pierrakis, 2012). The contributions received through donation-based crowdfunding are not classified as securities for regulatory purpose in the USA (Bradford, 2012).

4.9 Recommendations

Entrepreneurs and SMEs are gaining access to finance through crowdfunding but they must consistently maintain a good relationship with the crowdfunding platform. As much as project initiators or entrepreneurs need access to project funding, they should adhere to the guidelines provided by the crowdfunding platform and country level regulation. The guidelines are generated as protection for all crowdfunding stakeholders including service providers, contributors and entrepreneurs.

Entrepreneurs should not be restricted by the geographical location of crowdfunding platform because crowdfunding opportunities abound all over the world. Globalisation has positively impacted the demand and supply of crowdfunding; and entrepreneurial projects are at an advantage. Although conventional wisdom associated with the traditional ways of project funding attribute success to geographical co-location, crowdfunding has used online mechanisms to mostly eliminate spatial proximity. Although crowdfunding platforms are concentrated in North America and Europe, most of the available platforms (e.g. Crowdcube, Indiegogo, Kickstarter, Seedrs, Invesdor and Abundance Generation) are expanding internationally as they are beginning to allow global access to their crowdfunding platforms. However, the originating country of the crowdfunding platform will determine the applicable legal jurisdiction for mediating disputes.

Entrepreneurs or project initiators who act as backers for other crowdfunding projects are able to increase their crowd profile positively. As project initiators increase their positive profile among the crowd community, they will continue to have fundraising success with many willing backers. Therefore, entrepreneurs are encouraged to back the projects of other entrepreneurs.

Entrepreneurs and SMEs are encouraged to use this research as their crowdfunding knowledge base and exploit the potentials identified. The potential of crowdfunding is huge and entrepreneurs seeking early stage business and project funding have the opportunity to gain adequate funding from the crowd. The acquisition of knowledge is to increase conventional wisdom and this chapter gives a wide understanding of crowdfunding and its different spheres.

4.10 Conclusion and future research directions

This investigation shows a systematic review of research and policy literature on the spheres of crowdfunding. Crowdfunding is a new, innovative, alternative and

additional method of access to finance for seed, start-up and other early stage project fundraising from many small contributors via the internet. The existing economic and management theories (e.g. pecking order, signalling, stakeholder, social capital and agency cost) of SMEs are also applicable to crowdfunding. Globalisation and web technology has provided the driving force for a quicker expansion of crowdfunding all over the world. Regulation is also providing the necessary drive for the expansion of crowdfunding in developed countries and many developed countries in Europe and North America have recognised and approved the requisite regulatory support. However, regulatory authorities in developing countries are at different stages of the recognition of crowdfunding in their policy framework. The regulation of reward-based and donation-based crowdfunding can rely on existing rules on charitable giving and other existing social provisions in the UK and elsewhere. However, equity-based and credit-based crowdfunding require updated regulatory provisions with compliance monitoring.

As a new concept, crowdfunding is growing as a means of access to finance for entrepreneurs. There are opportunities for further research to advance crowdfunding, its knowledge base and usefulness in meeting the needs of mostly seed and other early stage project funding. Crowdfunding is increasing in popularity in social media, business and research environments. It is very important that researchers explore crowdfunding widely with a view to broaden the knowledge of project initiators (such as entrepreneurs, business owners and managers). The necessity for further research is centred on the need for better information sharing and knowledge exchange to support new and existing entrepreneurs all over the world.

The period of the financial crisis which started in 2007 closed many businesses and many new businesses were born through crowdfunding with impact around the world. Crowdfunding has gained international recognition and approval from developed countries but less so in developing countries. Although regulatory authorities in the UK and USA have supported crowdfunding with the necessary regulation, many countries are still in their infancy in crowdfunding. Therefore, there is need for crowdfunding research in emerging and developing countries to expand the worldwide knowledge base of crowdfunding.

Access to finance theories (e.g. pecking order, signalling, agency cost, credit rationing and discouraged borrower) have been explored widely in finance, economics and management research. Also, social capital, network exchange and

stakeholder theories are relevant to crowdfunding but there are limited researches in these areas. There is limited research exploring crowdfunding as a method of access to finance for businesses with links to extant theories. As a result, there are limited research based literature associating crowdfunding and the theories. Hence, it is important that further research uncovers the impact of economics, management and finance theories on crowdfunding. This will allow adequate understanding of the various theories and how they relate to crowdfunding.

In agreement with other researchers, crowdfunding require more empirical study to share successes and failures across crowdfunding platforms and countries. Empirical study will provide research based knowledge to enhance existing provisions from all over the world. In the absence of clear empirical study, there will be continuous assumptions across the online news and opinion pages.

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Chapter 5 Does financial education pay?[5]

The Role of Financial Education on unlimited small firms Bank Finance

5.1 Introduction

In recent years, business, economics and finance researchers have debated whether the 'education' of owner managers contribute positively to entrepreneurial venture formation (e.g. Ganotakis, 2012; Baptista and Mendonça, 2010; Saridakis *et al.*, 2008; Bates, 1990), growth and survival (e.g. Saridakis *et al.*, 2008, 2012; Cornett *et al.*, 2011; Crook *et al.*, 2011; Mahsud *et al.*, 2011; Colombo *et al.*, 2004). On the one hand, it is argued that education increases human capital/skills levels (the terms 'skills' and 'human capital' are used here interchangeably) enabling owner managers to make positive funding proposals (Unger *et al.*, 2011; Hsu, 2007) and enhancing business performance (Block *et al.*, 2013; Saridakis *et al.*, 2013; Townsend *et al.*, 2010; Dickson *et al.*, 2008; Colombo and Grilli, 2005; Tamkin, 2005; Cooper *et al.*, 1994). On the other hand, it is argued that financial management skills in small firms (Chaston, 1994) and the educational attainment of the business owner does not impact business survival (see Coad et al., 2016; Taylor, 1999; Storey and Wynarczyk, 1996). However, there are only limited empirical evidence to suggest a potential link between financial education and successful access to bank finance for small businesses (see Saridakis *et al.*, 2013; Hsu, 2007; Colombo and Grilli, 2005). Although the relationship between education and business performance has received much empirical attention, the relationship between financial education and access to bank finance has limited research evidence.

The skill levels of the owner manager and entrepreneurial access to bank finance have become very important in current times following the financial crisis of 2007 and the resulting recessionary times. Researchers from different academic disciplines have widely discussed the financial crisis phenomenon (McGuinness and Hogan, 2016; Saridakis et al., 2013; Cowling et al., 2012; Smallbone et al., 2012; Cornett et al., 2011; Unger et al., 2011; Mahsud et al., 2011; Baptista and Mendonça, 2010; Fraser, 2008; Hsu, 2007; Colombo and Grilli, 2005). Therefore, financial education is part of the human capital endowments that individuals may possess and owner/managers may be financially qualified to support their business. Human capital

[5] An earlier version of this chapter was accepted and presented as a conference paper at the ISBE Conference 2013 at Cardiff City Hall, Cardiff, Wales, UK. Hence, the chapter was published as part of conference proceedings for delegates.

is strongly linked to corporate performance (Crook et al., 2011) thus provides a positive link between education and firm survival. The business experience of the owner manager also plays a major role in the human capital endowment of the firm as older firms are favoured in access to finance (Cowling et al., 2012). This could be attributed to their experience in writing business plans, establishing longer and better relationships with banks and understanding the terms and conditions of borrowing.

Education is linked to human capital theory suggesting that skills and knowledge are important qualities that build human capability (Keeley, 2007; Schultz, 1961; Smith and McCulloch, 1863). Smith and McCulloch (1863) described human capital as the acquired and useful abilities of a person. Schultz (1961) defines human capital as a form of skills and knowledge that people acquire. In its foreword, Keeley (2007, p. 3) defined human capital as 'the knowledge, skills, competencies and attributes that allow people to contribute to their personal and social well-being, as well as that of their countries'. This general link between human capital and positive outcome has been embraced by promoting financial literacy. Hence, financial education has been embraced by numerous bodies seeking to improve society and the economy.

A recent charity campaign recognises and suggests that financial education should be an important part of the National Curriculum in the UK for school children (MyBnK, 2013; PFEG, 2013). To this end, a number of the UK Members of Parliament became involved in the campaign for introducing financial education in the aftermath of the financial crisis of 2007. The charities (e.g. MyBnK, 2013; PFEG, 2013) launched various campaigns to support the teaching of financial education in UK schools. Consequently, financial education is now part of the National Curriculum for secondary schools in England (Department for Education, 2014). The OECD (2006) already expressed the importance of financial education in society to resolve financial illiteracy. Business school programmes around the world have grown in popularity, value and relevance (O'Brien et al., 2010; Friga et al., 2003). The increasing fees of business management courses at university show its importance all over the world (Bhagat et al., 2010).

The aim and objective of this chapter is to empirically examine the role of financial education on bank finance outcomes for small firms. We focus on bank finance because overdrafts and commercial loans are the most common credit facilities available to small firms (see ECB Monthly Bulletin, 2014; Scottish Government, 2014; BIS, 2012). Previous work has found that access to bank finance

is strongly related to business lifespan and growth (Fraser et al., 2015; Han et al., 2015; Saridakis et al., 2013). Apart from human capital, research shows that business age and gender can also determine the outcome of business finance (BIS, 2012; Cowling et al., 2012; Bellucci et al., 2010; Irwin and Scott, 2010; Alsos et al., 2006). Jones and Tullous (2002) find, for example, that female start-up entrepreneurs tend to be deficient in the areas of finance and accounting. Also, research shows that female entrepreneurs are more likely to be financially constrained in business in comparison to their male counterparts (Bellucci et al., 2010; Kirkwood, 2009). Although an established banking relationship can improve access to finance, new firms may not be able to present a long term relationship to support lending (Cotugno et al., 2012). Apart from checking the viability of the SMEs, lenders assess the credit history of small business owners before making lending decisions (Berger and Udell, 2006). Research shows that lenders consider substantial collateral in their lending decision and small firms have difficulty in fulfilling high collateral requirements (Voordeckers and Steijvers, 2006).

Hence, this chapter attempts to answer the following research questions. (i) What is the role of financial education on bank finance outcomes? (ii) What is the role of business age (start-up or non-start-up) on bank finance outcomes? (iii) To what extent does gender impact bank finance outcomes? These questions are salient because they contribute to our understanding of the relevance of financial education as a form of human capital as well as the dimension of business age and gender aspects in the course of seeking business finance.

The results show that the financial education of owner managers has no significant effect on the bank finance rejection rate. However, we find that the financial self-confidence of owner managers significantly lowers their bank finance rejection rates. Start-up firms were found to be more financially constrained as they had greater difficulty in accessing bank finance than non-start-up firms. In our gender analysis, the gender of the owner manager has no significant effect on bank finance rejection rates; hence it is not possible to determine financial constraint on the basis of the gender of the owner manager. The contribution of this chapter, therefore, is to provide a more nuanced interpretation of the effect of financial human capital on businesses. It focuses on the effect on self-confidence rather than simple financial outcomes.

This chapter proceeds as follows. Section 2 discusses the literature review with hypotheses development. Section 3 presents the data. Section 4 describes the

empirical methodology. Section 5 presents the analysis with empirical results. Section 6 presents the conclusion with summary of the research findings as well as directions for further research.

5.2 Literature review and hypotheses development

5.2.1 Financial education, human capital and access to bank finance

There is a substantial literature on the relationship between human capital and means to bank finance (Gruber et al., 2012; Crook et al., 2011; Unger et al., 2011; Colombo and Grilli, 2005; Bates, 1990). This has tended to present a positive relationship, sometimes based on evidence, sometimes on an act of faith.

Jo and Lee (1996) suggest that if an entrepreneur lacks education, it could have a negative effect on the profit of the firm. Entrepreneurs who possess industry specific skills do better in business performance (Shepherd et al., 2000). Entrepreneurial fund providers, such as banks, attribute success to the education and experience of the owner manager of the business venture (Unger et al., 2011; Bates, 1990). This suggests that as the human capital resource endowments of an owner manager increases, the chance of business survival also increase with better access to bank finance.

Collier et al. (2005) showed that organisations that engage in training of its workforce are more likely to avoid business closure. According to Tamkin (2005), employers who provide workforce training enjoys better employee motivation and improved work attitude. As employers reap the reward of improved workforce productivity, employees reap the reward of better qualification and skills, better potential for promotion and reduced chance of redundancy. This is supported with macro-economic data. The percentage value added per employee in Germany in comparison with the UK is between 15% and 25% higher in Germany as a result of higher spending on human capital development and differences in qualification levels (Tamkin et al., 2004). It follows that the higher the investment in the education of the workforce, the better the outcomes by way of increased value adding and better returns. However, Coad et al. (2016) show that when banks provide entrepreneurship training seminars for new and small firms, there may not be performance benefit but customer loyalty. In this case, the entrepreneurs acknowledged high levels of satisfaction with the training but robust statistical findings show modest or zero

impact on firm performance. This resonates with the earlier work of Westhead and Storey (1996) who found only a weak relationship between management training and small firm performance.

Bosma et al. (2004, p. 227) found that 'survival, profits, and generated employment' are the performance measures of human capital investments which produce good performance results for the business. These identified performance measures were found to have substantial and significant effect on the entrepreneurial venture. Consequently, the identified performance measures could represent the outcome of his effort and a growing entrepreneurial venture has the potential to contribute towards positive economic growth.

Ganotakis (2012) suggests that formal business education and management experience can contribute to business success. In this case, business education and management experience can be the subject of financial investment as a way to develop the relevant human capital. The continuous increase in management course fees all over the academic world is a clear evidence of the value of such qualification (Bhagat et al., 2010). Entrepreneurs or owner managers from high social economic background have the potential to develop their human capital through family investments and support from extended acquaintance (Dunn and Holtz-Eakin, 1996). To this end, access to finance may be linked to the human capital investments of the owner manager through positive signalling effect on lenders.

There is some evidence that the academic qualification and entrepreneurial experience of the owner manager can influence better business performance and thus access to finance (Saridakis et al., 2008; Colombo and Grilli, 2005; Colombo et al., 2004). Colombo and Grilli (2005) performed their research in Italy using owner managers from Italian small firms and found that the higher the qualification of the owner manager, the greater the opportunity to access funding from lenders. However, Gimmon and Levie (2010) found that the academic qualification of the owner manager does not contribute to business survival in the Israeli small business environment. Therefore, they suggested that academic status does not support access to finance for business growth and expansion. Hence, it can be argued that there may be variations in access to finance among academically qualified owner managers as a result of different national orientation. This suggests that different countries may

exhibit different ways of recognising the quality of human capital such as academic qualification, managerial competence, financial education and specialist skills. Lenders in those countries could have different assessment levels and lending criteria for entrepreneurs seeking finance for their businesses.

Research suggests that higher levels of education of entrepreneurs have a positive effect on business performance (Doms et al., 2010). Lynch and Black (1995) discussed the value of education in attaining high business performance in the context of USA manufacturing and service sectors. Whilst productivity increased in the manufacturing sector by between 4.9% and 8.5%, it increased in the services sector by between 5.9% and 12.7%. Tamkin et al. (2004) and Tamkin (2005) also confirm the link between educational qualifications in achieving better business productivity in the UK. The increased human capital (e.g. education and experience) of the owner manager results in more positive growth rate of the business (Audretsch, 2002). Similarly, Segal et al. (2010) hypothesised that founder education and managerial experience contribute to increased organisational performance. The review by Nolan and Garavan (2016) found a positive relationship between HRD in SMEs and business performance. The OECD (2006) and Disney and Gathergood (2013) identified the importance of financial education and the inherent challenge in persuading people about their possible weakness in financial knowledge. PFEG (2013) and MyBnK (2013) also discussed the relevance of financial education in school age children to help them understand money matters early in their life. These suggest that financial education contributes to the human capital endowment of the owner manager. Although academic qualification adds to the human capital of owner managers, financial education provides a specific and specialist finance skill for business.

Although there are poor financial management skills in small firms (Chaston, 1994), education contributes immensely to better business performance (Audretsch, 2002; Block *et al.*, 2013; Doms *et al.*, 2010; Lynch and Black, 1995). It follows that education could lead to better access to bank finance. We therefore propose the following hypothesis:

***H1**: Financial education of owner managers reduces the likelihood of bank finance rejection.*

5.2.2 Business start-up, human capital and access to bank finance

Cooper *et al*. (1994) asserted that the initial human capital of the owner manager contributes significantly to the performance of start-up firms. In making investment decisions, venture capitalists tend to emphasise the human capital of new firms (Baum and Silverman, 2004). It is widely recognised in research that entrepreneurial start-ups encounter difficulty in their inception and survival (Saridakis *et al*., 2013; Irwin and Scott, 2010; Fraser, 2008). Start-up firms experience greater problems accessing finance (OECD, 2006). Beck and Demirguc-Kunt (2006) identified the sharing of credit information as a way of facilitating SME funding. The credit scoring of the small firm extends to the owner-manager of the firm as a way to ascertain a clearer understanding of the business history and performance (Berger and Udell, 2006). A body of research indicates that the experience (Gruber *et al.*, 2012) and education (Saridakis *et al.*, 2008, 2013) of the owner-manager can have a positive signalling effect on lenders in SME access to finance and business survival. Similarly, Moro et al. (2012) found that entrepreneurial competence and voluntary disclosed information was influential in bank lending decisions. This is most likely to favour the borrower where there is a good and established relationship with the lender (Cotugno *et al.*, 2012). Therefore, new firm owners may not have credit history, entrepreneurial experience, collateral and good banking relationship to support their business venture.

New businesses face financial challenges during their start-up (Saridakis *et al.*, 2013; Irwin and Scott, 2010; Fraser, 2008; Baum and Silverman, 2004). Older firms have fewer constraints in accessing finance (Cowling *et al*., 2012). Hence, older businesses with experienced owner managers are able to produce better business plans, form longer and better banking relationship and understand bank lending terms and conditions (Cotugno *et al.*, 2012; Gruber *et al.*, 2012; Berger and Udell, 2006; Voordeckers and Steijvers, 2006). We therefore propose the following hypothesis:

H2: *Businesses with non-start-up status have lower probability of bank finance rejection*

5.2.3 Gender and access to bank finance

A recurring theme in finance for entrepreneurs is the gender of the owner-manager. An early analysis found that gender based differences are less substantial than has

been suggested (Mckechie et al., 1998) however, Muravyev *et al*. (2009) show gender bias against female entrepreneurs in their access to finance. Other research (Kim, 2006; De Bruin *et al*., 2007) show inconclusive findings in their gender based research as they could not find any form of bias against female entrepreneurs. In analysing the barriers to female entrepreneurship, Brindley (2005) identified the issues of unresolved risk factors associated with different gender. These risk factors vary between male and female entrepreneurs.

In risk taking, research suggests that women invest less and hence are more financially risk averse than men (Charness and Gneezy, 2012). Among highly educated people, women are significantly more risk averse than men (Hibbert *et al.*, 2013). They believe that financial education mitigates the gender differences in financial risk aversion. Female entrepreneurs are associated with lower early stage growth in business and this has an impact on their firm (Alsos et al., 2006). Females are also more likely to run businesses in sectors that require lower levels of funding. Female entrepreneurs are more likely to be financially constrained in business in comparison to their male counterparts (Bellucci *et al*., 2010). Kirkwood (2009) also agrees that female entrepreneurs are more financially constrained than males. One possible explanation for the lower levels of finance amongst female entrepreneurs, compared with males, is their perception of financial barriers. Using Global Entrepreneurship Monitor data, Ropes and Scott (2009) found that females are about 7.4% more likely to perceive financial barriers to business start-up than males. This is also set within a broader range of factors including the confidence of women in seeking finance. According to a study of the perception and behaviour of male and female start-up entrepreneurs, females were found to be deficient in the areas of finance and accounting (Jones and Tullous, 2002). Therefore, financial and academic qualifications are strong human capital ingredients that prepare both male and female entrepreneurs for entrepreneurship and better business performance. It follows that there are differences between male and female entrepreneurs in access to finance. Analyses of the differential effects of recession on male and female access to finance provide a useful further comparison. Lenders were found to have moved away from human capital criteria (e.g. experience) and move towards other indicators of credit size, including firm size. However, female entrepreneurs were less likely to seek external finance than males (Cowling et al., 2012). Although the literature is somewhat mixed in its clarity, we propose the following working hypothesis:

H3: *Male business owners are less likely to be rejected for bank finance than female business owners*

5.3 Data

5.3.1 The 2004 and 2008 business finance surveys

This chapter uses the 2004 and 2008 SME finance dataset acquired from Fraser (2004, 2008). The data reflect the distribution of the UK SME population and captures the period before and soon after the financial crisis of 2007. Each of the 2004 and 2008 datasets comprise a telephone survey of 2500 SMEs in the UK. After the 2004 survey, there were both repeat and new SME participants in the 2008 survey as some previous participants could not participate. The 2004 research was actually the first major survey of UK SMEs to analyse businesses with up to 250 employees, their owners and access to external finance.

The aim of the 2004 and 2008 surveys was to provide benchmarking data on the availability of credit to SMEs, the relationship between SMEs and their providers of finance, and to develop a general-purpose database for quantitative research on SME finances. Both surveys covered the personal characteristics of the owner manager, firm demographics, providers of finance, relationship with main bank, use of grant finance, commercial loans, assets and asset-based finance, credit cards and equity finance, use of business advice, main business problems and financial management qualifications, income and balance sheet information.

This chapter will focus specifically on gender, start-up/non-start-up, academic education, financial education, self-confidence in finance, experience, firm size, VAT registration, ethnicity and firm net worth. These variables are selected because they are directly relevant to the hypothesis defined. The survey data collected are representative of the SMEs in the UK because the businesses which participated in the telephone surveys were selected from all over the UK. Therefore, the sample was randomised, supports representativeness of the UK SME population and reliable.

The survey methodology for both 2004 and 2008 datasets was similar. The surveys used the one-stage stratified or systematic random sample. For data collection, the questionnaires were administered through a telephone interview and supported with a computer assisted telephone interviewing tool. The interview

questions were similar in both surveys, except for a few specific questions relevant to the time.

For the purpose of producing credit rejection estimates based on the type of business and the financial management education of the owner manager, we focus on the type of business (non-start-up and start-up), legal form of business (sole proprietor and partnership), financial management qualification, highest academic qualification and bank finance outcomes (outright and partial credit rejection) variables. Note that financial management qualification or financial qualification or financial education is used interchangeably throughout this research. In addition, the surveys identified credit rejections for different types of bank finance but this study is directed at overdrafts and commercial loans because they are the most popular ways SMEs access finance as shown in research (ECB Monthly Bulletin, 2014; Scottish Government, 2014; BIS, 2012). This categorisation of the type of business, financial management qualification and credit rejections of the owner manager reflects the structure of the acquired datasets for this research.

5.3.2 The variables

The dependent variables identify bank finance rejection made up of outright/partial overdraft/commercial loan rejections. Overdraft rejection is made up of outright/partial overdraft rejection. Commercial loan is made up of outright/partial commercial loan rejection. Outright overdraft rejection captures borrowers who had their overdraft application totally rejected. Partial overdraft rejection captures borrowers who had their overdraft application partially rejected – received less than they wanted. Outright commercial loan rejection captures borrowers who had their loan application totally rejected. Partial commercial loan rejection captures borrowers who had their loan application partially rejected – received less than wanted. Outright or partial credit rejection rates were recorded with two possible outcomes, ‘Yes’ or ‘No’ taking values of 1 and 0, respectively.

The independent variables for this study include: gender, start-up, academic education, financial education, self-confidence in finance, experience, firm size, VAT registration, ethnicity and firm net worth. These variables have adequate data presentation to support analysis in this study. Although VAT registration variable is not directly used in the hypothesis development, the variable is used to investigate association with financial education and credit rejection rates because many SMEs

register for VAT, including those that register voluntarily. Also, firms that register for VAT can signal a positive performance (i.e. it may help with accessing finance).

The full list of the dependent and independent variables with summary statistics is in the Appendix (Table 5.A1 and Table 5.A2). However, for clarity, financial education is defined as financial management qualification or financial qualification.

5.4 Sample analysis

5.4.1 Financial management qualification and bank finance rejections

As a result of data limitations, this analysis report financial management qualification for sole proprietor and partnership legal form of businesses only. Therefore, limited liability companies are not included in our analysis because this data was not collected in the surveys.

Table 5.1 shows that overdraft and loan rejection rates are lower for financially educated owner managers in 2004 and 2008 for both sole proprietors and partnerships. During the financial crisis, the rejection rates are higher for both groups, but the magnitude of the effect seems to be greater for the non-financially educated owner managers especially for outright rejection. For partnerships, the effect is more consistent across the two groups and non-financially qualified owner managers had a relatively higher rejection rates. This is further illustrated in Table 5.1.

In 2004, there was 0.73% in outright overdraft rejection rate for sole proprietor businesses with financially qualified owner managers but this increased to 3.08% in 2008. For sole proprietors without financial management qualifications the rejection rate of 5.45% in 2004 increased to 10.77% in 2008. In 2004, sole proprietor businesses with financially qualified owner managers had a partial rejection rate of 0.73% but this became 0.51% in 2008. In comparison the partial overdraft rejection rate for non-financially qualified owner managers increased from 6.91% in 2004 to 7.69% in 2008.

On the other hand, partnership businesses with financially qualified owner managers in 2004 also had better access to finance. Partnership owner managers with financial management qualification had outright overdraft rejection of 1.16% in 2004 and increased to 1.41% in 2008. However, partnership businesses where owner managers have no financial management qualification had an outright overdraft rejection rate of 3.86% in 2004 and reduced to 3.52% in 2008. Furthermore, partial

overdraft rejection for financially qualified partnership owner managers reduced from 1.54% in 2004 to 1.41% in 2008. Partial overdraft rejection rate of 5.41% was recorded for non-financially qualified partnership owner managers in 2004 and increased to 6.34% in 2008.

Owner managers with financial management qualifications had fewer loan rejections compared with those without a financial management qualification. In 2004, there was 0.68% in outright loan rejection rate for sole proprietor businesses with financially qualified owner managers but increased to 3.37% in 2008. Sole proprietors without financial management qualifications had an outright loan rejection rate of 4.08% in 2004 and this increased to 4.49% in 2008. In 2004, 0.00% was recorded for partial loan rejection rate for sole proprietor businesses with financially qualified owner managers but this increased to 1.12% in 2008. Sole proprietors without financial management qualifications had a partial loan rejection rate of 4.76% in 2004 and 7.87% in 2008. Partnership businesses with financially qualified owner managers in 2004 also had better access to loan finance. Partnership owner managers with financial management qualifications had an outright loan rejection of 0.00% in 2004 and this remained the same in 2008. However, partnership businesses with owner managers who have no financial management qualifications had an outright loan rejection rate of 2.16% in 2004 and this increased to 2.38% in 2008. Also, partial loan rejection for financially qualified partnership owner managers increased from 1.08% in 2004 to 2.38% in 2008. The partial loan rejection rate of 1.08% recorded for non-financially qualified partnership owner managers in 2004 increased to 2.38% in 2008.

In summary, as shown in Table 5.1, businesses that have financially qualified owner managers had better chance of success in their access to overdraft and loan finance in comparison to non-financially qualified owner managers. The bank finance rejection rates were generally higher in 2008 than 2004. This could be attributed to the effect of the financial crisis as businesses were more financially constrained (Saridakis *et al.*, 2013; Cowling *et al.*, 2012; Smallbone *et al.*, 2012) and banks engaged in liquidity risk management (Cornett *et al.*, 2011).

Table 5.1. Financial management qualification and bank finance rejections

FINANCIAL MGT QUALIFICATION	YES		NO	
	2004	2008	2004	2008
BANK FINANCE REJECTIONS	%	%	%	%
Sole proprietor:				
Outright overdraft rejection	0.73(275)(0.05)	3.08(195)(-0.00)	5.45(275)(0.05)	10.77(195)(-0.00)
Partial overdraft rejection	0.73(275)(0.08)	0.51(195)(0.17)	6.91(275)(0.08)	7.69(195)(0.17)
Outright loan rejection	0.68(147)(0.03)	3.37(89)(-0.25)	4.08(147)(0.03)	4.49(89)(-0.25)
Partial loan rejection	0.00(147)(0.18)	1.12(89)(0.08)	4.76(147)(0.18)	7.87(89)(0.08)
Partnership:				
Outright overdraft rejection	1.16(259)(0.05)	1.41(286)(0.01)	3.86(259)(0.05)	3.52(286)(0.01)
Partial overdraft rejection	1.54(259)(0.01)	1.41(286)(0.01)	5.41(259)(0.01)	6.34(286)(0.01)
Outright loan rejection	0.00(185)(0.32)	0.00(84)(0.23)	2.16(185)(0.32)	2.38(84)(0.23)
Partial loan rejection	1.08(185)(-0.19)	2.38(84)(0.23)	1.08(185)(-0.19)	2.38(84)(0.23)

Note: There is no financial management qualification recorded for limited liability companies. Sample size is shown in parenthesis without underline. Difference in means is shown in parenthesis with underline. As the p-value is more than 0.05 (i.e., p>0.05), there is no statistically significant difference between the means at the 5% level.

5.4.2 Bank finance rejection rates and gender

Table 5.2 shows gender and bank finance rejection rates. It shows the distribution of male and female owner managers who applied but were rejected for overdraft and commercial loans in 2004 and 2008. Generally, there were mixed results in the rates of bank finance rejections in 2004 and 2008 among male and female owner managers. These mixed results partly reflect the findings of Brindley (2005) that differentiating between genders in business can be problematic as different risk factors impact their growth and survival. In 2004, outright overdraft rejection rate among male sole proprietor owner managers was 3.64% and 2.55% for females. In 2008, outright overdraft rejection rates among male sole proprietor owner managers were 8.21% and 5.64% for females. In 2004, partial overdraft rejection rate among males was 7.27% and females were 0.36%. In 2008, partial overdraft rejection rate among sole proprietor owner managers were 5.64% for males and 2.56% for females. The results show that outright overdraft rejection rate, as well as outright and partial loan rejection rate, was higher for male than female owner managers in sole proprietor firms.

In partnership firms during 2004, outright overdraft rejection rates among males were 3.86% and none for females. In 2008, outright overdraft rejection rate among males was 2.68% and 1.79% for females. As for partial overdraft rejection rate in 2004, males recorded 4.29% while it was 2.15% for females. In 2008, partial overdraft rejection rate was 8.93% for males and none for females. There is also a

similar distribution in partial and outright loan rejection rates. This indicates that outright and partial overdraft rejection rate as well as outright and partial loan rejection rate was higher for male than female owner managers in partnership firms.

It can therefore be stated that there was higher bank finance rejection rate among male owner managers than females. Although not shown in the data, one possible explanation could be the discouraged borrower effect; that is females were less likely to apply for funding because they believe that their application may be unsuccessful, given their experience (Carter et al., 2015). It could also be explained by the complex risk factors impacting different genders in business (Brindley, 2005).

Table 5.2. Gender and bank finance rejections

GENDER	MALE		FEMALE	
	2004	2008	2004	2008
BANK FINANCE REJECTIONS	%	%	%	%
Sole proprietor:				
Outright overdraft rejection	3.64(275)(0.21*)	8.21(195)(0.25*)	2.55(275)(0.21*)	5.64(195)(0.25*)
Partial overdraft rejection	7.27(275)(-0.18*)	5.64(195)(0.13)	0.36(275)(-0.18*)	2.56(195)(0.13)
Outright loan rejection	4.08(147)(-0.04)	5.62(89)(0.10)	0.68(147)(-0.04)	2.25(89)(0.10)
Partial loan rejection	4.08(147)(-0.04)	6.74(89)(0.06)	0.68(147)(-0.04)	2.25(89)(0.06)
Partnership:				
Outright overdraft rejection	3.86(233)(-0.17*)	2.68(112)(0.19)	0.00(233)(-0.17*)	1.79(112)(0.19)
Partial overdraft rejection	4.29(233)(0.18*)	8.93(112)(-0.24*)	2.15(233)(0.18*)	0.00(112)(-0.24*)
Outright loan rejection	1.80(167)(-0.17)	1.47(68)(0.35)	0.00(167)(-0.17)	1.47(68)(0.35)
Partial loan rejection	1.80(167)(0.08)	2.94(68)(-0.17)	0.60(167)(0.08)	0.00(68)(-0.17)

Note: The total percentage for each year does not sum up to 100 as this reports rejected applicant only. Sample size is shown in parentheses without underline. Difference in means is shown in parenthesis with underline. * P-value is less than 0.05 (i.e., p<0.05), there is a statistically significant difference between the means at the 5% level.

5.4.3 Bank finance and firm age

Table 5.3 provides a distribution of bank finance rejections among start-up firms. Generally, the sample distribution shows greater bank finance rejection rates in 2008 than 2004 in both start-up and non-start-up firms which points to the financial crisis. While the outright overdraft rejection rate was 0.79% in 2004 for start-up firms, it was 4.33% for non-start-up firms. While the partial overdraft rejection rate was 0.59% in 2004 for start-up firms, it was 6.50% for non-start-up firms. While there was no outright loan rejection rate in 2004 for start-up firms, it was 3.18% for non-start-up firms. While the partial loan rejection rate was 0.64% in 2004 for start-up firms, it was 2.87% for non-start-up firms.

In 2008, the statistical result is similar to that of 2004. However, there were higher bank finance rejection rates in 2008 than 2004 reflecting the effect of the financial crisis and associated financial constraints (Smallbone *et al.*, 2012; Cornett *et al.*, 2011; Saridakis *et al.*, 2008). While the outright overdraft rejection rate was 5.84% in 2008 for start-up firms, it was 9.49% for non-start-up firms. The partial overdraft rejection rate was 1.46% in 2008 for start-up firms, it was 8.03% for non-start-up firms. While outright loan rejection rate was 5.63% in 2008 for start-up firms, it was 2.82% for non-start-up firms. This shows that non-start-up firms had an advantage over start-up firms in commercial loan seeking during the financial crisis (Cowling *et al.*, 2012) and non-start-up firms have longer historical relationship to show lenders (Voordeckers and Steijvers, 2006). Although the partial loan rejection rate was 4.23% in 2008 for start-up firms, it was 5.63% for non-start-up firms. It is possible that non-start-up firms which succeeded in its full commercial loan application may not be seeking partial commercial loan.

Table 5.3. Start-up and bank finance rejections

START-UP	YES		NO	
	2004	2008	2004	2008
BANK FINANCE REJECTIONS	%	%	%	%
Outright overdraft rejection	0.79(508)	5.84(137)	4.33(508)	9.49(137)
Partial overdraft rejection	0.59(508)	1.46(137)	6.50(508)	8.03(137)
Outright loan rejection	0.00(314)	5.63(71)	3.18(314)	2.82(71)
Partial loan rejection	0.64(314)	4.23(71)	2.87(314	5.63(71)

Note: The total percentage for each year does not sum up to 100 as this analysis reports outright and partially rejected applicant only. Sample size is shown in parenthesis.

5.4.4 Variables included in the model

Table 5.A1 and Table 5.A2 in the Appendix provide summary statistics of the dependent and explanatory variables. The dependent variables are bank finance reject, overdraft reject and loan reject. All other variables (e.g. finance qualified, degree qualified, start-up, etc.) in Table 5.A1 and 5.A2 are the independent or control variables. Turning to our key explanatory variables, the Tables show that there were greater proportions of start-up firms in 2008 (18.42%) than 2004 (6.51%). This

indicates that the financial crisis may have spurred entrepreneurs into greater self-employment as Saridakis *et al*. (2014) suggest that economic factors contribute to greater self-employment. The proportion of financially qualified owner managers increased from 19.65% in 2004 to 21.34% in 2008. The proportion of degree qualified owner managers increased from 18.33% to 26.73%. The proportion of male gender owner managers increased from 79.02% to 79.88%. These proportional increases may have been supported by the financial crisis of the time as revealed in research (Saridakis *et al*., 2013; Cowling *et al*., 2012; Smallbone *et al*., 2012; Irwin and Scott, 2010).

5.5 Empirical methodology

We use probit estimation technique to model owner manager bank finance rejection, and examine its association with financial education (E), controlling for individual and firm characteristics (X). Respondents answered the following questions:

- "*Has your business applied for overdraft and been turned down outright? Y/N"*
- *"Has your business applied for overdraft and been offered less than you wanted? Y/N"*
- *"Has your business applied to a bank or financial institution for a loan/mortgage and been turned down outright? Y/N"*
- *"Has your business applied to a bank or financial institution for a loan/mortgage and been offered less than you wanted? Y/N"*

From the survey data, this study observes the reporting outcome for each specific bank finance application outcome, which is a binary outcome (either outright/partial rejection or not). Hence, this study define a latent variable, r_i*, that represents the propensity of an individual to report an unsuccessful bank finance outcome. This drives the observed binary indicator of whether a credit application was rejected, *r*, through the following measurement equation:

$$r_i^* = \beta_1 E_i + \beta_2 X_i + u_i \quad (1)$$

$$r_i = K(r_i^* > 0) \quad (2)$$

Where *K(.)* is the indicator function, equal to 1 if the individual reports a credit outright/partial rejection and 0 otherwise, X_i is a row vector of individual and firm characteristics and E_i is a binary variable capturing whether the individual has a financial qualification.

In checking "multicollinearity"[6], variance inflation factor (VIF) and tolerance (1/VIF) were ran on the model variables (Pevalin and Robson, 2012, p. 302; Gujarati and Porter, 2009, p. 340). In 2004, multicollinearity show a Mean VIF of 1.65 and each of the VIF values are between 1.02 and 4.71. The tolerance values for 2004 are between 0.9788 and 0.2124. In 2008, multicollinearity show a Mean VIF of 1.94 and each of the VIF values are between 1.10 and 5.99. The tolerance values for 2008 are between 0.9069 and 0.1669. As the VIF is less than 10 and tolerance greater than 0.1, multicollinearity is not a problem in this case.

5.6 Analysis and empirical results

We show the marginal effect probit estimation of bank finance rejection for sole proprietor and partnership firms in Table 5.4a and Table 5.4b. We used the ***mfx*** command in STATA to estimate the marginal effect after each probit regression run. Marginal effect provides the opportunity for simple percentage interpretation of effect. Again the study results are restricted to sole proprietor and partnership SMEs. In the model[7], bank finance reject is defined as a combination of partial/outright overdraft rejections and partial/outright loan rejections. Overdraft reject is defined as partial/outright overdraft rejections. Loan reject is defined as partial/outright loan rejections.

This study shows in Table 5.4a that the gender of the owner manager has no significant effect on bank finance rejection rate. Hence, it is not possible to determine financial constraints on the basis of the gender of the owner manager of the business. This rejects hypothesis H3 (*Male business owners are less likely to be rejected for bank finance than female business owners*). Although research identified financial constraints (Bellucci et al., 2010) and risk aversion (Charness and Gneezy, 2012) as features of female entrepreneurs, Brindley (2005) indicate that differentiating between

[6] If the model variables are highly correlated with one another, it may affect the estimates (Pevalin and Robson, 2012, p. 290).
[7] All model estimates in this research were produced using STATA.

genders in business can be problematic as different risk factors impact their start-up and existence. Therefore, this analysis finds no gender effect.

Table 5.4a shows that start-up firms were about 27% more likely to be rejected for bank finance in 2004 and 22% more likely to be rejected for bank finance in 2008, although the latter coefficient is found to be statistically insignificant. However, when this study estimates the model for overdraft and loan rejection separately we find that the coefficients become statistically significant. This supports hypothesis H2 *Businesses with non-start-up status have lower probability of bank finance rejection*. It also confirms existing research that start-up firms are more financially constrained, including during the financial crisis of 2007 (Saridakis et al., 2013; Cowling et al., 2012; Irwin and Scott, 2010).

Additionally, Table 5.4a shows that although the financially qualified owner manager variable carries a negative sign, the coefficient is found to be statistically insignificant for both 2004 and 2008 samples. Therefore, hypothesis H1 (*Financial education of owner managers reduces bank finance rejection rate*) is rejected. However, there is a strong statistical significance of self-confidence in finance supporting reduced bank finance rejection rate after the financial crisis. This suggests that although financial education is found to be useful (Disney and Gathergood, 2013; OECD, 2006), the self-confidence in finance makes a significant difference between success and failure in access to bank finance. This analysis therefore suggests that it may be inadequate to rely on financial education alone as a way to gain better access to bank finance. This study suggest that financially self-confident owner managers may produce better case for their business and present appropriate information to banks in their access to bank finance in times of economic hardship and financial distress. Thus, financially self-confident owner managers have the capacity to apply financial capability adequately to meet the needs of the business in accessing bank finance in times of crisis. It is possible to seek business advice as a solution to the absence of financial education of the business owner as suggested in research (Han et al., 2014).

We now consider the control variables. The results in Table 5.4a show that experienced owner managers had significantly reduced probability of bank finance rejection in 2004. Degree qualified owner managers are 8% less likely to be rejected for bank finance in 2008 but the effect is statistically insignificant. The findings of

human capital researchers suggest that education and experience can act as a signal of potentially better business performance (Nolan and Garavan, 2016; Gruber et al., 2012; Unger et al., 2011; Segal et al., 2010; Colombo and Grilli, 2005; Colombo et al., 2004; Bates, 1990). Micro and small firms are less likely to be rejected for bank finance in 2008 with no statistical significance, hence no size effect. VAT registered firms are less likely to be rejected for bank finance in 2004 with no statistical significance. White British owner managed firms were 7% less likely to be rejected for bank finance in 2004 with no statistical significance. Owner managers with a net worth of less than £500,000 are more likely to be rejected for bank finance in 2004 with statistical significance. Hence, the greater the net worth of the owner manager, the less likely the firm was rejected for bank finance. The increased probability of bank finance rejection of 2008 could be associated with the financial crisis as banks become more selective in liquidity risk management (Smallbone et al., 2012; Cornett et al., 2011; Saridakis et al., 2008).

We considered industry as a control variable in Table 5.4b using marginal effect probit estimation of bank finance rejection. Agriculture, hunting and forestry industry was 8.5% less likely to be rejected for bank finance with strong statistical significance in 2004. Manufacturing industry was also 6.6% less likely to be rejected for bank finance with strong statistical significance in 2004. There was less likely to be overdraft rejection in 2004 for the following industry categories and with statistical significance: Agriculture, hunting and forestry; Manufacturing; Wholesale/Retail; and Real estate, renting and activities. However, all other industry categories in 2004 and 2008 had no statistically significant effect. It is possible that all industry categories were affected by the financial crisis as discussed in research (Smallbone et al., 2012; Cornett et al., 2011; Saridakis et al., 2008).

5.7 Potential endogeneity of the financial qualification variable

In controlling for potential endogeneity problems associated with bank finance rejection outcome, financial education and financial self-confidence, this study also employed an instrumental variable technique as reported in Block et al. (2013). For example it can be argued that financially qualified and self-confident people may have higher ability in finance related matters (Disney and Gathergood, 2013; OECD, 2006).

Table 5.5 provides the results of the instrumental variable (IV) probit estimation. This study shows in Table 5.5 that start-up firms have higher probability of bank finance rejection in 2004 and 2008 but with statistical significance in 2004. The IV probit estimation took a cue from Block et al. (2013) and Angrist and Krueger (1991, 2001) in resolving potential endogeneity and measurement errors associated with the financial education variable. This study treats *financial education* as endogenous in the bank finance rejection model. This study suspects that unobservable shocks affecting the decision of the owner managers to seek financial education also affects their financial self-confidence. Hence, this study treats financial education as endogenous. Therefore, as an instrument in Table 5.5, we use the financial self-confidence of the business owner. The Wald test at the bottom of the output on Table 5.5 confirms the finding of endogeneity (at the 10% level). This test used the two-step[8] probit to produce a reduced-form model estimator (Newey, 1987) because an extended model is not required in this case. In Table 5.5, the model confirms that the endogenous variable is *financial education* and that *gender*, *start-up*, *academic education*, *self-confidence in finance*, *experience*, *firm size*, *ethnicity* and *firm net worth* were used as instruments. The estimates reported for 2004 shows that start-up firms were statistically more likely to be rejected for bank finance. The estimates in Table 5.4a also show that experienced owner managers were less likely to be rejected for bank finance with statistical significance in 2004. White British owner managers were less likely to be rejected for bank finance with statistical significance in 2004. Business owners with lower net worth were more likely to be rejected for bank finance with statistical significance in 2004. The instrumental variable estimates for 2008 are not statistically significant and has low observation. However, the 2008 result may have been affected by the financial crisis of the time as reported in research (Kay et al., 2014; Cowling et al., 2012; Smallbone et al., 2012; Saridakis et al., 2008). The 2004 IV result confirms the robustness of the findings in the marginal effect probit estimates in Table 5.4a. Therefore, although the 2008 estimate is statistically insignificant, the 2004 estimate is adequately robust to support this discussion.

This study has also attempted to solve the problem of potential endogeneity of financial education and financial self-confidence in the bank rejection model. A

[8] The alternative to two-step estimator is the maximum likelihood estimator (mle). The mle is the default selection in STATA and produces an extended model containing iterations of log likelihoods.

model where both variables are treated as endogenous was explored with degree qualification as an instrument (following the user guide for Fraser, 2004, p. 70). Another model that treats only the financial self-confidence as endogenous and both degree qualification and financial qualification as instruments was employed because it may explain the self-confidence of the business owner. Whilst the first model shows that financial qualification and financial self-confidence become statistically insignificant, the second model shows insignificant result for financial self-confidence. As previously discussed, the financial crisis may have contributed to the endogeneity issues reported for 2008. However, it is suggested that the endogeneity issue can be better explored and treated in a panel data framework and this is an area for future research.

Table 5.4a. Marginal Effect Probit estimation of bank finance rejection – Part 1

	Bank finance reject		Overdraft reject		Loan reject	
Independent variables	2004	2008	2004	2008	2004	2008
Gender (base category: Female)						
- Male	-0.0202(0.0347)	-0.0509(0.0814)	-0.0205(0.0358)	-0.0742(0.0868)	0.0006(0.0344)	0.0804(35.4950)
Start-up (base category: No)						
- Start-up (1=Yes)	0.2653(0.1248)**	0.2168(0.1534)	0.2237(0.1339)***	0.3656(0.1827)**	0.1049(4.2555)	0.9999(0.0482)*
Academic education (base category: no academic qualification)						
- Degree qualified	0.0116(0.0345)	-0.0797(0.0740)	0.0043(0.0334)	-0.0782(0.0769)	-0060(0.3424)	0.9987(2.3837)
Financial education (base category: no financial qualification)						
- Financially qualified	-0.0031(0.0332)	-0.0383(0.0959)	-0.0036(0.0334)	0.0017(0.1136)	0.0036(0.1984)	---[4]
Self-confidence in finance (base category: no self-confidence)						
- Self-confidence in finance	-0.0038(0.0065)	-0.0317(0.0178)***	-0.0053(0.0064)	-0.0307(0.0181)***	0.0015(0.0828)	-0.0572(23.92)
Experience (base category: 11+ years)						
- 0-1 years	-0.0849(0.0177)*	-0.0364(0.1567)	-0.0504(0.0539)	-0.0963(0.0949)	---[4]	---[4]
- 2-4 years	-0.0723(0.0257)*	0.0454(0.1182)	-0.0621(0.0315)**	-0.0457(0.0931)	-0.0133(0.8102)	-0.1376(60.458)
- 5-10 years	-0.0240(0.0289)	0.0879(0.1144)	-0.0040(0.0321)	-0.0136(0.1057)	-0.0162(0.9600)	-0.0866(42.235)
Firm size (base category: medium sized firms)						
- Micro firms	0.0450(0.0665)	-0.1820(0.2023)	0.0327(0.0659)	-0.1661(0.2060)	0.3309(35.779)	-0.9999(0)
- Small firms	0.0604(0.0873)	-0.0762(0.1355)	0.0443(0.0808)	-0.1013(0.1225)	0.5564(54.062)	---[4]
VAT registration (base category: no VAT registered)						
- VAT registered	-0.0042(0.0289)	0.0356(0.0708)	0.0032(0.0287)	0.0301(0.0762)	-0.0198(1.0384)	0.0864(36.131)
Ethnicity (base category: non-white British)						
-White British	-0.0690(0.0501)	0.1015(0.0756)	-0.0495(0.0485)	0.0737(0.0913)	-0.0558(2.6000)	---[4]
Firm net worth (base category: net worth above £999,999)						
- Net worth £1 to £99,999	0.1209(0.0649)***	0.1047(0.1341)	0.1171(0.0672)***	0.0437(0.1294)	0.0217(1.1215)	0.5365(106.68)
- Net worth £100,000 to £499,999	0.0923(0.0404)**	0.1047(0.1069)	0.0768(0.0416)***	0.1473(0.1196)	0.0332(1.7353)	---[4]
- Net worth £500,000 to £999,999	0.0261(0.0549)	0.1876(0.1834)	0.0207(0.0549)	0.0527(0.1582)	-0.0086(0.4991)	0.9961(5.4862)
Marginal effects after probit y = Pr(reject) (predict)	0.0878	0.1479	0.0807	0.1394	0.0165	0.0708

Note: This analysis report marginal effect probit regression of bank finance rejection as well as separate marginal effect overdraft and loan rejections. Bank finance reject include partial/outright overdraft and partial/outright loan rejections. Overdraft reject include partial/outright overdraft rejections. Loan reject includes partial/outright loan rejections. Standard error is shown in parenthesis. Significance: *p<0.01 **p<0.05 ***p<0.10. [4]Variable!=0 predicts failure perfectly, dropped and some observations not used. Estimates are shown in marginal effect coefficients.

Table 5.4b. Marginal Effect Probit estimation of bank finance rejection – Part 2

	Bank finance reject		Overdraft reject		Loan reject	
Independent variables	2004	2008	2004	2008	2004	2008
Gender (base category: Female)						
- Male	-0.0228(0.0349)	-0.1230(0.0932)	-0.0197(0.0357)	-0.1589(0.0988)***	-0.0065(0.3492)	-0.0388(2.1117)
Start-up (base category: No)						
- Start-up (1=Yes)	0.2125(0.1025)**	0.2815(0.1392)**	0.2061(0.1150)***	0.3129(0.1589)**	0.0919(3.8664)	0.7465(10.1050)
Financial education (base category: no financial qualification)						
- Financially qualified	-0.0299(0.0307)	0.0145(0.0938)	-0.0261(0.0311)	-0.0014(0.0965)	-0.0124(0.6976)	0.1290(6.2148)
Self-confidence in finance (base category: no self-confidence)						
- Self-confidence in finance	-0.0081(0.0064)	-0.0435(0.0167)*	-0.0070(0.0065)	-0.0349(0.0172)**	-0.0015(0.0830)	-0.0511(2.9378)
Experience (base category: 11+ years)						
- 0-1 years	-0.0938(0.0208)*	-0.0326(0.1433)	-0.0676(0.0438)	-0.0633(0.1297)	---[4]	---[4]
- 2-4 years	-0.0579(0.0360)***	0.0766(0.1122)	-0.0402(0.0467)	-0.0053(0.0990)	-0.0091(0.5231)	0.2106(8.7629)
- 5-10 years	-0.0120(0.0324)	0.1531(0.1157)	0.0136(0.0370)	0.0941(0.1180)	-0.0208(1.2129)	0.3426(11.5470)
Firm size (base category: medium sized firms)						
- Micro firms	0.1115(0.0651)***	-0.0889(0.1995)	0.0829(0.0663)	-0.1016(0.2068)	0.5524(39.8530)	0.2351(47.1660)
- Small firms	0.1268(0.1088)	-0.0566(0.1593)	0.0756(0.0955)	-0.1061(0.1383)	0.6963(42.7050)	0.8903(40.1050)
Ethnicity (base category: non-white British)						
-White British	-0.0646(0.0483)	0.1423(0.0603)**	-0.0604(0.0503)	0.1133(0.0780)	-0.0443(2.1406)	---[4]
Industry (base category: other community activities)						
- Agriculture, hunting & forestry	-0.0850(0.0278)*	0.1675(0.1323)	-0.0845(0.0252)*	0.1223(0.2609)	---[4]	0.6662(9.1105)
- Manufacturing	-0.0660(0.0375)***	0.1543(0.2729)	-0.0647(0.0340)***	0.2977(0.3456)	---[4]	---[4]
- Construction	-0.0266(0.0437)	0.0121(0.1546)	-0.0438(0.0371)	0.1825(0.2515)	0.0012(0.0699)	---[4]
-Wholesale/Retail	-0.0414(0.0393)	-0.0489(0.1248)	-0.0651(0.0315)**	0.0552(0.1888)	-0.0117(0.6690)	-0.0900(5.5620)
-Hotels & Restaurants	0.0046(0.0550)	0.2457(0.2096)	-0.0165(0.0490)	0.3238(0.2500)	-0.0086(0.4893)	0.1216(5.9175)
-Transport, storage & communications	-0.0326(0.0453)	0.2981(0.2607)	-0.0469(0.0385)	0.5619(0.2716)**	-0.0138(0.8044)	---[4]
-Real estate, renting & activities	-0.0167(0.0443)	0.0953(0.1833)	-0.0611(0.0349)***	0.1496(0.2376)	0.0257(1.3313)	-0.0824(5.0810)
-Health & social work	-0.0392(0.0428)	-0.1033(0.1067)	-0.0376(0.0416)	-0.0086(0.1785)	-0.0181(1.0729)	---[4]
Marginal effects after probit y = Pr(reject) (predict)	0.0990	0.1567	0.0916	0.1513	0.0211	0.0757

Note: This analysis report marginal effect probit regression of bank finance rejection as well as separate marginal effect overdraft and loan rejections. Bank finance reject include partial/outright overdraft and partial/outright loan rejections. Overdraft reject include partial/outright overdraft rejections. Loan reject includes partial/outright loan rejections. Standard error is shown in parenthesis. Significance: *p≤0.01 **p≤0.05 ***p≤0.10. [4]Variable!=0 predicts failure perfectly, dropped and some observations not used. Estimates are shown in marginal effect coefficients.

Table 5.5. Instrumental Variable Probit estimation of bank finance rejection

	Bank finance reject	
Independent variables	2004	2008
Gender (base category: Female)		
- Male	-0.1321(0.2011)	-0.4872(0.4491)
Start-up (base category: No)		
- Start-up (1=Yes)	1.0678(0.3847)*	0.5712(0.5931)
Academic education (base category: no academic qualification)		
- Degree qualified	0.1987(0.3073)	0.4979(0.7444)
Financial education (base category: no financial qualification)		
- Financially qualified	-0.9757(1.6696)	-3.4230(2.2729)
Experience (base category: 11+ years)		
- 0-1 years	-1.0200(0.6978)	-0.6710(1.0686)
- 2-4 years	-0.7779(0.4624)***	-0.1189(0.5868)
- 5-10 years	-0.1289(0.2218)	0.4502(0.5122)
Firm size (base category: medium sized firms)		
- Micro firms	0.0008(0.7113)	-1.2965(0.9833)
- Small firms	0.1622(0.5652)	0.7785(0.9238)
VAT registered (base category: No)		
- VAT registered (1=Yes)	0.0136(0.1921)	0.3231(0.4304)
Ethnicity (base category: non-white British)		
-White British	-0.3936(0.2352)***	0.7536(0.6939)
Firm net worth (base category: net worth above £999,999)		
- Net worth £1 to £99,999	0.5158(0.3097)***	-0.0205(0.6984)
- Net worth £100,000 to £499,999	0.4259(0.3112)	-0.0660(0.6106)
- Net worth £500,000 to £999,999	0.0816(0.3272)	0.1842(0.7231)
Number of observations	540	131
Wald chi2(14)	20.99	8.17
Prob > chi2	0.1019	0.8800
Wald test of exogeneity: chi2(1)	0.34	3.12
Wald test of exogeneity: Prob > chi2	0.5610	0.0773
Instrumented: Financial education		
Instruments: Gender Start-up Academic education Self-confidence in finance Experience Firm size VAT registered Ethnicity Firm net worth		

Note: This analysis report instrumental variable probit regression of bank finance rejection. Bank finance reject include partial/outright overdraft and partial/outright loan rejections. Standard error is shown in parenthesis. Significance: *p<0.01 **p<0.05 ***p<0.10. Estimates are shown in instrumental variable coefficients.

5.8 Conclusion

This chapter examines empirically the relationship between financial education and bank finance outcomes. The analysis shows that the financial education of owner managers has no significant effect on bank finance rejection rate. However, there is a significant effect that the financial self-confidence of owner managers lowers their bank finance rejection rates. We suggest that financially self-confident owner managers can provide a potential signalling effect on bank lenders in their access to bank finance. The financial self-confidence of the owner manager has played a key role during 2004 and 2008 to determine the outcome of entrepreneurial access to bank finance. Overdraft and commercial loans are the main bank finance used for small firm financing and rejection rates were recorded during 2004 and 2008. The bank finance rejection rates for 2008 exceed that of 2004. This could be attributed to the financial crisis of 2007 as businesses were more financially constrained as a result of liquidity risk management in the banks. Although there were higher bank credit rejection rates in 2008, financially self-confident owner managers had better access to bank finance in comparison to their non-financially self-confident counterparts.

Non start-up firms were less likely to be rejected from banks. This is a confirmation of previous research that older established firms are more successful in access to bank finance, including pre and during financial crisis of 2007 (e.g. Cowling et al., 2012). Businesses with experienced owner managers were less likely to be rejected for bank finance in 2004. Therefore, we suggest that older firms are able to positively exploit their years of business experience in seeking bank finance. However, experience does not seem to significantly affect the bank finance outcomes in 2008. Hence, when operating in economic hardship, experience seems to play no role.

The gender dimension in this research shows that the gender of the owner manager has no significant effect on bank finance rejection rate. Therefore, although many research show greater financial constraints and risk aversion on the female entrepreneur, there is no gender effect in this study. One possibility for this observation is an uneven discouraged borrower effect between males and females; the latter showing less confidence in external finance seeking.

The findings have implication for policy. First, our research shows that financial self-confidence contributes to success in access to bank finance for businesses. It follows that business owners should exploit their financial self-confidence widely in their quest for business funding as their positive individual characteristics has been shown to signal better business performance with consequent positive effect on improved funding opportunities and

decreased credit rejection rate. Second, whilst owner managers with no financial self-confidence may encounter more difficulty in seeking business finance, the government may provide them with policy support to enhance their effort for their business venture. The government may provide advice and counselling to help boost business confidence in access to finance. Third, start-up firms face greater challenges in accessing finance. The government may provide direct support through start-up training and start-up finance in the form of micro credit. The government may also target financial support and counselling to the start-up entrepreneur on the basis of business potential and viability.

There are limitations for this research. First, the data used for this research is derived from the surveys of randomly selected SMEs based in the UK only. Therefore, the generalization of findings in the UK context will be more accurate than any other country. Second, the time period of the data collection for this research targeted 2004 and 2008 indicating a cross-sectional dimension rather than longitudinal panel data. Third, the 2004 and 2008 SME finance surveys captured financially qualified owner managers from partnership and sole proprietor businesses and thus do not include private limited enterprises[9].

It is recommended that further research explores the role of financial education and financial self-confidence among owner managers in limited liability businesses, charities and social enterprises to support their strong growth. The relationship between specific forms of human capital, business finance and performance also deserves further research attention.

[9] Private limited companies account for approximately a third of all businesses in the UK (Department for Business Energy and Industrial Strategy, 2016).

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5.10 Appendix

Table 5.A1. Variables and summary statistics for 2004 dataset

V[1]	Variable names	Obs.	Mean	Std. Dev.	Min[2]	Max[3]
D	Bank finance reject	566	0.1131	0.3170	0	1
D	Overdraft reject	508	0.1043	0.3060	0	1
D	Loan reject	314	0.0541	0.2267	0	1
I	Finance qualified	753	0.1965	0.3977	0	1
I	Degree qualified	753	0.1833	0.3871	0	1
I	Gender-Male	753	0.7902	0.4075	0	1
I	Start-up	753	0.0651	0.2468	0	1
I	Self-confidence in finance	753	7.9416	1.9100	1	10
I	Experience 0-1yrs	753	0.0266	0.1609	0	1
I	Experience 2-4yrs	753	0.0558	0.2296	0	1
I	Experience 5-10yrs	753	0.1501	0.3574	0	1
I	Micro	753	0.6946	0.4609	0	1
I	Small	753	0.2550	0.4361	0	1
I	VAT registered	753	0.6614	0.4736	0	1
I	Ethnicity – White British	753	0.9017	0.2979	0	1
I	Net worth £1 to £99999	719	0.1947	0.3963	0	1
I	Net worth £100000 to £499999	719	0.4339	0.4960	0	1
I	Net worth £500000 to £999999	719	0.1349	0.3419	0	1
I	Industry – Agric., hunting & forestry	753	0.1102	0.3134	0	1
I	Industry – Manufacturing	753	0.0624	0.2421	0	1
I	Industry – Construction	753	0.1262	0.3323	0	1
I	Industry – Wholesale/Retail	753	0.1381	0.3452	0	1
I	Industry – Hotels & Restaurants	753	0.0956	0.2943	0	1
I	Industry – Transport, storage & comm.	753	0.0823	0.2751	0	1
I	Industry – Real estate, renting & activities	753	0.1912	0.3935	0	1
I	Industry – Health & social work	753	0.0876	0.2830	0	1

Note: [1]Variable types used – Dependent (D) and Independent (I). [2]Min value of 0 denotes ‘No’. [3]Max value of 1 denotes ‘Yes’. Self-confidence in finance variable takes the values from 1 (no confidence) to 10 (complete confidence) as in the likert scale.

Table 5.A2. Variables and summary statistics for 2008 dataset

V[1]	Variable names	Obs.	Mean	Std. Dev.	Min[2]	Max[3]
D	Bank finance reject	342	0.1637	0.3706	0	1
D	Overdraft reject	311	0.1511	0.3587	0	1
D	Loan reject	163	0.0982	0.2984	0	1
I	Finance qualified	492	0.2134	0.4101	0	1
I	Degree qualified	505	0.2673	0.4430	0	1
I	Gender-Male	492	0.7988	0.4013	0	1
I	Start-up	228	0.1842	0.3885	0	1
I	Self-confidence in finance	492	7.8415	1.8418	1	10
I	Experience 0-1yrs	492	0.0366	0.1879	0	1
I	Experience 2-4yrs	492	0.1057	0.3078	0	1
I	Experience 5-10yrs	492	0.1728	0.3784	0	1
I	Micro	504	0.7341	0.4422	0	1
I	Small	504	0.2262	0.4188	0	1
I	VAT registered	505	0.6000	0.4904	0	1
I	Ethnicity – White British	505	0.8139	0.3896	0	1
I	Net worth £1 to £99999	462	0.1970	0.3981	0	1
I	Net worth £100000 to £499999	462	0.3788	0.4856	0	1
I	Net worth £500000 to £999999	462	0.1169	0.3216	0	1
I	Industry – Agric., hunting & forestry	506	0.0830	0.2762	0	1
I	Industry – Manufacturing	506	0.0751	0.2638	0	1
I	Industry – Construction	506	0.1047	0.3065	0	1
I	Industry – Wholesale/Retail	506	0.1779	0.3828	0	1
I	Industry – Hotels & Restaurants	506	0.1028	0.3040	0	1
I	Industry – Transport, storage & comm.	506	0.0652	0.2472	0	1
I	Industry – Real estate, renting & activities	506	0.1779	0.3828	0	1
I	Industry – Health & social work	506	0.1067	0.3091	0	1

Note: [1]Variable types used – Dependent (D) and Independent (I). [2]Min value of 0 denotes 'No'. [3]Max value of 1 denotes 'Yes'. Self-confidence in finance variable takes the values from 1 (no confidence) to 10 (complete confidence) as in the likert scale.

Chapter 6 Do bank credit rejection and financial education affect self-confidence in finance?[10]

6.1 Introduction

Self-confidence is used in behavioural finance, business and management research to represent self-assessed ability in accomplishing tasks (Huang and Kisgen, 2013; Kirkwood, 2009; Trevelyan, 2008; Rae and Carswell, 2001). On this basis, we define self-confidence in finance (or financial self-confidence) as self-assessed ability in accomplishing financial tasks. Self-confidence is a positive phenomenon and entrepreneurs who exhibit self-confidence reap the reward in better firm performance (Disney and Gathergood, 2013; Robinson, 2001). Heunks (1998) discussed creativity, innovation and success as a direct result of the personal attitude and values of the person as well as the institutional aspects. In this research context, the personal attitude and values of a business owner can impact the creativity and innovation of the business with consequent effect on business success. A creative mind exhibits self-confident trait (Heunks, 1998).Therefore, the link between creativity and self-confidence shows that new and existing businesses need self-confident owners to support new ventures and continuous growth and survival.

In a deprived economic environment, financial service organisations can help poor people with entrepreneurial flair to build their self-confidence towards alleviating their poverty (Robinson, 2001). Specifically, financial self-confidence determines entrepreneurs' financial behaviour and investment decision. Since the aftermath of the financial crisis of 2007, lenders have become more risk averse and small and medium-sized enterprises (SMEs), in particular, have faced financial constraints and cash flow problems (Saridakis et al., 2013; Smallbone et al., 2012; Cornett et al., 2011; Fraser, 2008). At the same time credit rejection rates by financial institutions and the percentage of discouraged borrowers (i.e. borrowers who do not apply for credit because they feel they will be rejected) have increased since the recent recession (see Abildgren et al., 2013; Fraser, 2008).

This chapter empirically examines the determinants of financial self-confidence of small firm owner managers, pre and during the recent financial crisis. In particular, the chapter aims to understand the effect of bank credit rejection on the financial self-confidence of business owners in times of booms (pre financial crisis) and busts (during financial crisis). We argue that entrepreneurs update their self-confidence in finance over time in response to the economic environment and their experience with the financial institutions. For example,

[10] This chapter was invited for major revision in the *International Journal of Entrepreneurial Behavior & Research*.

entrepreneurs who are rejected for funding from a finance provider (e.g. bank) may reset their self-confidence to a lower level. This results in a credit rejection being negatively related to an entrepreneur's self-confidence. Also, there is a potential association between self-confidence and financial education. Financial education develops financial capabilities, and learning on financial matters helps to enable higher self-confidence (see Disney and Gathergood, 2013). It is also important to understand the gender dimension in self-confidence in finance. Existing research, for example, shows that there is a tendency for male financial overconfidence (e.g. Moore and Healy, 2008; Barber and Odean, 2001) whereas female tend to exert low financial self-confidence (e.g. Kirkwood, 2009; Estes and Hosseini, 1988). Little attention, however, has been given to whether financial self-confidence has varied differently between males and females over the recent recession period.

Throughout the history and evolution of leadership, self-confidence has been researched and located in the Trait Theory of Leadership (Fleenor, 2006). Self-confidence is associated with emotional steadiness and represents a significant leader trait in any organisation (Kirkpatrick and Locke, 1991). However, although self-confidence is contained in a prescribed list of leader traits, recent leadership research suggests that situational and contingency aspects can have an impact on leadership effectiveness (Fleenor, 2006; Hollenbeck and Hall, 2004). They posit that self-confidence and leader performance in progressive organisations are positively linked. In Social Cognitive Theory, self-efficacy (another name for self-confidence) is classified as a behavioural or socio-cognitive factor contributing to entrepreneurial success (Amatucci and Crawley, 2011; Bandura, 1989).

In recent research, it was found that individuals have a tendency to process information about their ability in a biased manner (Möbius et al., 2011). Although it is possible for entrepreneurs to have self-confidence in their abilities as described in Rae and Carswell (2001), they may have a biased tendency to have self-confidence in their abilities in starting and running their own business. Abilities, knowledge and future prospect are identified as the possible features that could be tainted towards overconfidence in humans (Barber and Odean, 2001). Overconfidence is used to describe a biased state of self-confidence (Moore and Healy, 2008). Overconfidence in finance is higher in male than in female investors (Moore and Healy, 2008; Barber and Odean, 2001) suggesting that there is a potential gender dimension to overconfidence. Overconfidence is an excessive aspect of self-confidence and it has dilemmas associated (Moore and Healy, 2008). Therefore, overconfidence can be a biased phenomenon because it may not be reflective of reality and could exhibit features of unforeseen potential for high risk with its associated negative

consequences. According to Trevelyan (2008), overconfidence can be harmful to the business when making decisions on the basis of negative outcomes. In addition, self-confident individuals are more willing to take risk and become entrepreneurs but Pirinsky (2013) show that overconfidence introduces the capacity for a high level of human error. In most corporate financial and investment decision making, male executives exhibit higher levels of overconfidence when compared with their female counterpart (Huang and Kisgen, 2013). However, the lack of or low self-confidence is not an encouraging factor for firm growth and survival (e.g. Moore and Healy, 2008; Bowen and Hisrich, 1986). This research concerns the financial self-confidence of owner managers and their application for credit finance for their business needs in periods of boom and bust.

The remainder of this chapter is organised as follows. Section 2 provides the background, reviews the literature and develops the hypotheses to be tested. Section 3 describes the data. Section 4 presents the empirical methodology and section 5 discusses the empirical results. Finally, section 6 provides the conclusion with summary of the research findings as well as directions for further research and policy implications.

6.2 Background and hypotheses development

The self-confidence of entrepreneurs in entrepreneurial learning shows their self-belief in their capability in making their business viable (Rae and Carswell, 2001). Indeed, it can be difficult to establish an entrepreneurial venture in the absence of personal self-belief. In a disadvantaged community of people, financial service organisations can support local entrepreneurial population to increase their self-confidence in starting and operating businesses to eradicate poverty in their communities (Robinson, 2001). They conducted an extended research in many developing countries interacting with local entrepreneurs and potential entrepreneurs to help resolve their poverty situation in their community. They found that sustainable poverty solution could be found with boosting the self-confidence of the people in different households. Thus, this has the tendency of persuading community people into engaging in entrepreneurial activities.

The credit crunch resulting from the recent financial crisis has necessitated greater financial constraints mostly on new firms and SMEs with negative effect on economic growth and development (see Saridakis et al., 2013; Smallbone et al., 2012; Fraser, 2008). In other words, the financial constraints of the 2007 credit crisis represent the liquidity management of the banking system causing reduction in business credit lending (Popov and Udell, 2012; Cornett et al., 2011; Ivashina and Scharfstein, 2010). Since entrepreneurs and

their business creation mostly use bank funding for their start-up, growth and survival (ECB Monthly Bulletin, 2014; Scottish Government, 2014; BIS, 2012; Fraser, 2008; Saridakis et al., 2008), a higher level of financial constraint has been associated with firm exit and slow firm growth. To this end, Bayesian learning theory provides a framework in which individuals incorporate learned information from observation and experience with the financial institutions and credit rejection rates to update prior financial self-confidence. This reflects the prior financial self-confidence of business owners similar to wider Bayesian research (Mueller-Frank, 2014; Park and Kim, 2013; Walker, 2013; Fouskakis, 2012; Yingchun, 2012; Möbius et al., 2011; Tang and Liou, 2010; Karni, 2007). While Tang and Liou (2010) concentrated on differentiating between superior firm performance and competitive advantage, Mueller-Frank (2014) focused on choice revision in agent observational learning task. Entrepreneurs begin their entrepreneurial career with a *prior* self-confidence in accessing finance. As entrepreneurs begin to apply for funding they observe their rejection rate. This results in an entrepreneur's experiences having an effect on his or her self-confidence. If an entrepreneur is rejected, his self-confidence is expected to decrease. Alternatively, if the entrepreneur applies but is not rejected, his or her self-confidence should increase. Some entrepreneurs who are rejected may never re-apply for funding and become discouraged borrowers. Discouraged borrowers SMEs have weaker economic performance in terms of solvency, profitability, liquidity and debt profile (Abildgren et al., 2013). Hence, self-confidence in finance will change in response to this information. We therefore propose the following hypothesis:

H1: *Bank finance rejection reduces business owners' self-confidence in finance.*

Amongst many other individual characteristics, innovations in small firms depend on the education and self-confidence of the owner manager (Heunks, 1998). Less literate persons are unlikely to exhibit financial literacy (Disney and Gathergood, 2013) and consequently, they may have less self-confidence in finance. According to Jayson (2007), self-confidence is tantamount to money in the bank reports research on self-confidence conducted at the University of Florida in Gainsville. In the research, self-confidence was likened to self-concept and self-esteem. It was found that self-confidence contributes to better life accomplishments including more financial benefit in employment or better firm performance.

Heunks (1998) associated self-confidence and education as a way to encourage creativity and innovation. In a recent UK household survey, it was found that people with less

financial literacy are likely to show a lack of confidence and confusion in financial matters (Disney and Gathergood, 2013). They show that higher financial literacy plays a major role in enabling higher self-confidence. Hence, self-confidence can be associated with good financial education accomplishment and capability. Two Australian banks offered reduced bank charges to gain the loyalty of university students (Pont and McQuilken, 2005). The banks know the future potential of the human capital of university students in terms of potential wage earnings and possible business start-up and growth. Entrepreneurship education has a positive effect on human capital (Volery et al., 2013). As a way to improve business performance, SMEs may engage in seeking formal or informal advice from experts such as accountants (Forbes Insights, 2010) and banks (Han et al., 2014). This can also contribute to better business performance and boost confidence. Seeking financial counselling can support small businesses and entrepreneurs in making better financial decisions (Drexler et al., 2013). There is a significant positive relationship between human capital and business success (Unger et al., 2011).

Other human capital researchers (Fernandes et al., 2014; Lofstrom et al., 2014; Block et al., 2013; Drexler et al., 2013; Ganotakis, 2012; Crook et al., 2011; Karlan and Valdivia, 2010; Dickson et al., 2008; Saridakis et al., 2008; Colombo and Grilli, 2005; Dakhli and De Clercq, 2004; Blundell et al., 1999) explored the benefits of education in the business environment over many years and the benefits they acknowledged include better business performance and better decision making. Many countries are supportive of financial literacy and financial education for their people towards economic growth (Fernandes et al., 2014). This shows that the benefits of education as a human capital can be far-reaching to include better credit application, able to identify market opportunities and possess a clearer understanding of the terms and conditions applicable to bank credits. The OECD suggests that financial education resolves financial illiteracy in the society (OECD, 2006b). We therefore propose the following hypothesis:

H2: *Financial education increases business owners' self-confidence in finance.*

In self-employment choices, a recent study argues against the traditional alignment of social factors to female and economic factors to their male counterpart (Saridakis et al., 2014). Although the research explored social and economic factors in male and female self-employment, it used UK time-series data. Hence, there may be issues of cultural irrelevance to other countries. In developing countries, environmental and cultural factors can lead to

targeted policy formulation to support certain groups such as female entrepreneurs (Cho and Honorati, 2013). A study into the perception and behaviour of male and female start-up entrepreneurs exposed female deficiency in the areas of finance and accounting in comparison to their male counterparts (Jones and Tullous, 2002). Although this study mostly targeted a certain section of the United States community, the findings confirm the result from other researchers such as Bowen and Hisrich (1986) and Estes and Hosseini (1988). This shows that financial self-confidence can support entrepreneurs in starting and running their own business. SMEs are enablers of economic advancement in many countries through business start-up, job creation and employment, courtesy of self-confident entrepreneurs who found the businesses (OECD, 2006a; Robinson, 2001). Therefore, the sustainability of the economy depends on the self-confidence of entrepreneurs at engaging in new business formation. As financial service firms support local people to expand economic activities, their income and assets are positively impacted and their self-confidence improves concurrently (Robinson, 2001). Tyszka et al. (2011) revealed that opportunity-driven entrepreneurs exhibit high levels of self-confidence. Hence, as business opportunities increase, more entrepreneurs and potential entrepreneurs are motivated and their self-confidence is improved.

Different risk factors contribute to different gender behaviours and unless the gender aspect of risk is adequately understood, it will be difficult to resolve risks and, thus, inappropriate to make policy recommendation (Brindley, 2005). Gender stereotype plays a key role in business opportunity evaluation and favours male or female depending on the stereotypical information context (Gupta et al., 2014). Lower early business growth of female entrepreneurs contributes to their limited finance in entrepreneurship compared to their male counterparts (Alsos et al., 2006). Although Muravyev et al. (2009) identified possible preferential treatment of male against female in access to finance many researches (Cotugno et al., 2012; Cowling et al., 2012; Berger et al., 2011; Voordeckers and Steijvers, 2006; Mattesini, 1990; Bester, 1987) suggest that lenders consider collateral, banking relationship and track record in their funding decision. According to Bellucci et al. (2010), female entrepreneurs are more financially constrained and low confident female loan officers are less likely to approve loan for start-up businesses compared to their male counterparts. This may suggest that female loan officers are more risk-averse.

In a New Zealand study, women show low self-confidence in their entrepreneurial ability when compared to men and, as a result, the women entrepreneurs are constrained in growth and financial resources (Kirkwood, 2009). However, they find that self-confidence among women entrepreneurs grows with increase in their entrepreneurial experience.

According to Estes and Hosseini (1988), women show low confidence in investment-related tasks when compared to men. In another study, women are unable to determine their entrepreneurial career prospect as they feel a lack of confidence in financial matters (Bowen and Hisrich, 1986). Meanwhile, Wijewardena et al. (2008) find that owner manager mentality directly impacts the financial performance of their organisations. As women are susceptible to low self-confidence, it shows their level of mentality and can have negative effect on the performance of their firm. Thus, finance is a key resource in any business and access to finance becomes elusive in the absence of self-confidence in financial matters relevant for the start-up and smooth operation of the business. We therefore propose the following hypothesis:

H3: *Male business owners have higher level of self-confidence in finance than female business owners.*

6.3 Data

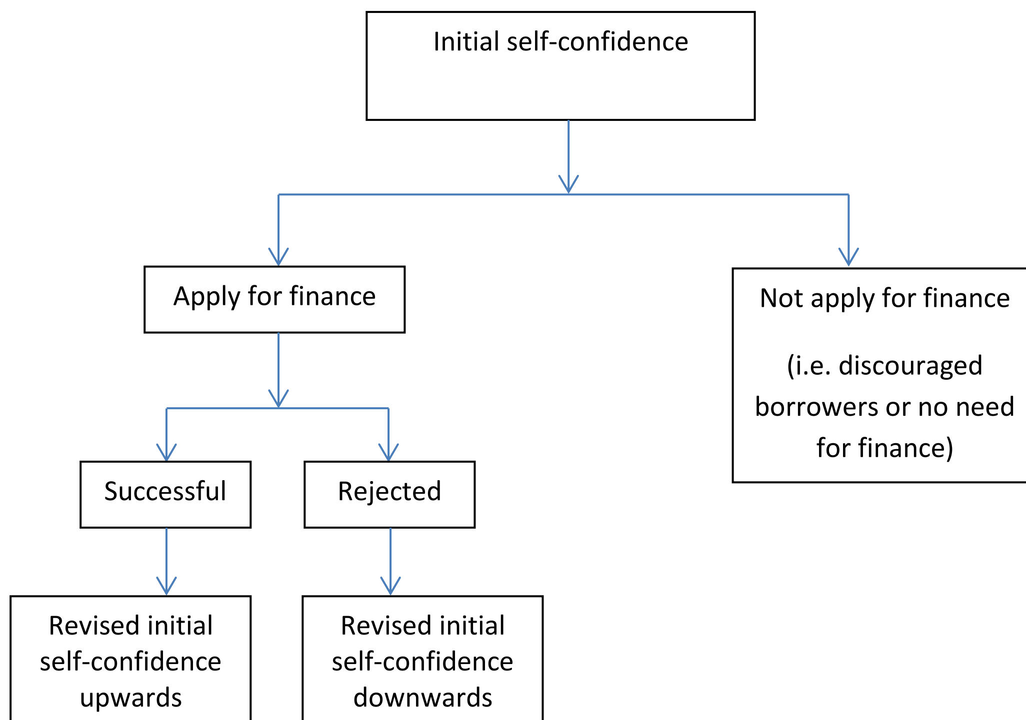
The data for our analysis comes from the surveys of 2500 UK SMEs during 2004 and 2008 (Fraser, 2004, 2008). The IFF Research Limited collected the 2004 data and it was sponsored by the Bank of England. The IFF Research Limited collected the 2008 data but it was sponsored jointly by Economic and Social Research Council and Barclays Bank. The data was deposited and held at the UK Data Archive. The aims of the surveys were: a) to provide benchmark SME finance data made up of the availability and types of finance for SMEs in the UK; b) to collect information on the relationship between SMEs and their providers of finance; c) to provide a general purpose data to support quantitative research on business finance in the UK and comparable with other countries. Both datasets are representative of the SMEs with up to 250 employees in the UK, numeric and used one-stage stratified random sampling procedure.

As the surveys were performed in two parts, one in 2004 and another in 2008, there are two separate cross-sectional datasets. While the 2004 dataset provide a snapshot of the pre-financial crisis period, the 2008 dataset provide the situation as regards the financial crisis period. Therefore, the two datasets allowed for comparisons between the two periods. The surveys provide rich information about the characteristics of the business and its owner, self-confidence in finance and bank finance application outcomes. Although the surveys involved sole proprietor, partnership and limited companies, we will concentrate our investigation on sole proprietor and partnership businesses because self-confidence data was not reported for

limited companies. Our analysis excludes those who did not apply for credit because the business owner thought they would be turned down (discouraged borrowers) and those who did not apply because there was no need for finance.

Figure 6.1 explains our sample diagrammatically as it provides an illustration of the financial self-confidence of business owners and their bank finance application. It shows that while some business owners make an application for finance, some others do not. However, among business owners who do not make an application for finance, includes those that may not need finance and those that may be discouraged. This research looks at business owners who applied for finance, their financial education and how men and women revise their self-confidence according to the outcome. To explain this further, prior to making application for finance, there is an initial level of self-confidence. Self-confidence in finance takes the values from 1 (no confidence) to 10 (complete confidence) as in the likert scale. The initial level of self-confidence may be revised upwards in a successful application episode (Successful) while it may be revised downwards in an unsuccessful application episode (Rejected). Appendix 6.A1 and 6.A2 provide summary statistics of the variables used in the regressions

Figure 6.1. Conceptual framework of self-confidence and credit finance application



6.3.1 Sample analysis

The proportions of overdrafts and commercial loans reported in Table 6.1 are different for 2004 and 2008. The proportions of overall (overdraft and commercial loan) rejected in 2004

is 11.34% and 2008 is 16.43%. While overdraft rejected is reported as 10.51% in 2004, it is 15.29% in 2008. Loan rejected is 5.33% in 2004 and 9.58% in 2008. The bigger change in overdraft rejection rate shows that overdraft is a common short term source of finance for SMEs confirming BIS (2012) and ECB Monthly Bulletin (2014). The figures show the intensity and negative effect of the recent financial crisis in 2007 on SMEs confirming various research evidence (Popov and Udell, 2012; Cornett et al., 2011; Ivashina and Scharfstein, 2010; Saridakis et al., 2008).

The proportions of men and women who used overdraft and commercial loan in 2004 and 2008 show gender differences with greater proportion for men which seems to be relatively stable after the crisis. These variations in overdraft and commercial loan applications among men and women entrepreneurs may be related to varying social and economic factors. According to Bellucci et al. (2010), gender matters in the bank-firm relationship because female entrepreneurs experience tighter credit availability. Muravyev et al. (2009) discovered that female owned businesses in Central and Eastern Europe were less likely to get loan and pay higher interest rate than their male counterparts. To this end, female entrepreneurs may fund their business differently and are dissuaded from credits in the form of commercial loans and overdrafts. This partially confirms the research of Brindley (2005) as different risk factors are attributed to different gender behaviours. Further research shows that personal characteristics in terms of risk propensity and beliefs can positively impact entrepreneurial intention (Volery et al., 2013). GEM (2014) also disclosed the cultural and customary explanation for entrepreneurial choices around the world.

In our two samples, the proportion of financially educated is generally less than non-financially educated. The overall proportion of discouraged borrowers in 2004 is 1.80% and 2.87% in 2008. This pattern of discouragement is reflected for both overdraft and commercial loan applications confirming the increase in discouragement among SMEs during the financial crisis of 2007 (Saridakis et al., 2013; Cotugno et al., 2012; Cornett et al., 2011).

Table 6.1. Sample properties (%)

Properties	2004 Overall	2004 Overdraft	2004 Loan	2008 Overall	2008 Overdraft	2008 Loan
Rejected	11.34	10.51	5.33	16.43	15.29	9.58
Men	80.80	80.93	82.76	80.41	80.32	81.99
Financial education	20.77	21.98	24.76	21.05	21.61	21.12
N	573	514	319	342	310	161
Discouraged borrowers	1.80	3.66	2.04	2.87	3.94	3.71
N	500	246	441	383	203	350
Finance is needed	6.72	5.91	4.86	5.91	4.10	5.34
N	491	237	432	372	195	337

Note: The sample size (*N*) for 2004 data is greater than 2008.

6.4 Empirical methodology

We use ordered probit estimation technique to model owner manager self-confidence in finance, and examine its association with credit rejection rate (RR), financial education (FE) and gender (GE) controlling for individual and firm characteristics (X) (see Wooldridge, 2002). Entrepreneurs answered the question, "*On a scale of 1-10 (where 1 is no confidence and 10 is complete confidence), how confident are you in your own abilities in finance?*" Based on the responses, we construct a variable that captures self-confidence in finance taking values from 1 (no confidence) to 10 (complete confidence), assigning the numeric values {1 … 10}. We note that there appears to be a logical ordering in these answers. We can write our ordered response models as[11]:

$$SC_f^* = a_1 RR_f + a_2 FE_f + a_3 GE + b'X_f + u_f \quad (1)$$

Where SC_f^* represent the latent variable denoting the unobserved propensity of entrepreneur f to be self-confident in finance. Although, SC_f^* is unobserved, we observe SC_f such that:

$$SC_f = j \text{ if } \gamma_{j-1} < SC_f^* \leq \gamma_j \quad (2)$$

Where the a_i (i=1,2,3) and γ are the parameters to be estimated. X_i is a row vector of owner manager and business characteristics.[12] Summary statistics are provided in the Appendix (Table 6.A1 and Table 6.A2).

[11] We also use probit estimation technique for robustness check. Hence we construct a variable capturing self-confidence in finance that takes the value of 1 for high reported-self-confidence and 0 otherwise. While high self-confidence in finance is derived from self-confidence levels 6 to 10 (complete confidence) on the likert scale, low self-confidence in finance is from 1 (no confidence) to 5. However, the results are similar to those reported from the ordered probit estimator.

[12] We further assume that low self-confidence in dealing with finances is exogenous in the models since previous work (Fraser, 2008) has reported *no significant* impact of financial self-confidence on the likelihood of credit

As a way to check 'multicollinearity', we employ variance inflation factor (VIF) and tolerance (1/VIF) on the model variables (Pevalin and Robson, 2012, p. 302; Gujarati and Porter, 2009, p. 340). Our multicollinearity check for 2004 data show a Mean VIF of 1.69 and each of the VIF values are between 1.02 and 4.57. Also, the tolerance values for 2004 data are between 0.9818 and 0.2190. However, the multicollinearity for 2008 data show a Mean VIF of 1.90 and each of the VIF values are between 1.06 and 5.59. The tolerance values for 2008 data are between 0.9472 and 0.1789. Generally, as the VIF < 10 and tolerance > 0.1, we suggest that multicollinearity is not a problem here.

6.5 Empirical results

We estimate the self-confidence in finance of owner managers in sole proprietor and partnership businesses only because self-confidence in finance data is not available for limited companies. We first combine the bank finance rejection together and then disaggregate it to examine differences between outright and partial bank rejection (Table 6.2ai and Table 6.2aii). We further disaggregate the data for overdraft users (Table 6.2b) and for commercial loan users (Table 6.2c).

The results in Table 6.2ai show that whilst outright bank finance rejection reduced the financial self-confidence of owner managers, partial bank finance rejection increased their financial self-confidence in 2004 where in 2008 the combined effect was found to be negative and statistically significant. Following the general negative economic climate during 2007 (Cornett et al., 2011; Ivashina and Scharfstein, 2010; Saridakis et al., 2008), it can be argued that partial rejections may be viewed as a successful outcome by the applicant. These findings provide partial support for the hypothesis H1 suggesting that (outright) *bank finance rejection reduces business owners' self-confidence in finance*. Also, the results in Table 6.2ai show that financial education increases the likelihood of reporting higher financial self-confidence supporting hypothesis H2, *financial education increases business owners' self-confidence in finance*. This shows the benefit of human capital such as financial education as reported in various researches (Fernandes et al., 2014; Lofstrom et al., 2014; Block et al., 2013; Crook et al., 2011; Unger et al., 2011; Karlan and Valdivia, 2010; Dickson et al., 2008).

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rejection. Using ivregress 2SLS command in Stata, we report no endogenous regressors. The test of endogeneity shows that under the null hypothesis, the modelled variables are exogenous.

Following Table 6.2ai and Table 6.2aii, we find no association between gender and reported self-confidence in finance and thus hypothesis H3 is rejected.

When we run separate estimates for the overdraft users and the loan users the results are interesting too. Similarly as in the full sample, we observe no significant differences between males and females in Table 6.2b. As shown in Table 6.2b, outright overdraft rejection reduced the self-confidence in finance of owner managers in 2004 whereas overall rejection reduces self-confidence in finance in 2008. Being financially qualified still is found to increase self-confidence in finance, and this result is found to be consistent across the estimations. For loan user sub-sample, however, We find some evidence that owner managers with increased self-confidence in finance were more likely to be male than female. We also find a positive association between partial bank rejection rate and reported self-confidence in finance. This finding provides some support to existing research including Bowen and Hisrich (1986), Estes and Hosseini (1988) and Kirkwood (2009) that women lack adequate self-confidence in financial matters with negative effect on entrepreneurship. Being financially qualified is also found to have a positive effect, but the effect becomes weak during the crisis.

Although research (Popov and Udell, 2012; Cornett et al., 2011; Ivashina and Scharfstein, 2010; Saridakis et al., 2008) show that the financial crisis of 2007 caused financial constraints for all levels of SMEs, our findings suggests that owner managers with financial education remain confident during the economic hardship. The revision or adjustment of prior self-confidence in finance of owner managers as a result of the financial crisis or bank credit rejections confirms the Bayesian inference (Mueller-Frank, 2014; Park and Kim, 2013; Möbius et al., 2011; Karni, 2007).

We also run our estimates for both males and females sub-samples. As Table 6.3 reports male empirical results, Table 6.4 reports female results. We find that bank credit rejection affect the financial self-confidence of males after the crisis and women before the crisis. The bank credit rejection associated with the crisis period for males was a major financial constraint on different types of firms (Cowling et al., 2012; Popov and Udell, 2012; Cornett et al., 2011). However, the bank credit rejection associated with female owner managers before the crisis shows that the rejection confirms existing research (Bellucci et al., 2010; Kirkwood, 2009) that females are more financially constrained in their business. Overall, the results show some interesting differences in owner manager gender in terms of financial self-confidence.

There is a strong association for financially qualified owner managers as they are more likely to have self-confidence in finance supporting the findings reported earlier in this chapter, although the association is found to be more consistent with females than males. This supports the findings of Brindley (2005) that differentiating between risk factors in male and female entrepreneurs can be problematic because there are issues of social, economic and personal phenomenon contributing to individual entrepreneurial behaviour. Although there are different risk factors associated with male and female entrepreneurs, GEM (2014) show that there is variation in the level of female entrepreneurship across the world reflecting on cultural and custom induced limitation on female participation in economic activities.

Turning to our control variables, we also find some interesting results. For example, Non-start-up is found to be associated with higher financial self-confidence than new start-ups, especially for male owned firms. Other studies have also reported that non-start-up firms are generally favoured and more likely to gain access to finance (Cotugno et al., 2012; Cowling et al., 2012; Voordeckers and Steijvers, 2006). VAT registration is generally not associated with financial self-confidence, although some positive and statistically significant association is found for the male sub-sample. In the hypothesis development, VAT variable is not used. However, VAT variable is used to investigate its relationship with financial self-confidence and credit rejection rates because many SMEs register for VAT. Many SMEs are known to register for VAT voluntarily. VAT registration of the firm can act as a signal of positive performance. We find no ethnicity effect on financial self-confidence and neither statistically significant firm size effect. Finally, firms with less net worth are less likely to have stronger financial self-confidence than firms with high net worth.

We considered industry as a control variable in Table 6.2aii to investigate its association with financial self-confidence and bank finance rejection outcomes. The construction industry category had a reduced self-confidence in finance for 2008 with strong statistical significance. This reflects the negative effect of the financial crisis at the time as reported in research (Popov and Udell, 2012; Cornett et al., 2011; Ivashina and Scharfstein, 2010; Saridakis et al., 2008). Other industry categories had no significant effect on financial self-confidence in 2004 and 2008.

Table 6.2ai. Ordered probit of self-confidence in finance – Part 1

Independent variables	2004		2008	
Applied (base category: Successful)				
- Bank finance rejection	-0.0462(0.1496)		-0.4363(0.2432)***	
- Partial bank finance rejection		0.3215(0.1811)***		-0.1130(0.3053)
- Outright bank finance rejection		-0.4189(0.2212)***		-0.2817(0.3273)
Gender (base category: Female)				
- Male	0.1069(0.1193)	0.0920(0.1196)	0.0523(0.2145)	0.0265(0.2178)
Business type (base category: Start-up)				
- Non start-up	0.1845(0.2101)	0.1597(0.2101)	0.0269(0.2784)	0.0052(0.2798)
Academic education (base category: no academic qualification)				
- Degree qualified	0.0067(0.1183)	0.0122(0.1184)	-0.2954(0.2249)	-0.2925(0.2271)
Financial education (base category: no financial qualification)				
- Financially qualified	0.3401(0.1191)*	0.3336(0.1192)*	0.6606(0.2679)*	0.6795(0.2680)*
Firm size (base category: medium sized firms)				
- Micro firm	-0.1755(0.1978)	-0.1773(0.1978)	-0.0215(0.4547)	0.0005(0.4542)
- Small firm	-0.0239(0.1966)	-0.0193(0.1967)	-0.2800(0.4480)	-0.2782(0.4478)
VAT registration (base category: no VAT registered)				
- VAT registered firm	-0.0824(0.1063)	-0.0924(0.1064)	0.2044(0.2017)	0.2021(0.2052)
Ethnicity (base category: non-white British)				
- White British	0.0591(0.1471)	0.0724(0.1475)	-0.0250(0.3126)	-0.0616(0.3116)
Firm net worth (base category: net worth above £999,999)				
- Net worth £1 to £99,999	-0.2339(0.1472)***	-0.2245(0.1474)***	-0.4013(0.2773)	-0.4112(0.2780)
- Net worth £100,000 to £499,999	-0.0781(0.1193)	-0.0938(0.1195)	-0.0230(0.2472)	-0.0302(0.2476)
- Net worth £500,000 to £999,999	0.0253(0.1528)	0.0130(0.1530)	0.3009(0.3543)	0.2807(0.3544)
Log likelihood	-975.2305	-972.5280	-234.1324	-235.0939
LR Chi2(12)(13)	22.96	28.36	20.23	18.30
Prob> Chi2	0.0281	0.0080	0.0629	0.1463
Observation	546	546	133	133

Note: Standard errors are shown in parentheses. Significance: *p<0.01 **p<0.05 ***p<0.10. Estimates are shown in coefficients.

Table 6.2aii. Ordered probit of self-confidence in finance – Part 2

Independent variables	2004	2008
Applied (base category: Successful)		
- Bank finance rejection	-0.0650(0.1504)	-0.4237(0.2468)***
Gender (base category: Female)		
- Male	0.0527(0.1219)	0.0691(0.2360)
Business type (base category: Start-up)		
- Non start-up	0.1392(0.2119)	0.3263(0.3057)
Academic education (base category: no academic qualification)		
- Degree qualified	0.0583(0.1234)	-0.3689(0.2430)
Financial education (base category: no financial qualification)		
- Financially qualified	0.3408(0.1216)*	0.6259(0.2767)*
Firm size (base category: medium sized firms)		
- Micro firm	-0.2510(0.2096)	-0.0063(0.4782)
- Small firm	-0.0489(0.2053)	-0.5213(0.4825)
VAT registration (base category: no VAT registered)		
- VAT registered firm	-0.2061(0.1223)***	0.4084(0.2458)***
Ethnicity (base category: non-white British)		
- White British	0.0300(0.1490)	0.0864(0.3182)
Firm net worth (base category: net worth above £999,999)		
- Net worth £1 to £99,999	-0.2624(0.1502)***	-0.4040(0.2860)
- Net worth £100,000 to £499,999	-0.0714(0.1215)	0.0070(0.2517)
- Net worth £500,000 to £999,999	0.0492(0.1550)	0.2556(0.3596)
Industry (base category: other community activities)		
- Agriculture, hunting & forestry	0.0603(0.2120)	0.1381(0.4553)
- Manufacturing	0.0450(0.2412)	-0.3507(0.6122)
- Construction	0.3094(0.1990)	-0.7312(0.4129)***
-Wholesale/Retail	0.0459(0.1917)	-0.4642(0.3974)
-Hotels & Restaurants	0.2800(0.2157)	0.1619(0.4277)
-Transport, storage & communications	0.2697(0.2123)	0.0730(0.5166)
-Real estate, renting & activities	0.0823(0.1822)	0.0496(0.4046)
-Health & social work	-0.3056(0.2185)	0.4444(0.4211)
Log likelihood	-969.4657	-228.2586
LR Chi2(20)	34.49	31.97
Prob> Chi2	0.0230	0.0436
Observation	546	133

Note: Standard errors are shown in parentheses. Significance: *p≤0.01 **p≤0.05 ***p≤0.10. Estimates are shown in coefficients.

Table 6.2b. Ordered probit of self-confidence in finance for overdraft users

Independent variables	2004		2008	
Applied (base category: successful)				
- Overdraft rejection	-0.0899(0.1648)		-0.4345(0.2627)***	
- Partial overdraft rejection		0.2534(0.1997)		-0.2793(0.3475)
- Outright overdraft rejection		-0.4113(0.2479)***		-0.1705(0.3469)
Gender (base category: female)				
- Male	0.0654(0.1261)	0.0455(0.1266)	0.1168(0.2286)	0.1188(0.2343)
Business type (base cat.: Start-up)				
- Non start-up	0.4925(0.2665)***	0.4967(0.2671)***	-0.0858(0.3101)	-0.1613(0.3128)
Academic education (base cat.: no academic qualification)				
- Degree qualified	0.0230(0.1215)	0.0248(0.1215)	-0.2533(0.2383)	-0.2272(0.2408)
Financial education (base cat.: no financial qualification)				
- Financially qualified	0.3361(0.1231)*	0.3294(0.1232)*	0.9849(0.2996)*	0.9877(0.2994)*
Firm size (base cat.: medium sized firms)				
- Micro firm	-0.1586(0.2064)	-0.1697(0.2064)	0.1748(0.4743)	0.2050(0.4738)
- Small firm	-0.0196(0.2034)	-0.0126(0.2035)	-0.2328(0.4662)	-0.2070(0.4668)
VAT registration (base cat.: no VAT registered)				
- VAT registered	-0.1157(0.1146)	-0.1282(0.1148)	0.2063(0.2235)	0.2263(0.2273)
Ethnicity (base cat.: non-white British)				
- White British	-0.0080(0.1552)	-0.0047(0.1552)	0.1463(0.3371)	0.1147(0.3365)
Firm net worth (base cat.: net worth above £999,999)				
- Net worth £1 to £99,999	-0.2649(0.1570)***	-0.2504(0.1575)***	-0.3945(0.2884)	-0.4028(0.2910)
- Net worth £100,000 to £499,999	-0.1197(0.1269)	-0.1321(0.1271)	0.1794(0.2688)	0.1670(0.2690)
- Net worth £500,000 to £999,999	0.0103(0.1606)	0.0033(0.1606)	0.5508(0.3757)	0.5378(0.3755)
Log likelihood	-872.5648	-870.8571	-207.4618	-208.1458
LR Chi2(12)(13)	23.85	27.26	26.88	25.51
Prob> Chi2	0.0213	0.0114	0.0080	0.0198
Observation	492	492	119	119

Note: Standard errors are shown in parenthesis. Significance: *p<0.01 **p<0.05 ***p<0.10. Estimates are shown in coefficients.

Table 6.2c. Ordered probit of self-confidence in finance for loan users

Independent variables	2004		2008	
Applied (base category: successful)				
- Loan rejection	0.0971(0.2724)		-0.6412(0.5102)	
- Partial loan rejection		0.6531(0.3607)***		-0.3525(0.5688)
- Outright loan rejection		-0.4257(0.3714)		-0.2539(0.6219)
Gender (base category: female)				
- Male	0.3199(0.1729)***	0.3238(0.1733)***	0.3082(0.3723)	0.2996(0.3791)
Business type (base cat.: start-up)				
- Non start-up	0.0336(0.2614)	-0.0361(0.2636)	0.2845(0.4537)	0.2221(0.4508)
Academic education (base cat.: no academic qualification)				
- Degree qualified	-0.0485(0.1625)	-0.0436(0.1626)	-0.4208(0.3947)	-0.4047(0.3956)
Financial education (base cat.: no financial qualification)				
- Financially qualified	0.3196(0.1546)**	0.3221(0.1547)**	0.1503(0.5708)	0.1854(0.5695)
Firm size (base cat.: medium sized firms)				
- Micro firm	-0.2398(0.2376)	-0.2272(0.2377)	-0.8291(0.7408)	-0.8067(0.7420)
- Small firm	-0.0374(0.2315)	-0.0444(0.2316)	-0.7110(0.7172)	-0.7419(0.7176)
VAT registration (base cat.: no VAT registered)				
- VAT registered	0.0097(0.1502)	0.0173(0.1503)	0.2627(0.3032)	0.2719(0.3048)
Ethnicity (base cat.: non-white British)				
- White British	0.0899(0.1828)	0.1079(0.1840)	0.0187(0.5690)	-0.0530(0.5693)
Firm net worth (base cat.: net worth above £999,999)				
- Net worth £1 to £99,999	-0.0365(0.2082)	-0.03580.2083)	-0.1183(0.4898)	-0.1617(0.5099)
- Net worth £100,000 to £499,999	-0.1113(0.1585)	-0.1141(0.1589)	-0.6154(0.3889)	-0.5856(0.3929)
- Net worth £500,000 to £999,999	-0.0345(0.1903)	-0.0427(0.1905)	-0.3820(0.5036)	-0.4863(0.4969)
Log likelihood	-527.5924	-525.7646	-101.9400	-102.3782
LR Chi2(12)(13)	16.89	20.54	13.23	12.35
Prob> Chi2	0.1539	0.0825	0.3526	0.4990
Observation	301	301	59	59

Note: Standard errors are shown in parenthesis. Significance: *p<0.01 **p<0.05 ***p<0.10. Estimates are shown in coefficients.

Table 6.3. Ordered probit of self-confidence in finance (male only estimate)

Independent variables	2004		2008	
Applied (base category: Successful)				
- Bank finance rejection	-0.0265(0.1689)		-0.5011(0.2938)***	
- Partial bank finance rejection		0.2260(0.1983)		-0.2422(0.3482)
- Outright bank finance rejection		-0.2857(0.2673)		-0.2601(0.4128)
Business type (base category: Start-up)				
- Non start-up	0.3216(0.2547)	0.3292(0.2548)	0.0422(0.3244)	0.0150(0.3247)
Academic education (base category: no academic qualification)				
- Degree qualified	-0.0315(0.1322)	-0.0313(0.1323)	-0.0650(0.2835)	-0.0571(0.2875)
Financial education (base category: no financial qualification)				
- Financially qualified	0.3154(0.1314)*	0.3151(0.1314)**	0.4077(0.3299)	0.4297(0.3308)
Firm size (base category: medium sized firms)				
- Micro firm	-0.1842(0.2097)	-0.1852(0.2097)	0.1787(0.4862)	0.2048(0.4859)
- Small firm	0.0490(0.2062)	0.0526(0.2063)	-0.2375(0.4642)	-0.2383(0.4645)
VAT registration (base category: no VAT registered)				
- VAT registered firm	-0.0321(0.1228)	-0.0400(0.1230)	0.4329(0.2445)***	0.4481(0.2492)***
Ethnicity (base category: non-white British)				
- White British	0.0009(0.1622)	-0.0046(0.1627)	0.0207(0.3709)	-0.0256(0.3705)
Firm net worth (base category: net worth above £999,999)				
- Net worth £1 to £99,999	-0.2844(0.1653)***	-0.2931(0.1654)***	-0.6750(0.3355)**	-0.6935(0.3360)
- Net worth £100,000 to £499,999	-0.1358(0.1316)	-0.1447(0.1318)	-0.2424(0.2932)	-0.2506(0.2934)
- Net worth £500,000 to £999,999	-0.0501(0.1647)	-0.0565(0.1648)	-0.1304(0.4289)	-0.1723(0.4294)
Log likelihood	-784.3674	-783.4448	-169.4311	-170.3959
LR Chi2(11)(12)	22.42	24.27	19.36	17.43
Prob> Chi2	0.0213	0.0187	0.0549	0.1341
Observation	446	446	99	99

Note: Standard errors are shown in parentheses. Significance: *p<0.01 **p<0.05 ***p<0.10. Estimates are shown in coefficients.

Table 6.4. Ordered probit of self-confidence in finance (female only estimate)

Independent variables	2004		2008	
Applied (base category: Successful)				
- Bank finance rejection	-0.0260(0.3458)		-0.1679(0.5325)	
- Partial bank finance rejection		1.1654(0.5456)**		-0.6099(1.0085)
- Outright bank finance rejection		-0.8785(0.4569)***		0.2729(0.9065)
Business type (base category: Start-up)				
- Non start-up	-0.1838(0.3980)	-0.4981(0.4140)	-0.2912(0.6615)	-0.2925(0.6615)
Academic education (base category: no academic qualification)				
- Degree qualified	0.1656(0.2862)	0.2764(0.2898)	-0.6887(0.4117)***	-0.6608(0.4147)***
Financial education (base category: no financial qualification)				
- Financially qualified	0.4993(0.2994)***	0.3875(0.3034)	1.3527(0.5381)*	1.3966(0.5457)*
Firm size (base category: medium sized firms)				
- Micro firm	-0.2699(0.7955)	-0.2546(0.7935)	0.2917(0.4210)	0.2564(0.4247)
- Small firm	-0.4769(0.8185)	-0.4285(0.8167)	---[4]	---[4]
VAT registration (base category: no VAT registered)				
- VAT registered firm	-0.2551(0.2248)	-0.2242(0.2257)	-0.3716(0.4255)	-0.3052(0.4404)
Ethnicity (base category: non-white British)				
- White British	0.3100(0.3757)	0.7044(0.4026)***	0.2316(0.6974)	0.2171(0.6979)
Firm net worth (base category: net worth above £999,999)				
- Net worth £1 to £99,999	-0.0628(0.3531)	0.1778(0.3640)	0.7503(0.6085)	0.8771(0.6438)
- Net worth £100,000 to £499,999	0.2049(0.2975)	0.1630(0.2981)	0.7642(0.5661)	0.8300(0.5770)
- Net worth £500,000 to £999,999	0.3206(0.4339)	0.2617(0.4363)	1.2902(0.7239)***	1.4484(0.7730)***
Log likelihood	-180.7289	-176.5658	-54.6938	-54.5092
LR Chi2(11)(12)	6.90	15.22	12.83	13.20
Prob> Chi2	0.8073	0.2294	0.2331	0.2803
Observation	100	100	34	34

Note: Standard errors are shown in parentheses. Significance: *p<0.01 **p<0.05 ***p<0.10. [4]Variable omitted because of collinearity. Estimates are shown in coefficients.

6.6 Conclusion

This chapter examines empirically the link between self-confidence in finance, bank finance rejection rates, gender and financial education using the 2004 and 2008 SME finance surveys. The results show that outright rejection is negatively associated with financial self-confidence whereas partial bank credit rejection may boost self-confidence. Also, the results show that financial education has a strong and positive effect on self-confidence in finance providing support for increasing entrepreneurial and financial education in higher education.

Further research is recommended to evaluate and assess the self-confidence in finance of owner managers in limited companies, social enterprise and charities to determine their credit rejection rate and their gender aspect. This knowledge will allow owner managers to resolve their deficiency in financial education as a way to increase their self-confidence in finance and determine their readiness for entrepreneurship. Financial education could be one suitable way to increase self-confidence in finance and improve entrepreneurship. Hence, different types of firms have the potential to benefit from the financial self-confidence of the owner or leader.

In summary, the results show that financial education can boost financial self-confidence. Outright bank credit rejection reduces self-confidence in finance while partial bank credit rejection may boost self-confidence especially during the financial crisis.

The findings have implication for policy. Firstly, the financial self-confidence of owner managers can support their entrepreneurial capability in starting and operating one or more businesses such as serial entrepreneurs. As entrepreneurs successfully start and operate their own businesses, they are contributing to economic development through job creation, employment and tax contribution. Therefore, the government could provide policy support to enable financial education for potential entrepreneurs towards boosting their financial self-confidence and improve their zeal for entrepreneurship. Secondly, entrepreneurs and potential entrepreneurs who have a need of financial education in their business may seek financial advice and training as a self-motivated exercise to boost their business venture. Seeking financial advice or financial counselling externally may serve as an alternative to owner manager pursuing financial education but this is subject to a strategic decision of the firm as there may be cost implications. Thirdly, the financial self-confidence of business owners has the potential to reduce the risk of bank credit rejection for their business venture. In this way, financial self-confidence of business owners reduces risk exposure and encourages banks in their lending engagement.

This research also has limitations. First, the SME finance data for 2004 and 2008 is based on UK firms. The firms that participated in the 2004 survey were not exactly the same as those of 2008. Therefore, as much as the results may be generalizable in the context of SMEs in the UK and, to some extent, other similarly developed countries, there must be caution in determining the applicability in worldwide context. Second, the research is based on cross-sectional data for 2004 and 2008. Although both year periods provided opportunity for comparative analysis in this research, it does not replace the capability of longitudinal panel data. Thus, panel data could have supported greater analytical depth and detail of the differences in reported financial self-confidence and variations in bank credit rejection rates. Third, the SME finance survey captured financial self-confidence data for sole proprietor and partnership businesses only. Therefore, it was not possible to empirically examine other legal forms of firms such as limited liability companies, social enterprise and charitable organisations. Fourth, although ethnicity is explored for White British in this research, there was no detail of other ethnic groups. Exploring various minority ethnic groups will support further research and increase robustness. Fifth, this investigation did not cover types of financial education. A more robust approach will identify the types and level of financial education. Sixth, apart from degree qualification, different academic qualifications were not explored in this research. To improve robustness, it is suggested that different types of academic qualification is explored in future research. Seventh, the experience of the owner is another variable that can improve robustness.

6.7 References

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6.8 Appendix

Table 6.A1. Summary list of dependent and explanatory variables for 2004

Variable	Mean	Std. Dev.	Min[1]	Max[2]
Self-confidence in finance (non-binary)	7.9474	1.9041	1	10
Business start-up	0.0671	0.2504	0	1
Degree qualified	0.1842	0.3879	0	1
Financially qualified	0.2000	0.4003	0	1
Gender	0.7908	0.4070	0	1
Outright overdraft reject	0.0506	0.2194	0	1
Partial overdraft reject	0.0720	0.2587	0	1
Outright loan reject	0.0313	0.1745	0	1
Partial loan reject	0.0345	0.1828	0	1
VAT registered	0.6618	0.4734	0	1
Ethnicity – White British	0.9026	0.2967	0	1
Net worth – 1 to 99999	0.1931	0.3950	0	1
Net worth – 100000 to 499999	0.4317	0.4957	0	1
Net worth – 500000 to 999999	0.1338	0.3407	0	1
Micro business	0.6921	0.4619	0	1
Small business	0.2553	0.4363	0	1
Industry – Agric., hunting & forestry	0.1092	0.3121	0	1
Industry – Manufacturing	0.0618	0.2410	0	1
Industry – Construction	0.1263	0.3324	0	1
Industry – Wholesale/Retail	0.1382	0.3453	0	1
Industry – Hotels & Restaurants	0.0961	0.2949	0	1
Industry – Transport, storage & comm.	0.0816	0.2739	0	1
Industry – Real estate, renting & activities	0.1908	0.3932	0	1
Industry – Health & social work	0.0882	0.2837	0	1

Note: [1]Min value of 0 denotes ‘No’. [2]Max value of 1 denotes ‘Yes’. Self-confidence in finance is the dependent variable taking the values from 1 (no confidence) to 10 (complete confidence) as in the likert scale.

Table 6.A2. Summary list of dependent and explanatory variables for 2008

Variable	Mean	Std. Dev.	Min[1]	Max[2]
Self-confidence in finance (non-binary)	7.8472	1.8455	1	10
Business start-up	0.1872	0.3909	0	1
Degree qualified	0.2689	0.4438	0	1
Financially qualified	0.2143	0.4107	0	1
Gender	0.7956	0.4036	0	1
Outright overdraft reject	0.1019	0.3030	0	1
Partial overdraft reject	0.0860	0.2808	0	1
Outright loan reject	0.0539	0.2265	0	1
Partial loan reject	0.0599	0.2380	0	1
VAT registered	0.5977	0.4908	0	1
Ethnicity – White British	0.8182	0.3861	0	1
Net worth – 1 to 99999	0.1970	0.3982	0	1
Net worth – 100000 to 499999	0.3771	0.4852	0	1
Net worth – 500000 to 999999	0.1186	0.3237	0	1
Micro business	0.7326	0.4431	0	1
Small business	0.2267	0.4191	0	1
Industry – Agric., hunting & forestry	0.0832	0.2764	0	1
Industry – Manufacturing	0.0735	0.2612	0	1
Industry – Construction	0.1064	0.3086	0	1
Industry – Wholesale/Retail	0.1779	0.3828	0	1
Industry – Hotels & Restaurants	0.1025	0.3036	0	1
Industry – Transport, storage & comm.	0.0619	0.2412	0	1
Industry – Real estate, renting & activities	0.1799	0.3845	0	1
Industry – Health & social work	0.1044	0.3061	0	1

Note: [1]Min value of 0 denotes ‘No’. [2]Max value of 1 denotes ‘Yes’. Self-confidence in finance is the dependent variable taking the values from 1 (no confidence) to 10 (complete confidence) as in the likert scale.

Chapter 7 Access to Finance for SMEs in Post-Socialist countries: the Baltic States and the South Caucasus compared

7.1 Introduction

Finance is a key resource in the formation of businesses anywhere in the world. As the role of entrepreneurship and SMEs in economic development is increasingly recognised (World Bank, 2015; GEM, 2012), the importance of access to finance has been widely researched (Saridakis *et al*., 2013, 2014; Popov and Udell, 2012; Smallbone *et al*., 2012; Ivashina and Scharfstein, 2010; Beck and Demirguc-Kunt, 2006). These researchers found that although businesses need finance for their formation and existence, many of them are financially constrained which typically reflects under capitalisation at start-up. As well as investigating access to finance for entrepreneurs in these post socialist countries, this chapter also examines the effectiveness of the court system which, it is suggested, can be a major constraint if there are significant institutional deficiencies. Institutional theory is a suitable framework for this research because access to finance obstacles show institutional characteristics and deficiencies. Institutional theory also provides an avenue to explore formal and informal analysis of institutional influences including cultural norms, values and beliefs (Aidis et al., 2007). To this end, institutional theory has been seen to provide a wide opportunity for various academic debate accommodating different scholars including corporate social responsibility, organisational change and business continuity planning (Campbell, 2007; Zsidisin et al., 2005; Dacin et al., 2002).

The collapse of the Soviet Union into independent countries in 1991 was a major milestone for the countries involved, including Russia, Armenia, Azerbaijan, Belarus, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Tajikistan, Turkmenistan, Ukraine and Uzbekistan. Among the fifteen countries of the former Soviet Union, the Baltic States (Estonia, Latvia and Lithuania) and South Caucasus (Armenia, Azerbaijan and Georgia) were chosen for this research. The rationale for this choice was the contrasting development paths of the countries involved. In the Baltic States the process of preparing for EU membership was a major driver of institutional change. One aspect of this is a key focus of this chapter, namely the operation of the courts in dealing with the regulation of business. There are also differences related to their respective locations, while the Baltic States have a geographical boundary with other EU countries to the West, the South Causcasus countries have a boundary with south Asia. The differences in the pace of institutional change lead us to expect some differences in access to finance because of the

effects of a fair and stable court system for business on the willingness of lenders to advance funds. Although the EU member states such as the Baltic States are known to exploit institutional and democratic reforms as part of their preparation for European Union membership, other post-Soviet Union countries are still proceeding with central planning (Aidis et al., 2007). The introduction of the European Neighbourhood Policy (ENP) in 2003 is a way the EU intends to bring institutional change, openness and development to its neighbours (Chilosi, 2007).

Researchers confirmed that adverse economic conditions, like the financial crisis of 2007-2008, constrains the availability of business funding and introduce greater complexity to the process of accessing fund (Saridakis et al., 2013; Popov and Udell, 2012; Smallbone et al., 2012; Ivashina and Scharfstein, 2010). Prior to the financial crisis of 2007-2008, Estonia experienced boom in cash inflows through real estate and credit but the global financial crisis introduced a high intensity burst resulting in economic slowdown in the country (Brixiova, Vartia, and Wörgötter, 2010). The housing market in Latvia became seriously overheated as local income levels began to level with other Western Europe countries (Klyviene and Rasmussen, 2010). While Georgia experienced the twin effect of war and financial crisis, Azerbaijan, Armenia, Lithuania and Latvia experienced their own share of woes while the crisis persisted (Wrobel, 2015; Otarashvili, 2013; Phillips et al., 2012; Klyviene and Rasmussen, 2010; Giuli, 2009).

In most countries of the world, access to finance is the most commonly reported constraint on SME development by business owners and managers. This applies in mature market economies but most particularly in emerging market economies. This research aims to improve knowledge and understanding of access to finance and legal regulatory progress in the Baltic States and South Caucasus region in light of their membership of the former Soviet Union. We use the cross-sectional dataset from the Business Environment and Enterprise Performance Survey (BEEPS) for 2009 to empirically examine access to finance for SMEs together with the efficiency of the court system in the Baltic States and South Caucasus region. This research will empirically examine the economic progress in both the Baltic States and South Caucasus region in terms of access to finance for business and the support of the court system in financial contracts between business borrowers and lending institutions. We make a comparison between these countries on the basis of the self-reported survey responses received to determine their capacity for entrepreneurship through access to finance and the effect of the legal regulatory system. This research is the first to empirically explore access to finance and the legal regulatory system in the Baltic States and South

Caucasus region. Apart from the BEEPS data, secondary research information from the World Bank (WBDB, 2015; World Bank, 2015), Global Entrepreneurship Monitor (GEM, 2012, 2015) and World Justice Project (WJP, 2014) provided support to enhance discussion in this research. The questions to be investigated in this chapter include: (a) To what extent is access to finance a constraint on business development? (b) Are there differences between the Baltic States and South Caucasus region in access to finance for businesses? (c) Is there a gender dimension to the Baltic States and South Caucasus differences in access to finance for businesses? (d) To what extent does a good court system improve access to finance for businesses?

This chapter proceeds as follows. Section 2 presents the background and literature review. Section 3 looked at the hypothesis definition. Section 4 describes the data. Section 5 defines the empirical methodology. Section 6 presents the empirical analysis and findings. Section 7 is a discussion of the findings. Section 8 provides the conclusion and suggestions for further research.

7.2 Background and literature review

Since the collapse of the former Soviet Union in 1991, there have been various constraints affecting economic growth in each of the former Soviet Republics. In pursuing a growth agenda, the Baltic States embraced European Union membership in 2004 causing a positive effect on the development of institutions and economic growth but less so in the South Caucasus region. According to Simão (2012), the protracted conflict in the South Caucasus region has put a limit to the promotion of European Union style democracy. Sammut (2013) believes that although modern buildings abound in the South Caucasus region, the old Soviet style practices persist. Although the countries in the South Caucasus are naturally neighbours in sharing the same boundary, they are not strategically linked as they pursue policies of isolation (Sammut, 2013). In the conflict between Russia and Georgia in 2008, sections of Georgian territory became isolated with recognition from Russia (Kakachia, 2011). This has caused a negative economic effect to the energy trade route with the EU as Georgia occupies a strategic geopolitical position. However, the unrest in the Georgian territory brought confusion to the South Caucasus region; hence, increased the constraints affecting economic growth.

The South Caucasus region is seen as a hegemony of powers made up of mostly influences from Russia, USA and European Union (Suny, 2010). While Russia seeks to secure its former Soviet authority in the South Caucasus region to keep off other interests, the

European Union and USA aims to seek economic progress for the region as independent states with unhindered free market autonomy. The senior financial executives in the business community aspire to see the Eastern Europe region as part of the European Union because investors are more inclined towards free market with EU membership to promote fairness, rights and justice (Welch and Ciner, 2004). Indeed, the European Union membership provides better investor protection than the relics of the former Soviet Union.

During the financial crisis of 2007-2008, the level of financial constraint was higher for smaller firms and this suggest that larger and older firms were more successful in accessing finance than small firms (Cowling *et al*., 2012). The financial constraint associated with the financial crisis show that adverse economic conditions can have detrimental effect on businesses and limit their access to finance (Saridakis *et al.*, 2013; Smallbone *et al.*, 2012; Cornett *et al.*, 2011). The increase in foreign banks in Eastern Europe exposed the banking system to a form of imported adverse economic conditions with consequent adverse effects on local SMEs during the financial crisis (Popov and Udell, 2012). Therefore, while the parent banks in the developed countries experienced recessionary pressures, their local but foreign counterparts in Central and Eastern Europe had a localised version of uncertainty following reduced lending for SMEs. In crisis times, domestic banks contracted their credit base while foreign banks did not but rather relied on the health of their parent bank (de Haas and van Lelyveld, 2006). At the same time, there were differences between Central and East European countries in the impact of the financial crisis that was associated with the ownership of banks (Popov and Udell, 2012; Brixiova et al., 2010). In the Baltic States for example, following their bankruptcy in the early 1990s, the Estonian, Latvian and Lithuanian banks, were mainly foreign owned (Aidis et al., 2007).

The credit and real estate markets of Estonia were affected by the global financial crisis of 2007-2008 causing slow economic growth (Brixiova et al., 2010). According to Pissarides (1999), the inadequate availability of credit during the crisis created limitation on the growth of SMEs in Central and Eastern Europe. Where there is inadequate credit for businesses, there is bound to be an increase in competition for the limited available business funding among SMEs. However, Aidis et al. (2007) disclosed that the availability of credit from the informal sector in Eastern Europe provided an opportunity for financing for some start-ups and small firms but the amount of money involved was typically not sufficient to support significant SME growth. The most devastating consequence of the financial crisis of 2007-2008 in Eastern Europe was the sharp fall in consumer demand for goods and services (Nguyen and Qian, 2014). According to them, there were also increased debt levels and a

decline in access to finance among SMEs. The most financially distressed firms suffered the greatest adverse effect of the credit crunch (Mac an Bhaird, 2013). Georgia experienced twin crisis during 2007-2008, the financial crisis and the South Ossetia War, causing a negative impact on confidence in Georgian government and institutions (Otarashvili, 2013; Phillips *et al.*, 2012; Giuli, 2009). Research show that the reduction in capital flows across countries during the global financial crisis depended on their financial integration, nature of the effect, macroeconomic conditions and the level of their interconnections to international trade flows (Klyviene and Rasmussen, 2010; Milesi-Ferretti and Tille, 2010).

Although the Baltic States experienced the financial crisis of 2007-2008, they have progressed economically and are now following an independent path to achieving further greatness with fewer pitfalls (Wrobel, 2015; IMF Survey, 2014). However, the South Caucasus countries are still experiencing the effect of the financial crisis with Azerbaijan suffering high unemployment, lay off of workers, falling oil price and national currency depreciation (IMF Survey, 2015a; IMF Survey, 2015b; Mammadov, 2015). IMF Survey research shows that while oil exporting countries feel the adverse shock in lowering prices, oil importing countries are enjoying a long period of low oil prices with positive effect on economic outlook.

7.3 Hypothesis development

Beck *et al*. (2006) suggests that institution development is a key factor in cross-country comparison of SME financing. Further research indicates that a weak financial system is one consequence of a weak legal system (Beck *et al*., 2008). They argued that SMEs are characterised by weak financial systems are unable to access adequate external financing to support rapid growth. This suggests that SMEs in weak financial systems are more likely to be financially constrained and exhibit the characteristics of stunted growth and premature closure. According to Laeven and Majnoni (2005), the efficiency of the judiciary supports business access to credit as the cost of financial intermediation are reduced. Therefore, the increase in judicial efficiency lowers the cost of credit for SMEs.

GEM (2012) disclosed that entrepreneurial activity and a well-supported business environment are the prerequisites for significant economic development. Thus, a government that rewards creativity and innovation encourages entrepreneurial ventures and new business creation. Economic stability and improved market economies have improved in Eastern Europe since more than a decade (Welch and Ciner, 2004). According to Beck and Demirguc-Kunt (2006), good financial and institution development supports SMEs in

reducing the limitations to their growth. Aggarwal and Goodell (2014) also reiterate the usefulness of an efficient financial sector development in improving access to finance for SMEs. Therefore, it is imperative that governments provide adequate support to SMEs through direct and indirect actions to improve the development of the business environment and thereby create a framework for the conditions for productive small business development.

According to Aggarwal and Goodell (2014), there is a better access to finance associated with higher level of national wealth and adequate protection for investors. In transitional economies, it was found that the legal system was not adequately developed to protect investors and investees (Pistor et al, 2000). Labour regulation has the capacity to depress the measures of entrepreneurship aimed at supporting nascent and new entrepreneurs (Thurik, van Stel and Storey, 2007). An effective legal regulatory environment is determined by the effectiveness of the applicable laws rather than a mere existence of the legal system (Yao and Yueh, 2009). The efficiency of the legal and regulatory systems depends on the quality of the national court system in mediating contractual disputes (Laeven and Majnoni, 2005; La Porta et al., 1998). According to La Porta et al. (1998), an effective legal regulatory system can support financial contracts. If the judiciary is efficient with judicial enforcement of financial contract, there will be lower cost of SMEs accessing finance (Laeven and Majnoni, 2005). To this end, an effective legal regulatory system can act as a symbol of an efficient financial sector and institution development because it provides protection for the financial market participants.

Indeed, access to finance providers are desirous of an effective legal framework to protect them in contractual engagements with SMEs. Higher levels of protection of property rights lead to better outcomes for investors and businesses (Hur *et al.*, 2006). Firm performance and property right protection are positively linked (Yasar *et al.*, 2011). It follows that the protection of property rights requires an efficient legal framework and leads to improved access to finance and better firm performance. Amongst other criteria, the European Union expects all potential member states to comply with and apply the rule of law to promote stability, rights and improve market economy (EC, 2014a, 2014b; Copenhagen Criteria, 1993). The rule of law means that governments, agents, individuals and private entities are accountable under the law (WJP, 2014).

Financial executives in the USA are positively inclined to invest in Eastern European countries as a result of the membership of the European Union with financial market improvement (Welch and Ciner, 2004). However, the rule of law is multidimensional and has

an impact on the business environment and national economy with major 'law and order' challenges in developing countries (Haggard and Tiede, 2011). They argue that if the general court system fails to resolve disputes and apply the principle of fairness and equality between parties, it may become irrelevant and cease to be trusted. Therefore, weak legal regulatory systems, weak institution development, inadequate protection for investors and adverse economic environment can reduce the ease of access to finance for SMEs. We therefore propose the following hypotheses:

H1: *Fairness in the court system reduces the obstacle to SMEs accessing finance.*

H2: *Decision enforcement in the court system reduces the obstacle to SMEs accessing finance.*

Female entrepreneurs face tighter credit availability in their search for business loan but the conditions are relaxed with established banking relationship signifying that gender is relevant in access to banking finance (Bellucci *et al.*, 2010). In a similar study, females were unable to determine their entrepreneurial career outlook as they do not trust their financial competence (Bowen and Hisrich, 1986). Female entrepreneurship in transitional economies like Ukraine and Lithuania does not follow conventional practice as in the developed world (Aidis *et al*., 2007). According to Aidis *et al*. (2007), female entrepreneurship is the key to societal development but there are informal institutional influences affecting them. According to Wijewardena *et al.* (2008), the mentality of the business owner or manager can have an impact on the financial performance of the organisation. Indeed, as money is a necessity in any business operation, any reduction in essential financial resources can be damaging to the business. Therefore, the mentality of females in their entrepreneurial capability can reduce self-confidence and negatively impact their business operations and performance.

The population of female entrepreneurs in each of the Eastern European economies is less than 30% (GEM, 2012). The Global Entrepreneurship Monitor shows that there are cultural dimensions to the access to finance phenomenon (GEM, 2012). Aggarwal and Goodell (2014) reiterate the cultural dimension of access to finance and the aspect of national culture that impacts access to finance for businesses. They assert that national culture determines a dimension of cultural norms associated with different types of people and nationalities. Gupta *et al*. (2009, p. 398) argued that the socially formed, societal norm and knowledge about gender and entrepreneurship put constraint on the ability of females 'to accrue social, cultural, human, and financial capital'. The socially formed norm and practices

put limits on the ability of females in their entrepreneurial ventures as they are unable to provide credit history to compensate for inadequate or lack of collateral (Gupta *et al*., 2009).

According to GEM (2012), the culture of an entrepreneur has a constraining effect on their entrepreneurial venture participation. Also, Gupta *et al*. (2009) stated that there is a gender stereotype against female owner-managers. Moreover, socially formed, societal norms and knowledge about gender characteristics and entrepreneurship differs from one country to another and this has existed over many centuries (Gupta *et al*., 2009). Thus, societal norm and the social framework emanate from nature and human civilization, and it will take time for relevant social and societal changes to propagate towards a social and societal equilibrium. Gupta *et al*. (2009) concluded that their research may only be relevant to the countries selected for the investigation (USA, Turkey and India) and may not be relevant in other countries such as the Scandinavian countries where there are social and demographic contexts which explain certain societal norm and changes. Although Gupta *et al*. (2009) associated their research to the USA, Turkey and India, GEM (2012) and Aggarwal and Goodell (2014) show that cultural differences exist from one country to another with impact on gender entrepreneurship. Aidis *et al*. (2007) also identified the influence of cultural norms and values in creating an informal institutional frame constraining female entrepreneurship. Therefore, it is an opportunity to further explore the gender and cultural dimension for access to finance in this research context. We therefore propose the following hypotheses:

***H3**: Businesses with at least one female owner reduces the obstacle to SMEs accessing finance.*

***H4:** Businesses with a female top manager increases the obstacle to SMEs accessing finance.*

7.4 Data

The 11998 SME sample for our analysis originated from the Business Environment and Enterprise Performance Survey (BEEPS) for 2009. The survey captured the self-reported information of business owners. It was administered jointly by the World Bank and the European Bank for Reconstruction and Development. The 2009 survey was conducted among 30 countries in Central and Eastern Europe made up of Albania, Armenia, Azerbaijan, Belarus, Bosnia & Herzegovina, Bulgaria, Croatia, Czech Republic, Estonia, FYR Macedonia, Georgia, Hungary, Kazakhstan, Kosovo, Kyrgyz Republic, Latvia, Lithuania, Moldova, Mongolia, Montenegro, Poland, Romania, Russia, Serbia, Slovak Republic, Slovenia, Tajikistan, Turkey, Ukraine and Uzbekistan. Although there were thirty countries

represented in the survey, this research focusses on six former Soviet Union countries in the Baltic States (Estonia, Latvia and Lithuania) and South Caucasus (Armenia, Azerbaijan and Georgia) regions. While the Baltic States are now within the EU, South Caucasus countries are outside it with the opportunity to benefit from ENP (EC, 2014a, 2014b; Chilosi, 2007; Copenhagen Criteria, 1993).

For the purpose of assessing access to finance and the efficiency of the court system from one country to another, we focus on information about access to finance and the court system in each of the Baltic States and South Caucasus countries. We also explored the gender of top managers and business owners as a way to determine their gender characteristics. We explored other relevant information in Table 7.2b including quality certification, competition from informal sector, management experience, government subsidies, possess overdraft facility, possess credit/loan facility, whether applied for new credit/loan and the total sales. The selected questions for this survey include:

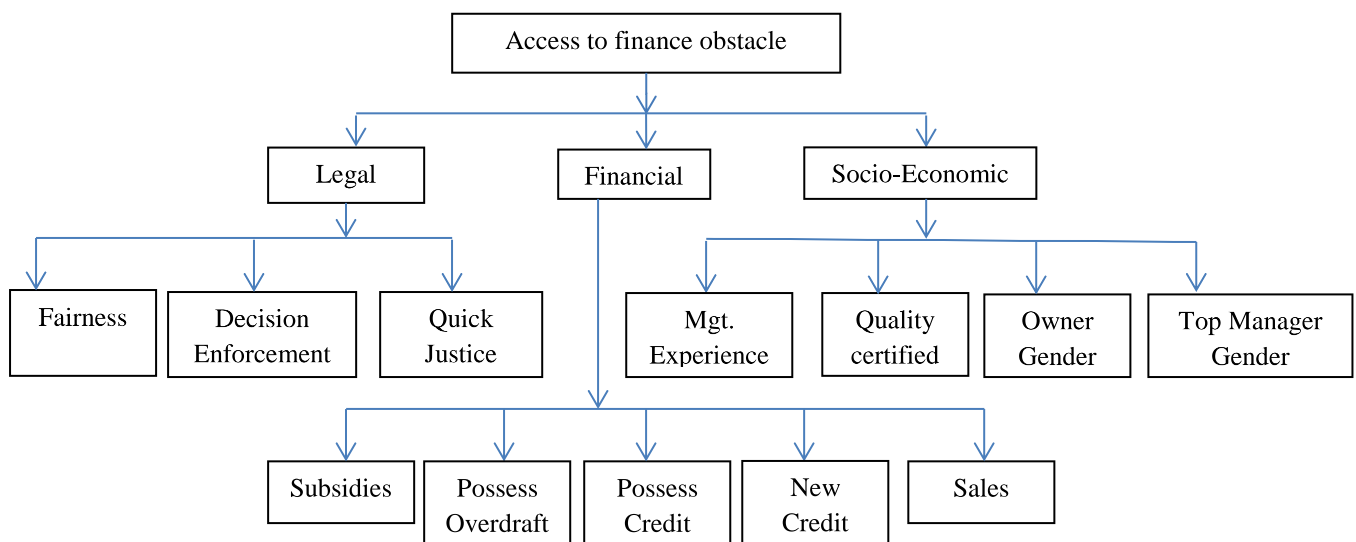
- How much of an obstacle is access to finance [No obstacle, a Minor obstacle, a Moderate obstacle, a Major obstacle, or a Very severe obstacle]?
- What is the most serious obstacle affecting the operation of this establishment?
- The court system is fair, impartial and uncorrupted [Strongly disagree, Tend to disagree, Tend to agree, or Strongly agree]?
- The court system is quick [Strongly disagree, Tend to disagree, Tend to agree, or Strongly agree]?
- The court system is able to enforce its decisions [Strongly disagree, Tend to disagree, Tend to agree, or Strongly agree]?
- Is the top manager female [Yes/No]?
- Are any of the owners female [Yes/No]?
- Does this establishment have an internationally-recognized quality certification [Yes/No]?
- Does this establishment compete against unregistered or informal firms [Yes/No]?
- Over the last 3 years, has this establishment received any government subsidies [Yes/No]?
- At this time, does this establishment have an overdraft facility [Yes/No]?
- Does this establishment have a line of credit or loan from a financial institution [Yes/No]?
- In last fiscal year, did establishment apply for new loans/lines of credit [Yes/No]?

- What were the establishment's total annual sales three fiscal years ago (exclude those not in business 3 years ago)?

The responses to these questions were used to measure the level of effectiveness of the court system in supporting access to finance contracts in the Baltic States and South Caucasus countries. Although the Baltic States and South Caucasus countries in the survey are comparable on the basis of the responses received, it will be difficult to relate the responses to other countries that were not surveyed. All the 'don't know' or 'does not apply' responses were excluded from our sample to improve validity and robustness.

Figure 7.1 presents a conceptual framework of access to finance obstacles, classified as legal, financial and socio-economic. The legal aspects deal with the court system characteristics including fairness, decision enforcement and quick justice. The financial aspects include government subsidies, possess overdraft, possess credit, application for new credit and total sales. The socio-economic aspects deal with the management experience of the owner, quality certification, owner gender and top manager gender. This conceptual framework adopts institutional theory principles in its analysis because the categorisation of access to finance obstacles into legal, financial and socio-economic depicts institutional characteristics, environment and deficiencies.

Figure 7.1. Conceptual framework of access to finance obstacles



7.4.1 Sample Analysis

Table 7.1 provides the summary statistics containing the dependent and independent variables for this investigation. Access to finance obstacle is a dependent variable and interprets the level of access to finance obstacle to business operations where 0 is no obstacle and 4 is a very severe obstacle. Fairness is defined as the component of the court system made up of the feature of fair, impartial and uncorrupted. Quick justice defines a court system featuring a quick or speedy court process. Decision enforcement describes a court system that is able to enforce its decisions. Female owner defines a business with at least one female owner. Top manager female describes a business with the gender of the top manager as female.

Table 7.1. Summary statistics for the Baltic States and South Caucasus Region

Variables	Type	N	Mean	Std. dev.	Min	Max
Access to finance obstacle[1]	Dependent	757	1.5218	1.3613	0	4
Fairness	Independent	757	0.4320	0.4957	0	1
Quick justice	Independent	757	0.2748	0.4467	0	1
Decision enforcement	Independent	757	0.6460	0.4785	0	1
Female owner (≥1)	Independent	757	0.3844	0.4868	0	1
Top manager female	Independent	757	0.1770	0.3819	0	1
Public limited company	Independent	757	0.1308	0.3374	0	1
Private limited company	Independent	757	0.7398	0.4391	0	1
Sole proprietor	Independent	757	0.1030	0.3042	0	1
Partnership	Independent	757	0.0172	0.1300	0	1
Other types of firms	Independent	757	0.0092	0.0958	0	1
Formally registered	Independent	757	0.9590	0.1983	0	1
Management experience[2]	Independent	757	3.5852	0.6604	1	4
---0 to 1 year mgt. experience	Independent	757	0.0119	0.1085	0	1
---2 to 4 years mgt. experience	Independent	757	0.0608	0.2391	0	1
---5 to 10 years mgt. experience	Independent	757	0.2576	0.4376	0	1
---11+ years mgt. experience	Independent	757	0.6697	0.4706	0	1
Quality certification	Independent	757	0.2417	0.4284	0	1
Competition-unregistered/informal	Independent	757	0.4161	0.4932	0	1
Government subsidies	Independent	757	0.1070	0.3093	0	1
Possess overdraft facility	Independent	757	0.3527	0.4781	0	1
Possess line of credit or loan	Independent	757	0.5297	0.4994	0	1
Applied for new loans/lines of credit	Independent	757	0.4346	0.4960	0	1
Total sales 0 to 100,000	Independent	757	0.1546	0.3617	0	1
Total sales 100,001 to 500,000	Independent	757	0.1810	0.3853	0	1
Total sales 500,001 to 1,000,000	Independent	757	0.0938	0.2917	0	1
Total sales 1,000,001+	Independent	757	0.5707	0.4953	0	1
Main market - Local	Independent	222	0.2523	0.4353	0	1
Main market - National	Independent	222	0.4730	0.5004	0	1
Main market - International	Independent	222	0.2748	0.4474	0	1

Note: [1]Access to finance obstacle is categorised from 0 to 4 where 0 is No obstacle, 1 is a Minor obstacle, 2 is a Moderate obstacle, 3 is a Major obstacle, and 4 is a Very severe obstacle. [2]Management experience is combined and also categorised from 1 to 4 where 1 is 0 to 1 year, 2 is 2 to 4 years, 3 is 5 to 10 years and 4 is 11+ years. This is a combined summary statistics for the Baltic States and South Caucasus region

It can be construed from the analysis in Table 7.2a that access to finance is an important factor for business operation in the surveyed countries. Although the analysis is based on self-reported data, it shows that the significance of access to finance in comparison with other reported barriers (e.g. electricity, political instability, tax rates, corruption, etc.) to business operation vary from one country to another. Table 7.2a confirm the research by Pissarides (1999) that access to finance alone is not the cause of low business growth in

Central and Eastern Europe. The BEEPS survey of Central and Eastern Europe covers the Baltic States and South Caucasus countries among others and shows that access to finance is not the biggest obstacle to business operations in all of the countries surveyed. However, access to finance is the biggest obstacle to business operations in Azerbaijan. Access to finance is the fourth biggest obstacle in Armenia, fifth in Estonia, third in Lithuania, third in Georgia and fifth in Latvia.

Apart from access to finance, other reported barriers to business operations include, inadequately educated workforce (e.g. Estonia), practices of competitors in the informal sector (e.g. Armenia) and tax rates (e.g. Latvia and Lithuania). This data analysis shows that access to finance for SMEs is different in each of the Baltic States and South Caucasus countries indicating a varying level of obstacles to business operations. This investigation focusses on access to finance for SMEs because it is a way to understand the strength of entrepreneurship in the countries surveyed. Thus, access to finance obstacle can have negative effect on the strength of entrepreneurship in particular and economic growth in general.

Table 7.2b provides the proportion and summary statistics of independent variables by country. The highest proportion of fairness is recorded for Estonia followed by Azerbaijan and Georgia, then Latvia, Lithuania and Armenia. The highest proportion of quick justice is recorded for Armenia followed by Azerbaijan then Georgia, Estonia, Latvia and Lithuania. The highest proportion of decision enforcement was recorded for Armenia followed by Estonia then Lithuania, Azerbaijan, Georgia and Latvia.

As shown in Table 7.2b, the proportion of firms with at least one female owner is highest in Latvia followed by Estonia then Georgia, Lithuania, Armenia and Azerbaijan. Latvia also has the highest proportion of firms with female top manager followed by Estonia then Georgia, Lithuania, Armenia and Azerbaijan.

In Table 7.2b, competition from firms in the informal sector is highest in Georgia followed by Azerbaijan then Lithuania, Armenia, Latvia and Estonia. The competition from the informal sector is highest in the South Caucasus region than the Baltic States. This confirms Aidis *et al.* (2007) that the activities of firms in the informal sector could not be ignored. Government subsidies are highest among firms in the three Baltic States than the South Caucasus countries by high proportions. Our analysis shows that Armenia did not provide government subsidies for businesses in 2009. All the firms in the Baltic States and South Caucasus region possess both overdraft facility and credit/loan facility. They also applied for new line of credit/loan. Lithuania has the highest proportion of firms which

applied for new line of credit/loan followed by Georgia then Estonia, Armenia, Latvia and Azerbaijan. As there are high proportions of firms making credit/loan applications, there is need for protection for lenders and borrowers alike to create a fair and equitable business domain for all.

Table 7.A1 in the Appendix shows the Strength of Legal Rights index (SLRi). The SLRi was developed by the World Bank to provide comparison between countries in terms of protection for borrowers and lenders (WBDB, 2015; World Bank, 2015). Table 7.A1 provides a comparison between the Baltic States and South Caucasus countries in terms of law and justice indicating the level of the protection for borrowers and lenders. Apart from the Baltic States and South Caucasus countries, three countries (Germany, UK and USA) were provided as benchmark to support comparison.

Table 7.2a. Proportion of the biggest obstacles to business operations by country

Obstacles to business operations	Armenia	Azerbaijan	Georgia	Estonia	Latvia	Lithuania
Access to finance	14.29	(31.67)	14.10	7.59	11.56	10.45
Access to land	0.00	1.67	3.85	1.38	1.36	0.75
Business licensing and permits	0.75	4.17	2.56	1.38	0.68	4.48
Corruption	2.26	18.33	8.97	2.07	3.40	2.99
Courts	1.50	0.00	2.56	0.69	0.68	0.75
Crime, theft and disorder	0.00	0.00	1.28	3.45	0.68	5.22
Customs and trade regulations	6.02	2.50	3.85	0.69	0.00	0.00
Electricity	2.26	1.67	3.85	2.76	0.68	2.99
Inadequately educated workforce	0.75	2.50	2.56	(30.34)	13.61	7.46
Labor regulations	0.75	1.67	0.00	12.41	3.40	5.22
Political instability	15.04	1.67	(20.51)	20.69	14.97	11.94
Practices of competitors in the informal sector	(23.31)	7.50	15.38	8.97	10.88	9.70
Tax administration	9.02	3.33	6.41	0.69	14.29	4.48
Tax rates	20.30	23.33	10.26	5.52	(19.05)	(33.58)
Transport	3.76	0.00	3.85	1.38	4.76	0.00
%	100.00	100.00	100.00	100.00	100.00	100.00
N	133	120	78	145	147	134

Note: *The biggest obstacle to business operations per country is shown in parenthesis.*

Table 7.2b. Proportion and summary statistics by country

	Armenia	Azerbaijan	Georgia	Estonia	Latvia	Lithuania
Independent variables	%	%	%	%	%	%
Fairness	26.32	50.00	50.00	68.97	36.73	29.10
Quick justice	49.62	47.50	37.18	15.86	12.93	10.45
Decision enforcement	70.68	65.00	64.10	69.66	51.02	67.91
Female owner (≥1)	37.59	15.83	41.03	41.38	51.70	40.30
Female top manager	12.03	3.33	19.23	23.45	31.97	13.43
Quality certification	27.82	23.33	16.67	27.59	27.21	18.66
Competition – informal	40.60	45.00	70.51	23.45	40.14	44.03
Management experience:						
---0 to 1 year mgt. experience	1.50	0.00	0.00	2.07	1.36	1.49
---2 to 4 year mgt. experience	9.02	6.67	3.85	6.21	4.08	5.97
---5 to 10 year mgt. experience	33.83	28.33	23.08	22.76	21.77	24.63
---11+ year mgt. experience	55.64	65.00	73.08	68.97	72.79	67.91
Government subsidies	0.00	3.33	2.56	17.93	17.69	17.16
Possess overdraft facility	46.62	17.50	38.46	55.86	27.89	23.88
Possess credit/loan facility	46.62	20.00	47.44	62.76	65.31	67.91
Applied for new credit/loan	43.61	15.00	53.85	49.66	42.18	57.46
Total sales:						
--- 0-100,000	0.75	42.50	37.18	0.00	17.01	8.21
--- 100,001-500,000	1.50	31.67	28.21	1.38	31.29	20.15
--- 500,001-1,000,000	2.26	11.67	14.10	4.14	15.65	10.45
--- 1,000,001+	95.49	14.17	20.51	94.48	36.05	61.19
Observations	133	120	78	145	147	134

7.5 Empirical methodology

We used ordered probit estimation technique (see Wooldridge, 2002) to model access to finance and the court system in the Baltic States and South Caucasus countries. We examine the association between access to finance obstacle with fairness (FN), speedy justice (SJ), enforcing judgment decision (JD), owner gender (OG) and the gender of top manager (GM) controlling for owner and firm characteristics (X). Respondents answered the following question: *How much of an obstacle is access to finance [No obstacle, a Minor obstacle, a Moderate obstacle, a Major obstacle, or a Very severe obstacle]?* On the basis of the responses received, we construct a variable that captures access to finance obstacle taking the values from 0 (no obstacle) to 4 (very severe obstacle), assigning the numeric values {0… 4}. The responses follow a logical order as found in ordered probit tradition. Therefore, the following ordered probit equation is relevant[13]:

$$AF_i^* = a_1 FN_i + a_2 SJ_i + a_3 JD_i + a_4 OG_i + a_5 GM_i + \beta_1 X_i + u_i \quad (1)$$

Where AF_i^* represent the latent variable denoting the unobserved likelihood of a firm *i* to face access to finance obstacle and α_i (where *i*=1,…,N). Although AF_i^* is unobserved, we observe AF_i such that:

$$AF_i = j \text{ if } \gamma_{j-1} < AF_i^* \leq \gamma_j \qquad \text{(where } j\text{=0,..,4)} \quad (2)$$

The γ in (2) are threshold parameters to be estimated while X_i in (1) is a row vector of owner and firm characteristics (see Table 7.2b)[14].

Simply, this study uses a dependent variable that is “access to finance obstacle” taking the values from 0 to 4. The study also uses a number of key explanatory variables to explain the dependent variable. Specifically, we use the legal or court system (fairness, quick justice, decision enforcement), financial (government subsidies, possess overdraft, possess credit/loan, applied for new credit/loan and total sales) and socio-economic (at least one female owner, female top manager, quality certification, competition with informal/unregistered firms and management experience) variables using the ordered probit estimation technique described above.

[13] We use probit estimation technique for robustness check. In this regard, we construct a variable capturing access to finance obstacle that takes the value of 1 for no obstacle and 0 otherwise. We find that the results are similar to those reported from the ordered probit regression.

[14] Using ivregress 2SLS and ivprobit commands in Stata, we report no endogenous regressors. The test of endogeneity shows that under the null hypothesis, the modelled variables are exogenous.

In the gender and other similar type questions, we made conversions into binary response. In our binary conversion, dichotomous variable was generated where 'Yes' response became 1 while 'No' response became 0. The 'don't know' response was discarded. In the legal or court system variables, we generated dichotomous variable as we converted 'Strongly disagree' and 'Tend to disagree' into 'disagree' while 'Strongly agree' and 'Tend to agree' became 'agree'. We then interpret 'agree' as 1 and 'disagree' as 0 to produce binary outcomes. Further discussion on technical aspects of the method used in this chapter can be found in Gujarati and Porter (2009), Borooah (2002) and McKelvey and Zavoina (1975).

As a way to check 'multicollinearity', we employ variance inflation factor (VIF) and tolerance (1/VIF) on the model variables (Pevalin and Robson, 2012, p. 302; Gujarati and Porter, 2009, p. 340). Our multicollinearity check for the BEEPS data for all the six countries selected for this research show a Mean VIF of 1.20 and each of the VIF values are between 1.02 and 1.53. Also, the tolerance values for the BEEPS data for all the six countries are between 0.9781 and 0.6545. Therefore, as the VIF < 10 and tolerance > 0.1, we suggest that multicollinearity is not a problem here.

7.6 Empirical analysis and findings

The empirical results in Table 7.3a and Table 7.3b show remarkable differences in access to finance and court systems in the Baltic States and South Caucasus countries. Although there are differences identified from one Baltic States and South Caucasus country to another, there are similarities too. The empirical analysis is divided into two sub-sections made up of country and region.

7.6.1 Country by country analysis

In Estonia, firms with at least one female owner reduce the constraint in access to finance, and the coefficient is found to be statistically significant. The study finds that businesses owned by at least one female are less likely to experience access to finance obstacle. Therefore, this supports hypothesis H3 (*Businesses with at least one female owner reduces the obstacle to SMEs accessing finance*). This supports existing research as GEM (2012) and Aggarwal and Goodell (2014) show that cultural differences exist from one country to another with impact on gender entrepreneurship. Moreover, there is increased obstacle in access to finance for firms which have applied for new credit/loan facility with statistical significance. This could be as a result of the effect of the financial crisis of 2007-2008 as reported in research (Mac an Bhaird, 2013; Saridakis *et al.*, 2013; Smallbone *et al.*, 2012). Hypotheses H1 and H2 are rejected for Estonia because although fairness, quick justice and

decision enforcement reduce access to finance obstacle, the coefficients are found to be statistically insignificant. Hypothesis H4 is also rejected for Estonia because the female top manager coefficient is also found to be statistically insignificant.

Latvia is a country with high level of competition from companies in the informal sector and this is increasing the access to finance obstacle with statistical significance. Moreover, government subsidies reduce the obstacle to access finance with the coefficient being statistically significant. Additionally, and there is increased obstacle in access to finance for firms which applied for new credit/loan facility with the estimated coefficient being statistical significant. Hence, the government may have engaged in subsidies to reduce the negative effect of the financial crisis on SMEs during 2007-2008. Prior research shows that the period of the financial crisis is characterised by uncertainties and reduced credit in the business environment as access to finance for SMEs is constrained (Cowling *et al*., 2012; Cornett *et al.*, 2011; Ivashina and Scharfstein, 2010; Klyviene and Rasmussen, 2010). This study finds that firms with high sales value have reduced access to finance obstacle but the association is found to be weak. High sales value increases asset value and increases the chance of access to finance, including at times of economic uncertainty (Cowling *et al*., 2012). Overall, hypotheses H1, H2, H3 and H4 are rejected for Latvia because they are unsupported.

For Lithuania we find that having a female top manager increases the obstacle to access finance and the coefficient is found to be statistically significant. Therefore, this supports hypothesis H4 (*Businesses with a female top manager increases the obstacle to SMEs accessing finance*). There is increased obstacle in access to finance for firms which applied for new credit/loan facility with the coefficient being statistically significant confirming the negative effect of the financial crisis on access to finance (Wrobel, 2015; Otarashvili, 2013; Phillips *et al*., 2012; Giuli, 2009). Hypotheses H1, H2 and H3 are rejected for Lithuania because they are empirically unsupported.

Armenian firms experiencing fairness are more likely to report a fair, impartial and uncorrupted court system with the reported coefficient to be statistically significant. The result for Armenia shows that fairness reduces access to finance obstacle. Therefore, this supports hypothesis H1 (*Fairness in the court system reduces the obstacle to SMEs accessing finance*). Moreover, the analysis for Armenia shows with that the court system exhibit the feature of quick justice. It follows that hypothesis H1 confirms existing research, that an effective judicial system and financial sector development plays an important role in ensuring a positive access to finance for businesses and hence stronger entrepreneurship potential

(Aggarwal and Goodell, 2014; Beck *et al*., 2008; Beck and Demirguc-Kunt, 2006; Laeven and Majnoni, 2005). As discussed in GEM (2015), one of the entrepreneurship framework conditions for successful business creation is a national policy on regulation and access to finance. On the basis of hypothesis H1, a reliable court system can improve national policy on regulation and access to finance. Therefore, GEM (2015) find that developed countries did better than developing countries in formulating a national policy on regulation and access to finance and this will positively impact entrepreneurship. The compliance with the ENP (Chiosi, 2007) or EU membership will go a long way to support a viable national policy on regulation and better access to finance. Management experience increases access to finance obstacle with statistical significance. This confirms the negative effect of the financial crisis as management experience increased the access to finance obstacle. High total sales contribute to reduced access to finance obstacle with statistical significance. Therefore, firms with high sales value would increase their asset base to provide high collateral to support credit (Cowling *et al*., 2012). In contrast, hypotheses H2, H3 and H4 are rejected for Armenia because their associated coefficients are found to be statistically insignificant.

Azerbaijan has fairness and decision enforcement in its court system but the coefficient is found to be statistically insignificant hence hypotheses H1 and H2 are rejected. Moreover, we find that Azerbaijani firms which possess credit/loan facility increases access to finance obstacle with the estimated coefficient to be statistically significant. Finally, hypotheses H3 and H4 are rejected for Azerbaijan because they are empirically unsupported. Fairness and decision enforcement in the court system contributes to reduced obstacle in access to finance but with weak association. There is increased obstacle in access to finance for female owned and/or female managed firms with weak statistical association. Quality certification, informal sector competition and/or possessing over draft facility reduce the likelihood of obstacle in access to finance but again with weak statistical association. We also find that firms which has high value sales have reduced constraint on access to finance. However, we find that firms possessing credit/loan facility have increased obstacle on access to finance. The financial crisis may have reduced credit accessibility and availability (Cowling *et al*., 2012; Milesi-Ferretti and Tille, 2010).

Georgia has a court system characterised by quick justice with statistical significance but weak statistical association in fairness in the court system. The analysis for Georgia shows that quick justice reduces access to finance obstacle. However, the analysis show that competition from informal sector increases access to finance obstacle with statistical significance confirming the research of Aidis *et al.* (2007) that the activities of firms in the

informal sector could not be ignored as they have negative effect on access to finance for firms. The activities of firms in the informal sector introduce constraint in access to finance for firms. Management experience increases access to finance obstacle with statistical significance and this shows the constraining effect of the financial crisis as reported in research (Saridakis *et al.*, 2013; Smallbone *et al.*, 2012; Cornett *et al.*, 2011; Ivashina and Scharfstein, 2010). High sales increases access to finance obstacle with the coefficient being statistically significant. The analysis for Georgia shows that informal sector competition, management experience and high sales value did not yield positive result in access to finance. This can be attributed to the twin crisis of 2007-2008 as there was war (Otarashvili, 2013; Phillips *et al.*, 2012; Giuli, 2009) and financial crisis (Mac an Bhaird, 2013; Milesi-Ferretti and Tille, 2010). Following the above and analysis, hypotheses H1, H2, H3 and H4 are rejected for Georgia because they are statistically unsupported.

7.6.2 Region by region analysis

In both the Baltic States and South Caucasus region, fairness in the court systems contributes to a reduction in access to finance being reported as a barrier. The region by region analysis shows that fairness reduces the access to finance obstacle with statistical significance. Firms experiencing fairness are more likely to report a fair, impartial and uncorrupted court system with strong association. Therefore, in both the Baltic States and South Caucasus region, this supports hypothesis H1 (*Fairness in the court system reduces the obstacle to SMEs accessing finance*).

In the Baltic States, the analysis shows with statistical significance that at least one female owner reduce the obstacle to access finance. This indicates that businesses owned by at least one female are less likely to experience access to finance obstacle. Therefore, this supports hypothesis H3 (*Businesses with at least one female owner reduces the obstacle to SMEs accessing finance*). Moreover, female top manager increases the obstacle to access finance for SMEs with the coefficient being statistical significant. Hence we find support of hypothesis H4 (*Businesses with a female top manager increases the obstacle to SMEs accessing finance*). It follows that businesses demonstrating constraints in relation to accessing finance are more likely to have a female top manager. Firms owned by at least one female are less likely to experience access to finance obstacle. Therefore, hypotheses H3 and H4 are synonymous with research evidence in various ways. First, there is a tighter bank credit among female entrepreneurs but relaxed with established banking relationship (Bellucci *et al.*, 2010). Second, female entrepreneurs have low confidence in their financial

competency (Bowen and Hisrich, 1986). Third, female entrepreneurs are affected by their cultural background with knock-on effect on their entrepreneurial capability (Aggarwal and Goodell, 2014; GEM, 2012). Fourth, the mentality of the business owner or manager can impact on the organisational performance (Wijewardena *et al*., 2008). Indeed, as the female gender have self-reported low self-confidence and entrepreneurial capability, access to finance for their firms can become constrained. The informal sector competition increases access to finance obstacle with statistical significance. This confirms previous research, Distinguin *et al.* (2016), that informal firms can represent a danger to registered firms in access to credit. Firms that possess overdraft facility are significantly less likely to report access to finance as a barrier. Firms that possess credit/loan facility have increased access to finance obstacle with statistical significance. This could be attributed to the liquidity risk management associated with banking institutions during the financial crisis (Cornett *et al.*, 2011). Therefore, banks may want to eliminate over-exposure to credit risk among SME borrowers with the consequence of default. Firms that applied for new credit/loan have increased obstacle to access finance with the coefficient being statistically significant. The period of the financial crisis was characterised by credit constraints among both old and new firms. However, there was greater access to finance constraints on new firms (Cowling *et al.*, 2012). Firms that possess low total sales values increases the obstacle to access finance with statistical significance. There is no support for hypothesis H2 in the Baltic States because there is no statistical significance for decision enforcement in the court system.

The South Caucasus region has firms possessing management experience with statistical significance which increase access to finance obstacle. The strong management experience of the firms did not provide opportunity for good access to finance, instead, there was an obstacle. This shows the negative effect of the financial crisis (Mac an Bhaird, 2013; Milesi-Ferretti and Tille, 2010) and war (Otarashvili, 2013; Phillips *et al.*, 2012; Giuli, 2009) in the region as reported in research. Firms that possess overdraft facility in this region have reduced access to finance obstacle with statistical significance. Firms that possess credit/loan facility have increased access to finance obstacle with statistical significance hence supporting the liquidity risk management research by Cornett *et al.* (2011). Apart from the support for hypothesis H1 as earlier discussed, hypotheses H2, H3 and H4 are empirically unsupported for this region of South Caucasus.

Finally, when the model is estimated for all countries, we find strong support of hypothesis H1 and hypothesis H3. However, country and regional level analysis provide more informative analysis especially from policy perspective.

7.7 Discussion

It is clear in the analysis that the Baltic States and South Caucasus countries are each unique in their own way, however, there are some similarities in their character. The crisis recorded in 2007-2008 contributed to the obstacle in access to finance across the Baltic States and South Caucasus countries. These countries were affected by the global financial crisis in different severity depending on the level of macro-economic development and financial integration with other countries (Milesi-Ferretti and Tille, 2010). Research shows that in the presence of constraints like the credit crunch, access to finance can seem unreachable for entrepreneurial ventures (Popov and Udell, 2012). The Georgian war of 2008 contributed to its economic woes and access to finance challenges with negative impact on the South Caucasus region (Simão, 2012; Kakachia, 2011). Following the effect of the financial crisis in 2007-2008, local financial institutions had reduced credit but foreign-owned financial institutions based in CEE countries relied on their parents based abroad to boost their credit availability (Popov and Udell, 2012; Brixiova et al., 2010). According to Aidis et al. (2007), female entrepreneurs in Eastern Europe reported financial constraints from formal sources than their male counterparts. They also confirmed that formal sources of finance were not well developed; hence reliance on informal sources. Dietz et al. (2012) also revealed the liquidity constraints during the financial crisis and the opportunity for improvement going forward. There is an increasing number of foreign bank ownership in Eastern Europe countries (Popov and Udell, 2012). Although the domestic banks suffered contracted credit availability in crisis times, the parent of foreign banks provided liquidity to the regions (de Haas and van Lelyveld, 2006).

There is need to look at the informal institutional environment identified in Aidis *et al.* (2007) which has brought the informal institutions in transitional economies to the notice of the research community. This research finds that the competition of the informal sector increased the likelihood of access to finance obstacle in all the Baltic States and South Caucasus region except Azerbaijan. Although the level of informal sector competition exists in all the Baltic States and South Caucasus countries, it is highest in Georgia and lowest in Estonia. Distinguin *et al.* (2016) confirm that firms in the informal sector hurts registered firms in access to finance and the effect is higher for countries with weak rule of law.

The gender aspect in this research could slant unfavourably against female entrepreneurs but the cultural disparity across the Baltic States and South Caucasus region show that gender characterisation in the regions is varied and complex. This is partly because the availability of formal and informal access to finance can pose different level of obstacle.

Therefore, gender entrepreneurship in the regions may not be explained by access to finance obstacle alone. The Baltic States shows that businesses demonstrating access to finance constraints are more likely to have female top manager. Firms owned by at least one female are less likely to encounter access to finance obstacle. These will hold true for formal business environment characterised by healthy and unhindered competition synonymous with a fully free market economy. However, as our analysis in Table 7.2b show a high level of informal sector competition and activities, it becomes very difficult to determine gender characterisation in entrepreneurship in the Baltic States and South Caucasus region.

This research shows that fairness holds in the court system in both the Baltic States and South Caucasus region. This suggests that strong entrepreneurship is encouraged in the regions. At country level, Armenia has a strong effect of fairness in the court system and hence, possesses the potential for better access to finance and entrepreneurship than the other countries in the regions.

Table 7.3a. Ordered Probit estimations of businesses with access to finance obstacle (country by country)

Independent variables	Baltic States Estonia	 Latvia	 Lithuania	South Caucasus Countries Armenia	 Azerbaijan	 Georgia
Fairness (base category: No)						
---Fairness	-0.2906(0.2357)	-0.2223(0.2070)	-0.0381(0.2220)	-0.6801(0.2510)*	-0.3051(0.3710)	0.0689(0.3056)
Quick justice (base category: No)						
---Quick justice	-0.5397(0.3418)	0.3594(0.2849)	0.0640(0.3218)	-0.5656(0.2362)*	0.1620(0.3578)	-0.8191(0.3362)**
Decision enforcement (base category: No)						
---Decision enforcement	-0.0689(0.2367)	-0.0789(0.1989)	-0.1804(0.2068)	0.0958(0.2431)	-0.0474(0.2666)	-0.0118(0.2826)
Female owner (base category: No)						
---Female owner (≥1)	-0.3986(0.2361)***	-0.3292(0.2095)	-0.1896(0.2037)	-0.2121(0.2288)	0.3372(0.2893)	0.0672(0.3150)
Female top manager (base category: No)						
---Female top manager	0.3984(0.2811)	0.2503(0.2243)	0.5673(0.3141)***	-0.3363(0.3726)	0.8636(0.5917)	-0.0640(0.4067)
Quality certification (base category: No)						
---Quality certification	-0.2385(0.2695)	0.2461(0.2205)	0.2319(0.2803)	-0.1186(0.2253)	-0.2506(0.2853)	0.2419(0.3838)
Competition – informal (base category: No)						
---Competition – informal	0.3758(0.2397)	0.3237(0.1995)***	0.2228(0.1940)	0.1325(0.1952)	-0.0804(0.2141)	0.6033(0.3001)**
Management experience (base category: 1)						
---Management experience	-0.0521(0.1548)	0.0199(0.1499)	-0.1410(0.1482)	0.3219(0.1452)**	0.0743(0.1693)	0.6059(0.2781)**
Government subsidies (base category: No)						
---Government subsidies	0.2988(0.2981)	-0.5474(0.2799)**	-0.1152(0.2644)	---	0.3804(0.5779)	0.5195(0.8336)
Possess overdraft facility (base category: No)						
---Possess overdraft facility	-0.2931(0.2403)	0.3221(0.2128)	-0.1014(0.2352)	0.1090(0.2122)	-0.3504(0.3010)	-0.7880(0.3616)**
Possess credit/loan facility (base category: No)						
---Possess credit/loan facility	-0.0845(0.2722)	0.2743(0.2215)	0.1526(0.2602)	0.3896(0.2449)	0.7455(0.2886)*	0.9311(0.4490)**
Applied for new credit/loan (base category: No)						
---Applied for new credit/loan	0.6181(0.2544)**	0.3865(0.2093)***	0.3839(0.2298)***	0.0703(0.2284)	0.0738(0.3184)	-0.4963(0.4509)
Total sales (base category: 0-100,000)						
---0-100,000	---	0.0011(0.2847)	0.1371(0.3741)	1.0658(1.1281)	0.2746(0.3755)	0.1711(0.4464)
---100,001-500,000	0.4485(0.8340)	0.0684(0.2565)	-0.2879(0.2851)	1.1616(0.8188)	-0.0941(0.3628)	0.6727(0.4447)
---500,001-1,000,000	0.0401(0.5221)	-0.1845(0.2956)	-0.3421(0.3289)	-1.3457(0.7393)***	-0.6131(0.4293)	1.0114(0.4832)**
Log likelihood	-144.2746	-209.3208	-198.1118	-184.1660	-171.5530	-104.1229
LR Chi2(15)	22.64	26.99	16.58	40.89	23.31	27.10
Prob>Chi2	0.0663	0.0288	0.3443	0.0002	0.0778	0.0279
Pseudo R2	0.0728	0.0606	0.0402	0.0999	0.0636	0.1152
Observation	145	147	134	133	120	78

*Note: Significance: *p<0.01 **p<0.05 ***p<0.10. Standard errors are shown in parenthesis.* --- signifies No data

Table 7.3b. Ordered Probit estimations of businesses with access to finance obstacle (general and regional)

Independent variables	Baltic States	South Caucasus region	All countries (general)
Fairness (base category: No)			
---Fairness	-0.2681(0.1165)**	-0.3524(0.1520)**	-0.3816(0.0885)*
Quick justice (base category: No)			
---Quick justice	0.0248(0.1668)	-0.2389(0.1508)	0.0501(0.0978)
Decision enforcement (base category: No)			
---Decision enforcement	-0.0737(0.1140)	-0.0056(0.1405)	-0.0630(0.0872)
Female owner (base category: No)			
---Female owner (≥1)	-0.2903(0.1196)**	-0.0537(0.1470)	-0.2411(0.0911)*
Female top manager (base category: No)			
---Female top manager	0.2754(0.1426)***	-0.0917(0.2229)	0.0876(0.1169)
Quality certification (base category: No)			
---Quality certification	0.0713(0.1348)	-0.0813(0.1478)	0.0315(0.0981)
Competition - informal (base category: No)			
---Competition - informal	0.3263(0.1143)*	0.1623(0.1215)	0.2619(0.0819)*
Management experience (base category: 1)			
---Management experience	-0.0317(0.0802)	0.3043(0.0961)*	0.0779(0.0603)
Government subsidies (base category: No)			
---Government subsidies	-0.1050(0.1522)	0.3753(0.4404)	-0.1859(0.1369)
Possess overdraft facility (base category: No)			
---Possess overdraft facility	-0.1964(0.1207)***	-0.2343(0.1432)***	-0.1436(0.0901)***
Possess credit/loan facility (base category: No)			
---Possess credit/loan facility	0.3184(0.1350)**	0.5320(0.1574)*	0.2510(0.0973)*
Applied for new credit/loan (base category: No)			
---Applied for new credit/loan	0.4782(0.1254)*	-0.0005(0.1549)	0.2993(0.0957)*
Total sales (base category: 0-100,000)			
---0-100,000	0.4420(0.1983)**	0.1345(0.1695)	0.3697(0.1219)*
---100,001-500,000	0.3213(0.1547)**	0.0703(0.1712)	0.2239(0.1126)**
---500,001-1,000,000	0.0606(0.1866)	-0.1787(0.2307)	0.0028(0.1416)
Log likelihood	-580.7697	-484.6149	-1088.6488
LR Chi2(15)	63.39	46.83	87.10
Prob>Chi2	0.0000	0.0000	0.0000
Pseudo R2	0.0517	0.0461	0.0385
Observation	426	331	757

*Note: Significance: *p<0.01 **p<0.05 ***p<0.10. Standard errors are shown in parenthesis.*

7.8 Conclusion

This chapter empirically examines access to finance for SMEs and the court system among the Baltic States and South Caucasus countries using BEEPS data. This study finds that the court system is an effective legal regulatory system measured by their level of fairness, impartiality and without corruption. There are remarkable differences in access to finance and court systems between these countries but there are some similarities. In both the Baltic States and South Caucasus region, firms that report fairness, impartiality and uncorrupted court system have reduced likelihood of access to finance obstacle. However, we find a weak statistical association that the court is able to enforce its decision and there is evidence of slow court process. We suggest that an efficient court system can improve access to finance for business if parties in dispute are treated in a fair, impartial and uncorrupted way.

The research results show that access to finance is reported by entrepreneurs to be the first obstacle to business operations in Azerbaijan; third in Georgia and Lithuania; fourth in Armenia; fifth in Estonia and Latvia. Therefore, although access to finance is identified by the business owners as an obstacle to business operations in all the Baltic States and South Caucasus countries, it is not the biggest obstacle in some of the countries. Apart from access to finance, there are other biggest obstacles to business operations. These include: practices of competitors in the informal sector in Armenia; inadequately educated workforce in Estonia; political instability in Georgia; tax rates in Latvia and Lithuania.

In the Baltic States, businesses reporting access to finance as a barrier are more likely to have a female top manager. Firms owned by at least one female are less likely to encounter access to finance obstacle. On the other hand, the South Caucasus region has a weak statistical association. This shows the gender differences in access to finance; hence, there is a gender dimension to the Baltic States and South Caucasus national differences in access to finance for businesses. Although females appear to be disadvantaged in accessing finance for their business operations, research show that females are characterised by low self-confidence in finance and reduced entrepreneurial capability. The early stage development of many female businesses contributes to lower opportunity for access to finance as their businesses lack track record and collateral as a way to avoid credit rejection or credit rationing. Generally, early stage businesses seeking credit for start-up and innovation are characterised by information asymmetry and the ways to avoid credit rejection include banking relationship and providing collateral. Meanwhile, the competitive nature of the informal sectors in the

Baltic States and South Caucasus region has made gender differentiation complex as it also relates to their cultural values.

This investigation suggest that if access to finance is no obstacle to business operations and the court system is fair, impartial and uncorrupted, it determines the likelihood of strength in entrepreneurship. This study identified with strong association the Baltic States and South Caucasus countries where access to finance and fairness are positively linked triggering potential advantage for businesses in Armenia. Although with weak statistical association, the study also identified the Baltic States and South Caucasus countries where access to finance and fairness are positively linked triggering potential entrepreneurial advantage for businesses in Azerbaijan, Estonia, Latvia and Lithuania. However, Georgia has no positive link between access to finance and fairness.

In summary, we find variations between the Baltic States and South Caucasus countries in terms of the fairness, speed of justice and decision enforcement in their court system. According to business surveys, access to finance is the biggest obstacle to business operations in Azerbaijan, but not so in Armenia, Georgia, Latvia, Lithuania and Estonia where access to finance was regarded as a lesser obstacle. This investigation find that the other biggest obstacles to business operations exist in the forms of tax rates in Lithuania and Latvia, inadequately educated workforce in Estonia and practices of competitors in the informal sector in Armenia. The result shows that perceived fairness in the court system reduces access to finance obstacle. Firms owned by at least one female are less likely to report constraints in terms of accessing finance. Firms that have female as their top manager are more likely to report constraints in terms of accessing finance. We suggest that if access to finance is no obstacle to business operations and the court system is perceived fair, it can determine the likelihood of strength in entrepreneurship.

As this investigation is focused on the Baltic States and South Caucasus countries, it will be refreshing if other geographical locations in the former Soviet Union countries can be explored in future research. Also, this research explored the Baltic States and South Caucasus countries as a whole; it is possible to explore each of the Baltic States and South Caucasus countries in more detail to determine their access to finance for businesses and the effectiveness of the court system in a comparative study using any developed country as a benchmark.

The findings in this research have implication for policy. Firstly, the fairness in the court system provides a solid ground for institution development, free market autonomy and rule of law. The general notion of fairness in the court system can attract foreign investors to

the regions and improve private sector participation. As institution development improves, economic growth increases. Secondly, the government can formulate policy to target and support any disadvantaged entrepreneurs to improve their entrepreneurial participation. Although there is no clear indication about the gender circumstances of entrepreneurs, the government can investigate localised and informal issues affecting access to finance. Thirdly, the activities of the informal sector can be out of control and invisible if allowed to continue unchecked. In this regard, the government can help the private sector to embrace openness by removing unnecessary regulatory burden on the existing and new businesses. Countries like Georgia which has the highest informal sector competition should encourage better entrepreneurship by removing bottlenecks in access to finance to improve business operations. Fourthly, the government should encourage SMEs in the informal sector with incentive to pursue formal business operations and practices to increase economic development and business growth.

There are some limitations in this research. Firstly, the BEEPS 2009 data used for this research represents a cross-sectional aspect of the investigation for 2009. This investigation cannot replace panel and longitudinal data capability that is able to report over long periods of time. Secondly, for the passage of time, it is possible that the Baltic States and South Caucasus countries have developed since 2009 beyond the period of war and financial crisis towards a more vibrant economy. Thirdly, the generalizability of this research must be treated with caution as different countries have their own make-up of law and regulatory environment. Therefore, generalizability could be limited to the Baltic States and South Caucasus countries.

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7.10 Appendix

Table 7.A1: Strength of Legal Rights index (SLRi)

Regions	Countries	SLRi
Baltic	Estonia	7
	Latvia	9
	Lithuania	6
South Caucasus	Armenia	5
	Azerbaijan	2
	Georgia	9
Benchmark	Germany	6
	UK	7
	USA	11

Note: Germany, UK and USA are used for benchmarking purpose.
SLRi stand for 'strength of legal rights index' recorded from 0 (lowest) through 12 (highest). The World Bank introduced the strength of legal rights index to measure the degree to which collateral and bankruptcy laws can facilitate lending. The index provides a way to protect the rights of borrowers and lenders in financial contracts.
Source: WBDB (2015), World Bank (2015)

Chapter 8 General Conclusion

8.1 Introduction

This chapter provides a general conclusion of this thesis. There are many sources of funding for SMEs including personal savings, family/friend support, debt finance, equity finance, venture capital finance, crowdfunding, invoice discounting, trade finance and business angels. This research explored debt finance in the form of overdraft and commercial loans as well as crowdfunding and venture capital finance.

8.2 Importance of access to finance for SMEs

8.2.1 Increased business start-up, growth and survival

Access to finance provides SMEs the required fund for their start-up, innovation, growth, business development and survival. As businesses start-up, innovate, grow and survive, they create jobs and contribute to economic development.

8.2.2 Improved entrepreneurship

Access to finance helps new business creation. As new businesses are created, it improves entrepreneurship and more business opportunities for entrepreneurs.

8.2.3 Increased employment

Access to finance helps businesses to employ more workers and increase business development. Increased employment among adults in the society helps to increase tax revenue of the government.

8.2.4 Reduced household poverty

Access to finance for SMEs improves the income of families, households and community. This reduces the poverty level in households and increase financial inclusion.

8.3 Research gaps identified

- Limited knowledge base about venture capital finance
- Limited knowledge base about crowdfunding
- Limited conceptual understanding of access to finance for SMEs and extant theories
- Limited research evidence about the determinants of access to finance for SMEs
- Limited research evidence about the relevance of the court system in supporting access to bank finance
- Limited research evidence about gender effect in access to finance for SMEs

- Limited research evidence about the effect of the financial crisis of 2007-2008 on SMEs and their access to finance

8.4 Summary of research findings and their importance

8.4.1 Provides a research knowledge base of SMEs and access to finance

A common English adage suggests that 'knowledge is power'. This research provides a knowledge base of access to finance for SMEs to support researchers, entrepreneurs and business practitioners. The knowledge base covers crowdfunding and venture capital finance as innovative methods of access to finance for firms. It also covers the key theories of access to finance and the explanation of relevant key themes. As the knowledge base is provided, it helps SMEs and their owners to make better financing decision towards growth and survival.

8.4.2 Positive effect of financial education in boosting financial self-confidence

Financial education has a strong and positive effect on self-confidence in finance providing support for increasing entrepreneurial and financial education in higher education. The financial self-confidence of owner managers can support their entrepreneurial capability in starting and operating one or more businesses such as serial entrepreneurs. As entrepreneurs successfully start and operate their own businesses, they are contributing to economic development through job creation, employment and tax contribution.

8.4.3 Partial credit rejection boost financial self-confidence during financial crisis

Outright credit rejection is negatively associated with financial self-confidence whereas partial bank credit rejection may boost self-confidence during the period of financial crisis. Although there were higher bank credit rejection rates in 2008, financially self-confident owner managers had better access to bank finance in comparison to their non-financially self-confident counterparts.

8.4.4 Start-up firms suffered greater credit rejections

Start-up firms were more likely to be rejected from bank credit. This is a confirmation of previous research that older established firms are more successful in access to bank finance, including pre-and during financial crisis of 2007. Businesses with experienced owner managers were less likely to be rejected for bank finance in 2004. Therefore, we suggest that older firms are able to positively exploit their years of business experience in seeking bank finance. However, experience does not seem to significantly affect the bank finance outcomes in 2008. Hence, when operating in economic hardship, experience seems to play no role.

Start-up firms face greater challenges in accessing finance. The government may provide direct support through start-up training and start-up finance in the form of micro credit. The government may also target financial support and counselling to the start-up entrepreneur on the basis of business potential and viability.

8.4.5 Gender of the owner has no significant effect on credit rejection rates

The gender dimension in this research shows that the gender of the owner manager has no significant effect on bank finance rejection rate. Therefore, although many research show greater financial constraints and risk aversion on the female entrepreneur, there is no gender effect in this study. One possibility for this observation is an uneven discouraged borrower effect between males and females; the latter showing less confidence in external finance seeking.

8.5 Limitations of this research work

8.5.1 SME finance data for 2004 and 2008 are based on UK firms

The SME finance data for 2004 and 2008 are based on UK firms. The firms that participated in the 2004 survey were not the same as those of 2008. Therefore, as much as the results may be generalizable in the context of SMEs in the UK and, to some extent, other similarly developed countries, there must be caution in determining the applicability in worldwide context.

8.5.2 SME finance data for 2004 and 2008 are cross-sectional

This research is based on the SME finance cross-sectional data for 2004 and 2008. Although both year periods provided opportunity for comparative analysis in this research, it does not replace the capability of longitudinal panel data. Thus, panel data could have supported greater analytical depth and detail of the differences in reported financial self-confidence and variations in bank credit rejection rates.

8.5.3 Financial self-confidence data was limited to sole proprietor and partnership

The SME finance survey captured financial self-confidence data for sole proprietor and partnership businesses only. Therefore, it was not possible to empirically examine other legal forms of firms such as limited liability companies, social enterprise and charitable organisations.

8.6 Further research recommendation

8.6.1 Explore the role of financial education and financial self-confidence

The SME finance survey did not capture data beyond sole proprietors and partnership firms. Therefore, it is recommended that further research explores the role of financial education and financial self-confidence among owner managers in limited liability businesses, charities and social enterprises to support their strong growth.

8.6.2 Explore the role of panel data

The SME finance survey captured data for 2004 and 2008 resulting in a cross-sectional analysis. However, panel data analysis approach has the potential to observe firms over a period of time and leads to better analysis and clearer precision of result. Panel data analysis approach can capture changes in self-confidence and credit rejection rates with a more accurate precision.