Bootstrapping Practice and Motivations for its Use in Micro, Small and Medium Enterprises

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Declaration

I hereby certify that this material, which I now submit on the programme of study leading to the award of Doctor of Philosophy, is entirely my own work, and that I have exercised reasonable care to ensure that the work is original, and does not to the best of my knowledge breach any law of copyright, and has not been taken from the work of others save and to the extent that such work has been cited and acknowledged within the text of my own work.

Signed: Margaret Fitzsimons

ID No.: 12210049

Date: 5/9/18

Dedication

To the two best boys in the world, Carl and Ryan, who have grown up with this thesis and know more about bootstrapping than most boys their age. They continue to love me unconditionally and have and always will be my number one priority and what I am most proud of. Being your mum provides me with endless joy, constant fun and the greatest source of happiness imaginable. Their song and dance towards the final stage of my PhD, "Just keep going", will be a cherished memory forever. My husband, Peter, gave me wings to fly to help me make my dream come true.

To my greatly missed Mum, Anne, who always told me I could do and be anything I wanted and gave me the confidence to succeed. To my Dad, Jim, who continues to support me in the best way he can.

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List of Abbreviations

BNI	Business Networking International
CEO	Chief Executive Officer
CMB	Common Method Bias
CRO	Central Registration Office
CSO	Central Statistics Office
DCU	Dublin City University
DIT	Dublin Institute of Technology
EC	European Commission
ECB	European Central Bank
EU	European Union
GDP	Gross Domestic Product
IBEC	Irish Business and Employers' Federation
IMF	International Monetary Fund
KMO	Kaiser-Meyer-Olkin
LEO	Local Enterprise Office
MSME	Micro, Small and Medium Enterprise
NPL	National Physical Laboratory
OECD	Organisation for Economic Cooperation and Development
SAFE	Survey on Access to Finance for Enterprises
SFA	Small Firms Association
SME	Small and Medium-Sized Enterprise
SPSS	Statistical Package for Social Science
UK	United Kingdom
US	United States of America

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Abstract

Bootstrapping is a set of techniques used by entrepreneurs to minimise the need for cash by securing resources at little or no cost, and by applying strategies to acquire resources without using external finance. To date the link between bootstrapping practices and working capital management has received scant attention. This study addresses this knowledge gap by analysing the role of bootstrapping in micro, small and medium-sized enterprises (MSMEs), based on survey evidence from 167 owners in Ireland.

The study is the first to show a direct link between the practice of bootstrapping and the cash conversion cycle. Prior research on bootstrapping has focused on accessing finance through resourceful means such as private funding and cost reduction to limit the need for outside finance. It identifies two bootstrapping methods using factor analysis: (1) delaying payments and owner-related bootstrapping, and (2) customer-related bootstrapping. Both of these factors relate to the cash conversion cycle and working capital management. Secondly, the analysis of bootstrapping motivations finds that if risk management is the owners' main motive for using bootstrapping, then they will use owner-related and delaying payments bootstrapping. The use of these methods signifies self-reliance and a strong desire to manage operations internally, reinforced by the financial preferences of MSME owner/managers who show a reluctance to borrow externally or cede control to access finance.

Thirdly, this is the first study to examine the differences in the usage of bootstrapping across different business size classes. It finds that micro businesses are constrained and more dependent on delaying payments and owner-related bootstrapping in place of external finance. This research confirms that bootstrapping should be included on the curriculum for small-business training programmes.

Chapter 1 Introduction

1.1 Introduction

This thesis examines the practice of bootstrapping in micro, small and medium enterprises (MSMEs). Most research to date is about medium and large businesses. Micro businesses often have very little debt and rely on internal sources of finance. The research model is interdisciplinary, as it draws on bootstrapping literature as well as small and medium enterprise (SME) finance and financial management literatures.

This thesis aims to address questions about the practice of bootstrapping, including specific details on what bootstrapping is, and whether bootstrapping methods derived from factor analysis include the components of the cash conversion cycle. The components of the cash conversion cycle include trade payables, trade receivables and inventory. The cash conversion cycle is a measure of the efficiency of working capital management. While bootstrapping has been identified as financial flows in a business (Winborg, 2000), research to date has yet to explore a relationship between bootstrapping and the cash conversion cycle. Existing literature provides evidence that bootstrapping comprises delaying payments, owner-related, customer-related and joint utilisation methods (Winborg and Landström, 2001; Carter and Van Auken, 2005; Ebben and Johnson, 2006). This research aims to address this knowledge gap by examining the methods of bootstrapping as articulated in the entrepreneurship literature to see if they include the components of the cash conversion cycle, as described in the finance and financial management literature.

Three studies to date have examined the motives for using bootstrapping, but none, to the best of the author's knowledge, have linked the motives to the types of bootstrapping used. Understanding why bootstrapping is used and what type of bootstrapping is used in various circumstances will help inform practice and policymakers about what supports need to be put in place for MSMEs. Despite decades of research on the topic, no research to date has explicitly explored the differences in bootstrapping in micro businesses compared with small and medium businesses. The present study aims to identify the different types of bootstrapping used and how motives for this use may differ between MSMEs.

Bootstrapping is viewed as a resource management choice to finance businesses (Grichnik and Singh, 2010; Mac An Bhaird and Lynn, 2015). The Resource-Based view of the business (Barney, 1991) and the pecking order theory (Myers and Majluf, 1984) are theoretical lenses that are often used to explore the practice of bootstrapping. Resource dependency (Penrose, 1959) is the dominant theoretical lens that has been used in examining bootstrapping in the literature to date (Winborg and Landström, 2001; Harrison, Mason and Girling, 2004; Carter and Van Auken, 2005; Ebben, 2009; Winborg, 2009; Grichnik, Brinckmann, Singh and Manigart, 2014; Winborg, 2015). The underlying assumption of this theory is that bootstrapping is used when alternative financial resources are unavailable to a business. Resource dependency views bootstrapping as a means to fill a funding gap internally, as opposed to resorting to traditional external types of funding such as bank loans and overdrafts (Winborg and Landström, 2001). The SME finance literature has long observed that external debt may not be desired by business owners due to the associated loss of control and the constraints it places on cash flow through monthly loan repayments (Cressy and Olofson, 1997). In terms of motivation for bootstrapping, business owners may prefer to maintain independence and control of their businesses, which in turn reduces their interest in outside funding (Dobbs and Hamilton, 2007). Therefore, if the main motivation for the use of bootstrapping is not the lack of availability of external finance, Resource dependency theory may not be the most appropriate theoretical lens for exploring bootstrapping. Rutherford, Coombes and Mazzei (2012) suggest that bootstrapping is still in need of an appropriate theory through which to be explained. Accordingly, the theoretical lenses of resource dependency (Penrose, 1959) and pecking order (Myers and Majluf, 1984) will be explored in this thesis.

1.2 Significance of the present study

Research on the practice of bootstrapping has its origins in a seminal paper by Winborg and Landström (2001) which provided an in-depth analysis of bootstrapping methods used by businesses. Most other studies in the area have been undertaken by researchers with an entrepreneurship background (e.g. Jay J. Ebben, Richard Harrison, Dilani Jayawarna, Ossie Jones, Lynn Neeley, Joakim Winborg). There is an absence of research on bootstrapping in the finance and financial

management literature, and an absence of researchers with backgrounds in these areas. As a result, bootstrapping has not been embedded in the finance and financial management literature, and key practices in finance such as working capital management (frequently measured by the cash conversion cycle) have not been associated with bootstrapping. This thesis, as well as aiming to identify if the factors for bootstrapping include the components of the cash conversion cycle, also aims to bridge the gap between the entrepreneurship and finance and financial management literatures in terms of bootstrapping, to enhance both fields and the overall literature on the practice.

The cash conversion cycle and working capital management have not been explicitly linked to bootstrapping, but important links have been made in some studies. Winborg (2000) classified financial bootstrapping methods based on cash inflows and outflows. Managing the timing of payments from customers was found to be one of the bootstrapping methods by Winborg and Landström (2001), Ebben and Johnson (2006), Jones and Jayawarna (2010), and Grichnik and Singh (2014). Delaying payments to suppliers was identified as part of bootstrapping by Winborg and Landström (2001), Ebben and Johnson (2006), Jones and Jayawarna (2010), and Grichnik et al. (2014). These are examples of how managing receivables and managing payables, two components of the cash conversion cycle, are also components of bootstrapping despite not being identified as such.

This research aims to answer the call by many scholars for more coherent research on the determinants of bootstrapping behaviour (Winborg and Landström, 2001; Harrison et al., 2004; Carter and Van Auken, 2005; Ebben and Johnson, 2006; Grichnik and Singh, 2010). Studies examined business owners' motivations for bootstrapping (Carter and Van Auken, 2005; Winborg, 2009; Grichnik and Singh, 2010). Carter and Van Auken (2005) found that financial bootstrapping might not be used in last-resort situations only, with three other motivating factors at play: risk perception, ability, and effort. Winborg (2009) identified seven motives for using bootstrapping by new businesses in Sweden: cost reduction; managing without external financing; lack of capital; risk reduction; gaining freedom of action (not being reliant on finance providers); saving time; and enjoyment of helping others and getting help. The business experience of the founder was the most significant influence on the bootstrapping motive (Winborg, 2009). These studies of the motives

for using bootstrapping all identify it as a deliberate choice (Carter and Van Auken, 2005; Winborg, 2009; Grichnik and Singh, 2010), and therefore, bootstrapping usage needs to be explored in a new context, with the motive for its use linked to the type of bootstrapping used. This study will examine the motives of bootstrapping in Ireland. As previous studies have focused on other European Union (EU) countries (Winborg, 2009; Grichnik and Singh, 2010), this will be a new context in which to examine the motives of bootstrapping and to demonstrate whether the practice is a deliberate choice in Irish MSMEs.

1.2.1 Research Context – MSMEs in Ireland

MSMEs are defined based on number of employees, annual turnover, or annual balance sheet totals. Companies must satisfy two of three criteria as outlined in a definition provided by the European Commission (see Table 1.1) to be classified as a micro, small or medium enterprise.

Table 1.1 Definition of MSMEs

	No. of employees	Annual Turnover	Balance Sheet Total
Micro	1–9	< €2m	< €2m
Small	10–49	< €10m	< €10m
Medium	50–249	< €50m	< €43m

Source: European Commission (2017a)

MSMEs are a dominant form of business within the EU. In 2012, data gathered across the 27 EU countries estimated that over 99.8 percent of businesses could be classified as MSMEsc, accounting for 67 percent of private sector employment (Edinburgh Group, 2013). Micro businesses make up 93 percent of all non-financial companies in Europe (Kraemer-Eis, Lang, Torfs and Gvetadze, 2017). In Ireland, MSMEs are vital to the economy and represent 99.7 percent of businesses, with 90.7 percent of Irish businesses classified as micro businesses and a 7.7 percent classified as small (CSO, 2014). This implies that 98.4 percent of businesses in Ireland are micro or small businesses. MSMEs in Ireland contribute 68.6 percent of all employment and more than 50 percent of turnover in the Irish economy (Lawless, O'Toole and Lambert, 2014). There is a lack of research on micro businesses

(Monahan, Shah and Mattare, 2011). In order for micro and small businesses to develop and prosper, they must have access to adequate finance and manage their resources effectively. MSMEs in Ireland in 2012 comprised 99.6 percent of all employer businesses and employed 68 percent of the labour force (OECD, 2016). Table 1.2 outlines the distribution of businesses in Ireland in 2012.

Table 1.2 Distribution of businesses in Ireland in 2012

Business Size	**No. of businesses**	**% of total**	**No. of employees**	**% of employees**
All active businesses	**179,845**			
Non-employer businesses	84,273			
All active businesses (excluding non-employer businesses)	**95,580**	**100**	**1,023,834**	**100**
MSMEs	**95,161**	**99.6**		
Micro (1–9)	79,509	83.2	224,352	21.9
Small (10–49)	13,348	14.0	257,838	25.2
Medium (50–249)	2,296	2.4	218,532	21.3
Large (250+)	419	0.4	323,112	31.6

Source: OECD (2016)

Bootstrapping studies to date have studied SMEs, but with the exception of Grichnik et al. (2014) they have failed to explicitly examine micro businesses. Grichnik et al. (2014) explored the impact of human and social capital on bootstrapping usage in nascent micro businesses. This study hopes to build on their research by exploring differences in the use of bootstrapping and motives for its usage among businesses of different sizes in Ireland, answering calls from prominent researchers in the field (Carter and Van Auken, 2005; Winborg, 2009) to extend the analysis of bootstrapping beyond countries such as the United States (US) and Sweden.

1.3 The research objective and research questions

The researcher has an interest in this topic due to personal experience as an accountant and as a business adviser. The researcher's original area of interest was that of bootstrapping being used when external finance was not available. The researcher recognises that micro business owners are often working with a very

small number of employees and have multiple areas of responsibility. Business owners are key contributors to the Irish economy both in terms of employment and economically. However, as the research developed, a gap was identified which focused on business owners not looking for external finance, bootstrapping being used in preference to external finance by MSMEs, the reasons that business owners bootstrap, and the differences in practice in business sizes. Bootstrapping appeared to be the management of cash, and prior research identified bootstrapping as including methods to improve payment times by customers, minimising capital in inventory, delaying payments to suppliers, and sharing resources, among others.

Winborg (2000) identified bootstrapping as financial inflows and outflows in a business: cash going in and out. Due to the combination of prior findings on bootstrapping in the literature, and the researcher's own background and expertise, consideration was given to the relationship of bootstrapping with working capital management. Working capital management is frequently measured by the cash conversion cycle (trade receivable days plus inventory days minus trade payable days). This study seeks to examine the relationship between bootstrapping methods and the components of the cash conversion cycle. The main question this study seeks to answer is: *Are the factors for bootstrapping, as articulated in the entrepreneurship literature, related to the components of the cash conversion cycle in the finance and financial management literature?*

Prior studies on the topic of bootstrapping made no link between the motive for using bootstrapping and the type of bootstrapping used. Two of the three prior studies on the motives focus on new businesses (Winborg 2009; Grichnik and Singh, 2010). All three assume bootstrapping was used as an alternative to external finance. This study aims to explore the main types of bootstrapping in Irish MSMEs and the motives for its usage. It seeks to answer the questions: *Does the motive for using bootstrapping influence the type of bootstrapping used by MSMEs?*

Prior research has also not made a distinction between bootstrapping usage across business sizes. This research seeks to answer the following two questions in relation to this: *Are there differences in bootstrapping across business sizes? How does financial constraint influence bootstrapping?*

1.4 Research method

The researcher adopted a mixed methods approach, with both quantitative and qualitative aspects to the present study. As part of the qualitative phase of the research, semi-structured interviews with seven accountants, three micro-business owners, one invoice-financing franchise owner, and one bank manager took place in June and July 2012 in Dublin. The findings confirmed that cash management was very important for businesses and that they would do what was necessary to continue to operate. The interviews also revealed other important behaviours which had not been previously considered, such as business owners cashing in personal pension funds in order to release money for the business. Further investigation of the literature after the qualitative phase led to a fruitful avenue of research, which was the area of bootstrapping in the entrepreneurship literature and working capital management in the finance and financial management literature. This in turn inspired the main data collection phase: a quantitative survey. A survey method was decided on as surveys have been used consistently in the research on bootstrapping (Winborg and Landström, 2001; Ebben and Johnson, 2006; Ebben, 2009; Winborg, 2009; Neeley and Van Auken, 2012; Jayawarna et al., 2015).

A pilot test of the final survey was disseminated by Wexford Local Enterprise Office as part of their fortnightly newsletter in June 2014. Findings from this pilot survey indicated that most of the bootstrapping methods used related to customer payments, which in turn indicated a link between bootstrapping and the cash conversion cycle, because trade payables management is a component of the cash conversion cycle. These results went on to shape the final questionnaire used. The analysis is based on a survey of 167 MSME business owners. MSMEs were identified though business network groups, including BNI, Venture and Chamber of Commerce. Participating MSME business owners were surveyed between October 2014 and February 2015. The majority of the respondents were micro businesses (n = 132), and the rest (n = 35) were small or medium businesses.

It was decided to use factor analysis for bootstrapping, similarly to prior researchers (Brush, Carter, Gatewood, Greene and Hart, 2006; Ebben and Johnson, 2006; Ebben, 2009; Jones and Jayawarna, 2010), in order to identify factors for bootstrapping.

This analysis was undertaken following a five-step procedure from Hair, Black, Babin and Anderson (2010) to interpret a factor matrix.

1.5 Findings

The main finding from this study is that the factors for bootstrapping include the components of the cash conversion cycle and owner-related bootstrapping methods. This is significant, as it indicates that bootstrapping is working capital management and more. As well as replicating the trade receivables and trade payables components of the cash conversion cycle, bootstrapping also includes owner-related bootstrapping methods. This signifies that bootstrapping is cash management and that business owners will do what is necessary to get cash into their businesses for survival. Prior research had identified the methods of bootstrapping, including delaying paying suppliers, customer-related bootstrapping methods, minimising capital invested in inventory, and cash management methods. These methods are all components of the cash conversion cycle, the management of trade payables, trade receivables and inventory management. The cash conversion cycle is a measure of working capital management, which includes cash management. Bootstrapping at its core is about cash management. Extant bootstrapping research had not made this connection to the finance and financial management literature.

In order of most cited, the motives for using bootstrapping have been identified as: a desire to manage without external finance; a desire to grow the business; risk management; and, joint fourthly, necessity, and not enough capital in the business. For the first time the motives for using bootstrapping have been linked to the type of bootstrapping used; for example, if business owners want to manage risk in their business, they are likely to engage in delaying payments and owner-related bootstrapping. This is particularly true for micro businesses. If the business owner want to have financial independence, this is positively related to using delaying payments and owner-related bootstrapping. Both of these findings provide support for the importance of managing resources internally in the business.

The two factors found for bootstrapping – delaying payments and owner-related bootstrapping, and customer related bootstrapping – may indicate that these are the bootstrapping methods that MSMEs rely on in a post-financial-crisis period. Micro

businesses are constrained and use more owner-related bootstrapping methods than small and medium businesses; these findings indicate that micro businesses use less external finance than small and medium businesses and are more self-reliant for cash generation. Micro businesses are substituting owner-related bootstrapping in place of external finance.

The findings provide support for identifying bootstrapping as working capital management and owner funding, a deliberate practice by business owners. Findings also linked the motives for using bootstrapping to the type of bootstrapping used and identified differences in micro businesses. Findings also suggest that the pecking order might be the most suitable theoretical lens for exploring bootstrapping.

1.6 Structure of the thesis

This thesis is presented in eight chapters. An overview of each chapter is provided below.

Chapter one explains the context for the study. It notes the importance of MSMEs in Ireland, and it describes the research objectives, research methodology and study design.

Chapter two examines changes in funding of MSMEs before, during and after the financial crisis. It identifies how micro businesses are different from small and medium businesses.

Chapter three reviews the literature on the pecking order theory. It examines trade credit, trade receivables and working capital management, and it documents the evolution of funding and bootstrapping methods. It serves to position this research within the finance and financial management literature.

Chapter four explores the literature on bootstrapping and the motives for its use. It also explores the theoretical lens of resource dependency.

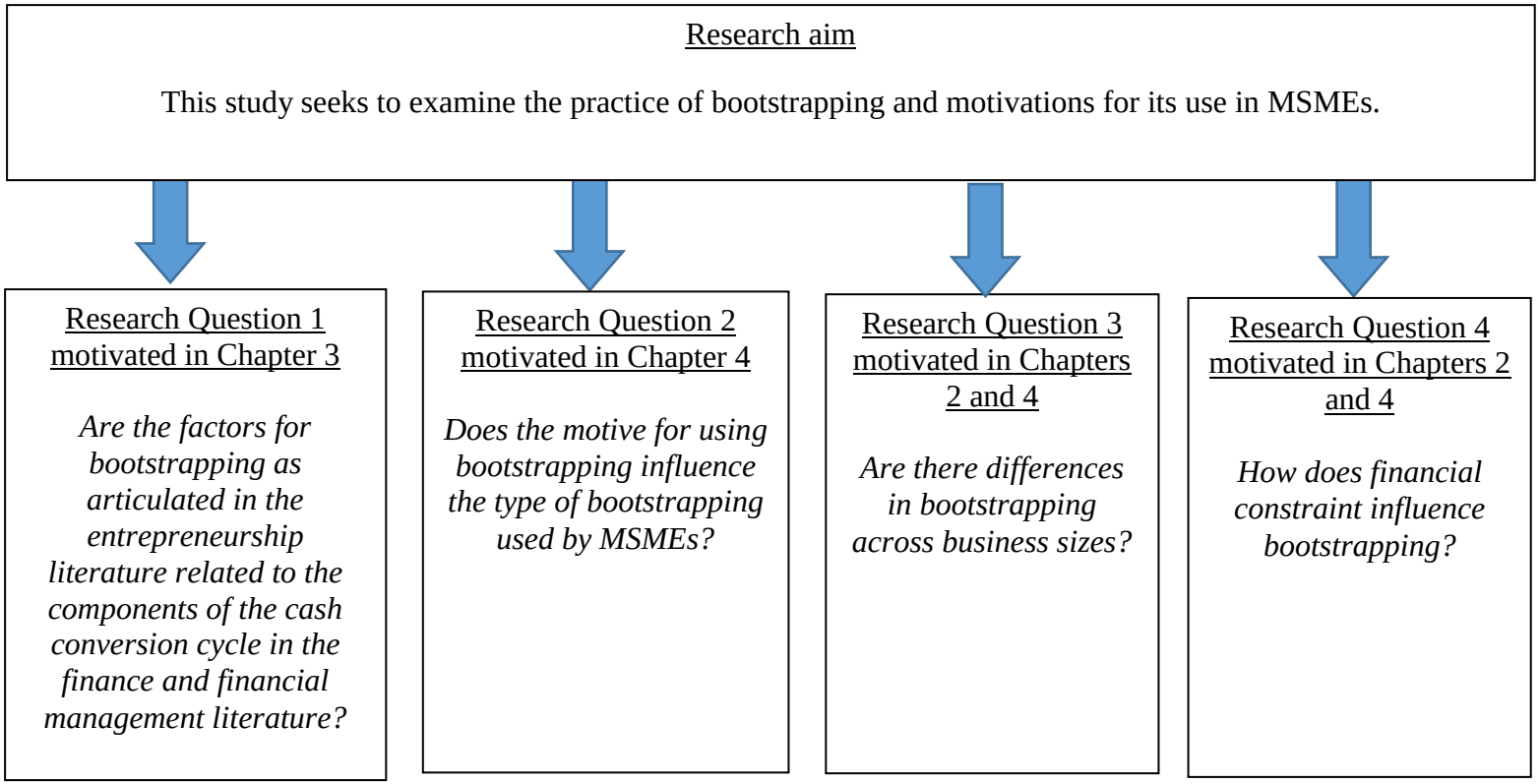
Chapter five outlines the research philosophy underpinning this study. It provides descriptive statistics, the design of the questionnaire, and the key variables in the questionnaire. It also describes the findings for the 167 survey respondents.

Chapter six presents the results of the data analysis and provides factors for bootstrapping methods and motives. It cross-tabulates for business size for bootstrapping methods used and motives for using bootstrapping. It presents correlations and regressions, and reports their findings.

Chapter seven reviews the findings based on the results and discusses the interpretations and implications of these findings.

Chapter eight outlines the contributions this thesis makes to the bootstrapping literature. It presents the implications for researchers, practitioners and academics, and describes the limitations of the study. Finally, it concludes.

Figure 1.1 Map of thesis



Chapter 2 Changes in funding of MSMEs

2.1 Introduction

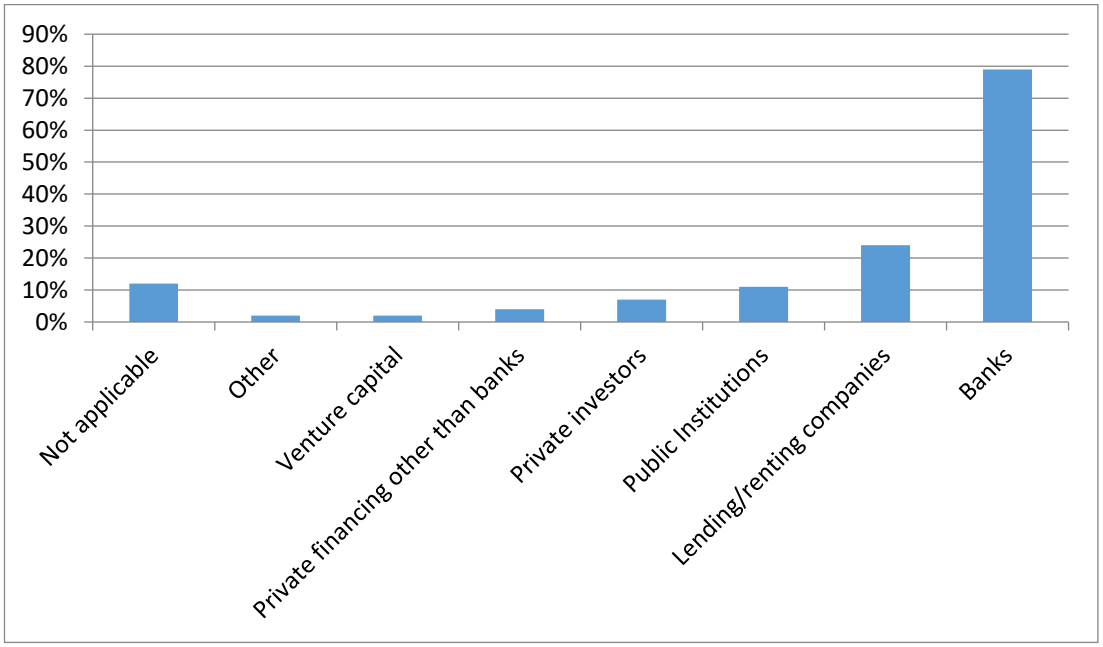
MSMEs differ from their larger business counterparts in numerous ways, including access to resources. Empirical studies reveal a relationship between access to debt and business size (Berger and Udell, 1995; Rajan and Zingales, 1995). Berger and Udell (1998) found that small businesses were financed 50.65 percent by the owner and 30.69 percent by the bank and trade creditors, in comparison to large businesses, which were financed 30.87 percent by the owner and 36.95 percent by the banks and trade creditors. Studies have found that the size of a business is an important determinant of accessing external types of finance, in particular bank finance (Artola and Genre, 2011; Canton, Grilo, Monteagudo and Van der Zwan, 2013; Moritz, Block and Heinz, 2015).

Financing practices of MSMEs and banks changed as a result of the global financial crisis. This chapter will address funding before the financial crisis, changes that took place as a result of the crisis, and financing after the crisis in MSMEs globally and particularly in Ireland. It will also identify how micro businesses differ from small and medium businesses.

2.2 The funding of MSMEs before the financial crisis

In September 2005, before the global financial crisis, 3,047 MSME managers across 15 countries (Belgium, Denmark, Germany, Ireland, Greece, Spain, France, Italy, Luxembourg, the Netherlands, Austria, Portugal, Finland, Sweden and the United Kingdom) were interviewed to examine (a) the type of finance they employed, (b) their access to finance, and (c) financial management practices they used (European Commission, 2005). Figure 2.1 outlines the main institutions used by MSMEs to obtain financing. Banks were by far the most frequently used financial institution when MSMEs needed finance, with 79 percent of MSMEs using them for funding (European Commission, 2005). In the UK, this figure was lower, at 68 percent, while in Ireland it was higher, at 91 percent (European Commission, 2005).

Figure 2.1 Institutions used by MSMEs to obtain financing



Source: SME Access to Finance (European Commission, 2005)

In September 2005, 71 percent of European MSMEs felt that banks did not want to take a risk in lending (European Commission, 2005). In Germany this figure was 95 percent; in the UK, 57 percent. Ireland was the only EU country to disagree with the statement that banks did not want to take a risk in lending: 47 percent of Irish MSMEs held the view that Irish banks were open to take risks in lending (European Commission, 2005). At this time, 79 percent of Irish MSMEs reported that access to bank loans was very easy (European Commission, 2005). This outlines the different banking climate in Ireland compared to Europe. Irish MSMEs felt that Irish banks were open to risk in lending, and 91 percent used the Irish banks for lending to support their business. These findings provide evidence for the importance of bank funding for MSMEs in Europe, and in particular Ireland. The next section will look at the changes in funding in MSMEs that occurred during the financial crisis.

2.3 Funding of MSMEs during the financial crisis

Access to finance is vital to fuel growth in MSMEs. Traditional lending was reduced globally following the financial crisis. In the US, Ivashina and Scharfstein (2010) found that lending from September to November 2008 was 68 percent lower than during the boom period of March to May 2007. The 2008–2009 financial and

economic crises caused GDP to contract dramatically: by 3.6 percent in the OECD countries as a whole in 2009, by 4.3 percent in the euro area and by 5.5 percent in Ireland (OECD, 2013). Carbó-Valverde, Rodríguez-Fernández and Udell (2012) pointed out that almost no research has examined whether businesses were able to substitute one form of lending for another in an economic recession, or how businesses cope with restrictions in credit facilities provided by banks.

2.3.1 The impact of the financial crisis on MSME bank funding

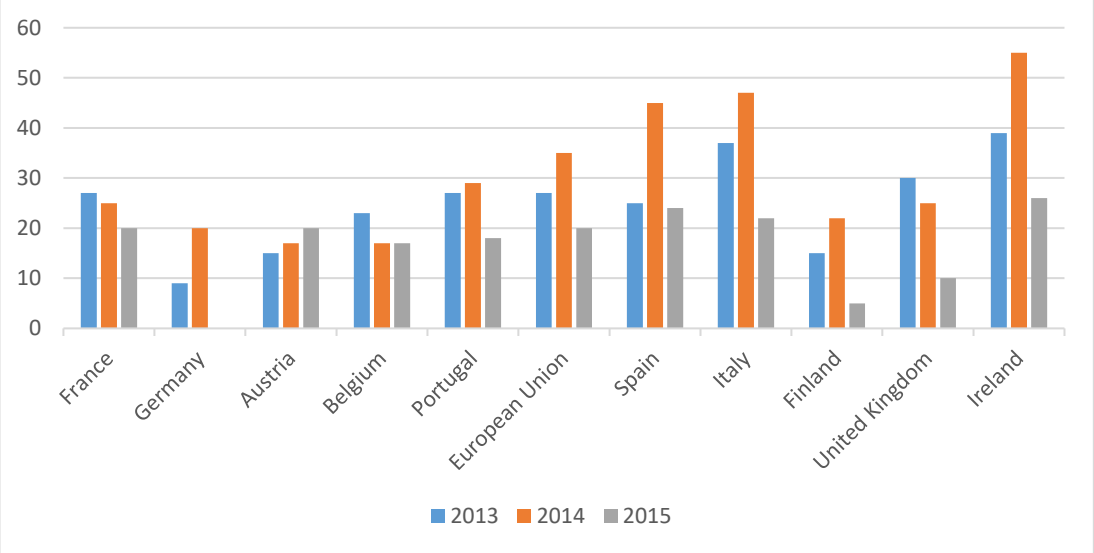
From April 2009 to October 2009, 29 percent of MSMEs in the EU used bank overdrafts and 32 percent used bank loans as a source of finance. The percentage using bank loans stayed steady between 32 and 36 percent from April 2009 to September 2012 (SAFE, 2012). The percentage using bank overdrafts varied between 29 and 42 percent during this period (SAFE, 2012).

In the aftermath of the financial crisis, MSMEs were less inclined to seek bank finance. Businesses often do not seek finance, as they are discouraged by the prospect of rejection (Cole and Dietrich, 2013). Lawless et al. (2014) defined a credit-constrained business as a business partially or fully rejected for finance or as a business that has an offer from a financial institution but that has rejected the offer as the cost was too high, discouraging borrowing. The largest component of constraint in Ireland during the financial crisis was borrower discouragement (Lawless et al., 2014): 16 percent of business owners who did not apply for a bank loan in 2013 in Ireland did not apply out of fear they would be rejected, compared to the EU average in the same period of 7 percent (SAFE, 2013).

Figure 2.2 outlines credit-constrained businesses in the EU in 2013, 2014 and 2015. In 2013 Ireland had the highest rate of credit-constrained businesses in the EU, at 39 percent, compared to the EU average of 27 percent. In 2014 the figure increased further for Ireland, to 55 percent, while the EU average was 35 percent. In Ireland in 2014, discouraged borrowers were 15 percent of all MSMEs while the EU average was eight percent; in 2015 the figure improved in Ireland to 9 percent, getting closer to the EU average of six percent (SAFE, 2015). These figures contrast sharply with 2005, before the financial crisis, when 79 percent of Irish MSMEs reported access to finance as very easy, and 47 percent believed Irish banks were happy to take risks in

lending (European Commission, 2005). In 2015, after the financial crisis, the figures for constraint improved significantly, with Ireland at 26 percent and the EU at 20 percent.

Figure 2.2 Bank loans – credit-constrained



Source: SAFE analytical reports (2013, 2014, 2015)

2.3.2 Ireland's recent economic history

Recent Irish economic history can be divided into three time periods: the "Celtic Tiger" period from 1990 to 2003, a period of strong, export-led economic growth; the "financial bubble" from early 2003 to early September 2008, a period of high borrowing, and the "austerity period" from mid-September 2008 to December 2014, (Connor, Flavin and O'Kelly, 2015). From 2003 to 2008, the domestic banking sector in Ireland had a total growth in assets of 245% over five and a half years, mainly funded by the interbank borrowing market (Connor et al., 2015).

Ireland experienced unprecedented domestic growth demand from the late 1990s until 2007. In 2007, Ireland was financially healthy, with a gross debt to gross domestic product (GDP) ratio of 25 percent, and sovereign wealth of €5,000 per person (Whelan, 2014). The low gross debt to GDP indicated that Ireland at this time was in a position to pay back its debts without incurring further borrowing. Figure 2.3 outlines the timeline of the Irish financial crisis. During this crisis, lending by Irish banks to MSMEs contracted by €1.3 billion (DKM, 2013). Irish MSMEs were

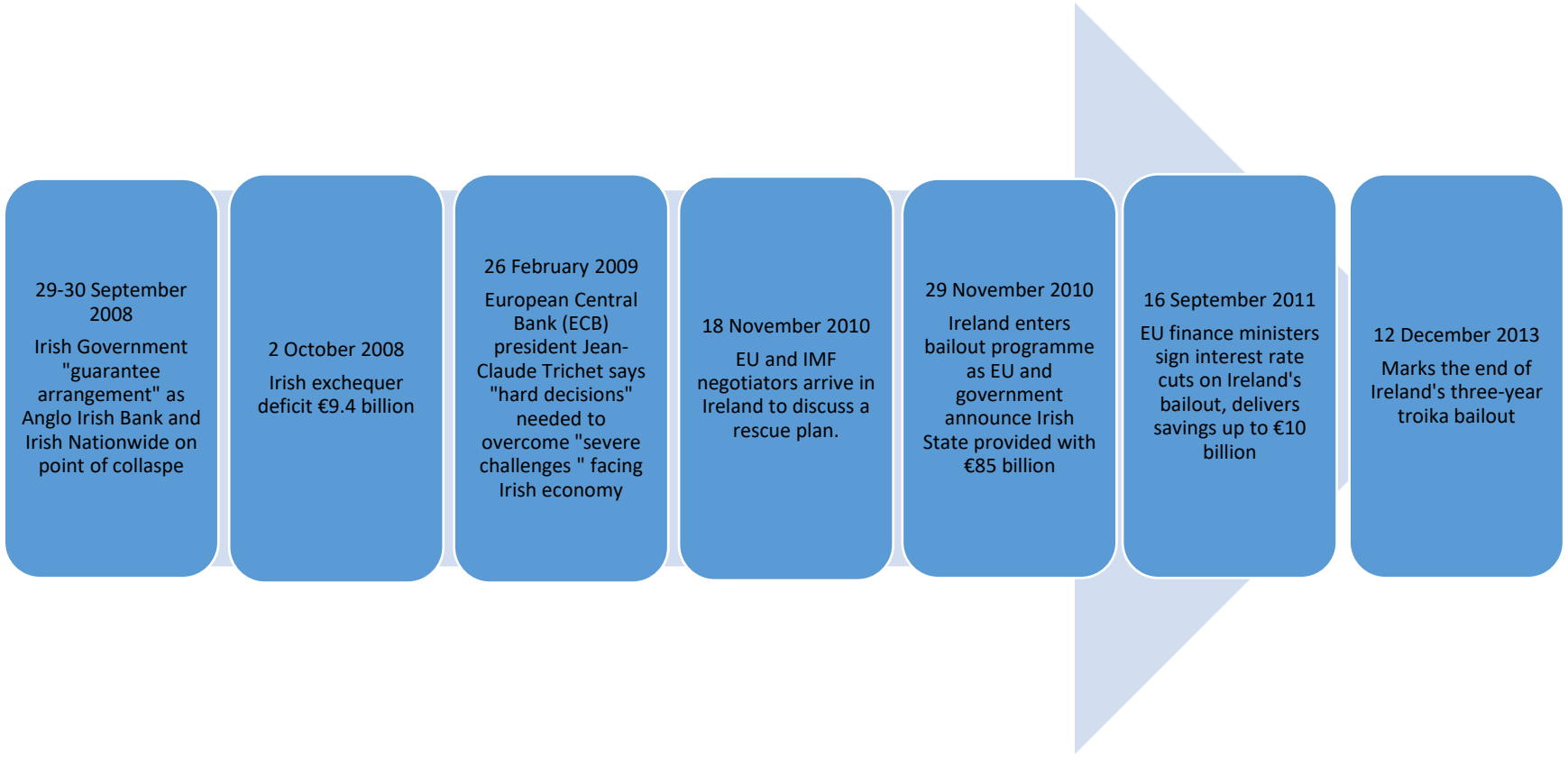
found to face some of the harshest credit conditions of any country in Europe (Kelly, Lydon and McCann, 2012). Since 2007, Ireland has experienced a 22.3 percent drop in domestic demand (DKM, 2013). This means that the profit and loss accounts and balance sheets of MSMEs deteriorated as their business contracted. Loans became harder for MSMEs to obtain, due to changes in their balance sheets and the banks' reluctance to lend due to their requirement to deleverage (DKM, 2013). Thus, increases in non-bank financing arose out of necessity.

On 15 September 2008, Lehman Brothers went bankrupt, international bank borrowing markets froze and the global credit crisis commenced (Connor et al., 2015). On 30 September 2008, the Irish Department of Finance, the Central Bank and the Irish Government agreed to guarantee all the liabilities of the Irish domestic banks, creating a €440 billion contingent liability for the Irish taxpayers (Connor et al., 2015). Anglo Irish Bank and Irish Nationwide Bank went into liquidation, and the Irish Government did not have the funds to pay the Anglo Irish Bank creditors. As a result, a "promissory note" was written by the Irish Government to Anglo Irish Bank, promising to pay the bank €30 billion and interest over 20 years (Connor et al., 2015). A large fiscal deficit existed in the Irish economy. The European Central Bank pressured the Irish Government to enter into IMF-led sovereign borrowing and restructuring, which Ireland entered into in November 2010. The collapse of the Irish banking system necessitated this sovereign bailout. Part of the agreement was that €10 billion had to be immediately invested into the Irish banks (Connor et al., 2015). The Irish economy underwent dramatic changes since the crisis began in late 2007. Unemployment rose from 4.8 percent in the first quarter of 2008 to 14.8 percent in the fourth quarter of 2010 (Lawless and McCann, 2012a). Ireland exited the bailout programme in December 2013, and in August 2014 Bank of Ireland was the first Irish bank to announce a return to profit (Connor et al., 2015).

2.3.3 Changes in bank funding

In 2010, the euro area returned to growth of 1.9 percent, but Ireland remained negative at -0.8 percent (OECD, 2013).

Figure 2.3 Timeline of the Irish financial crisis



Access to finance remained limited in 2011 (OECD, 2013). Since late 2013, banks reported an easing of credit supply to MSMEs and increases in borrowing in Ireland, Spain, France and Portugal. However, insufficient collateral and high interest rates continued to be limiting factors for SMEs (Stallings and Tran, 2015). New bank lending to MSMEs declined by 45 percent in Italy, Netherlands, France and Portugal, by 66 percent in Spain and by 82 percent in Ireland (Tran and Ott, 2013).

Banks confirmed more stringent collateral requirements and larger personal guarantees to get loans (Tran and Ott, 2013). Irish MSMEs signalled deleveraging at -6 percent in 2011 and -22 percent in 2013 (SAFE, 2014). Bank loans used by MSMEs in the EU went from 26 percent in 2009 to 18 percent in 2016 (SAFE, 2016). While bank lending increased in most countries in 2013, credit standards remained tight (OECD, 2016). Interest rates remained high in Ireland, Greece, Hungary, Portugal and Slovenia (OECD, 2017). Total bank lending to Irish non-financial firms was €50bn in 2003, €175bn in 2007 and €90bn in 2013. The MSME sector accounts for €60bn of bank lending since March 2010, with property making up 56 percent of MSME credit (Lawless et al., 2014).

Table 2.1 Demand for credit by Irish SMEs in 2011

Findings
48 percent of micro companies reported a decline in turnover.
26 percent indicated their turnover increased.
72 percent of SMEs said they would break even or make a profit in the period to September 2011.
36 percent of surveyed respondents made one or more requests for credit (a 10 percent decrease on previous periods).
23 percent were declined credit from banks; micro businesses had a higher decline rate of 35 percent.
52 percent of SMEs who were declined credit felt it was due to a change in bank lending policy.

Lending by Irish banks to MSMEs contracted by €1.3 billion (5.3 percent) between the end of 2010 and the end of 2012 (DKM, 2013). Holton, Lawless and McCann (2012) found that new lending to MSMEs in Ireland dropped 41.8 percent from €700m in 2010 to €407m in 2012. Mazars (2011), on behalf of the Department of Finance, surveyed 1,506 MSMEs in Ireland to look at their demand for credit and how they managed their businesses. The findings of this survey are outlined in Table

2.1, including the finding that 23 percent of Irish MSMEs were declined credit from banks. Lawless and McCann (2012b) found that an Irish MSME was 15–18 percent more likely to be rejected for credit from banks than a comparable Eurozone MSME. Irish businesses reported loan rejection rates of 48.6 percent compared to a euro average of 21.3 percent (Lawless, McCann and McIndoe Calder, 2012). MSME lending by Irish banks was down 50 percent since the start of 2010 (Kelly et al., 2012). Following the financial crisis and recession, Ireland experienced a fall in bank lending and GDP for three consecutive years from 2008 to 2010 (McGuinness and Hogan, 2014).

The Strategic Banking Corporation of Ireland (SBCI) began to lend to MSMEs in Ireland in March 2015, so as a source of funding this was outside the time frame of this survey. SBCI was set up by the Irish Government to lower funding costs for MSMEs, to bring new products to the market, to introduce new lenders and to share risk (SBCI, 2016). The SBCI's goal is to promote competition in the lending market to MSMEs and reduce the cost of credit (Central Bank of Ireland, 2016). Between March and December 2015, 4,619 Irish MSMEs drew down €172 million in SBCI loans (Central Bank of Ireland, 2016). This represents 9 percent of total new MSME lending in this period (Central Bank of Ireland, 2016). MSMEs used SBCI loans for investment for business growth (84%), working capital (11%) and the refinancing of existing bank loans (5%) (SBCI, 2016). Two-thirds of MSME lending occurs in five sectors: retail, agriculture, hotels and restaurants, administrative/support, and health (SBCI, 2016). Microfinance Ireland (MFI) is a not-for-profit lender supported by the Irish government's Microfinance Loan Fund (Central Bank of Ireland, 2016). Since lending commenced in October 2012, MFI has approved 867 loans from 1,816 applications (48% approval rate), lending €13.1 million in new lending to MSMEs to March 2016 (Central Bank of Ireland, 2016). Overall, MSME credit conditions in Ireland remain constrained, and rely heavily on bank loans.

2.4 Changes in financing used by MSMEs

After the financial crisis, changes occurred in how EU MSMEs financed themselves, as can be seen in Table 2.2. Bank loan usage by EU MSMEs decreased from a high of 44 percent in 2005 to 18 percent in 2016. It was at its lowest in 2013 at 13 percent. Likewise, bank overdraft usage decreased from 50 percent in 2005 to 37

percent in 2016. This indicated a move away from banks as the most important providers of finance. Internal funds increased in importance as a source of funding, with 49 percent of EU MSMEs using internal funds in 2009. This steadied at 26 percent in 2011 and 2013 (SAFE, 2014).

Table 2.2 Types of finance used by MSMEs in the EU

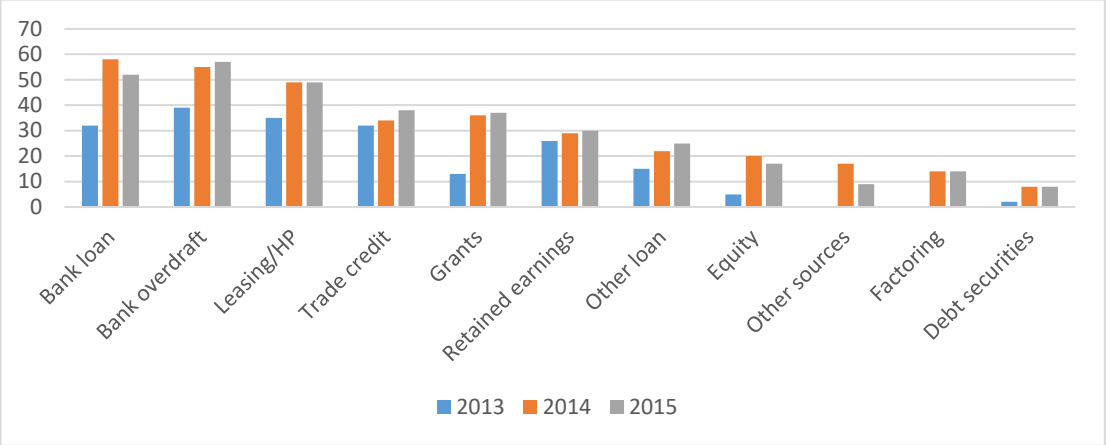
Percent of business that used each source	**2005**	**2009**	**2011**	**2013**	**2014**	**2015**	**2016**
Credit line or overdraft	50%	30%	40%	39%	37%	37%	37%
Leasing or hire purchase or factoring	51%	23%	36%	35%	35%	29%	29%
Trade credit	n/p	16%	32%	32%	9%	20%	19%
Bank loans	44%	26%	30%	32%	13%	19%	18%
Internal funds	n/p	47%	24%	26%	14%	15%	15%
Other loans	n/p	7%	13%	15%	7%	10%	9%
Grants or subsidised bank loans	n/p	10%	13%	13%	9%	8%	7%
Equity capital	n/p	2%	7%	5%	3%	< 3%	< 3%
Debt securities issued	n/p	1%	2%	2%	4%	2%	< 2%

n/p = not provided

Source: SAFE (2005, 2013, 2015)

The post-crisis data came from the European Central Bank/European Commission Survey of Access to Finance (SAFE) from September 2012 to March 2013. The sample consisted of 7,510 businesses, of which 500 were Irish (Lawless, McCann and O'Toole, 2013). Figure 2.4 examines the relevance of financing types in MSMEs in the EU in 2013, 2014 and 2015. On average, 25 percent of the 28 EU countries considered retained earnings to be a relevant source of financing (SAFE, 2014). In Ireland that figure was 37 percent (SAFE, 2014). However, SAFE lacks detailed information on what was happening at a micro level – and bootstrapping provides this detail. It would be expected that during the period being examined, 2013 and 2014, bootstrapping usage would be prevalent in Irish MSMEs.

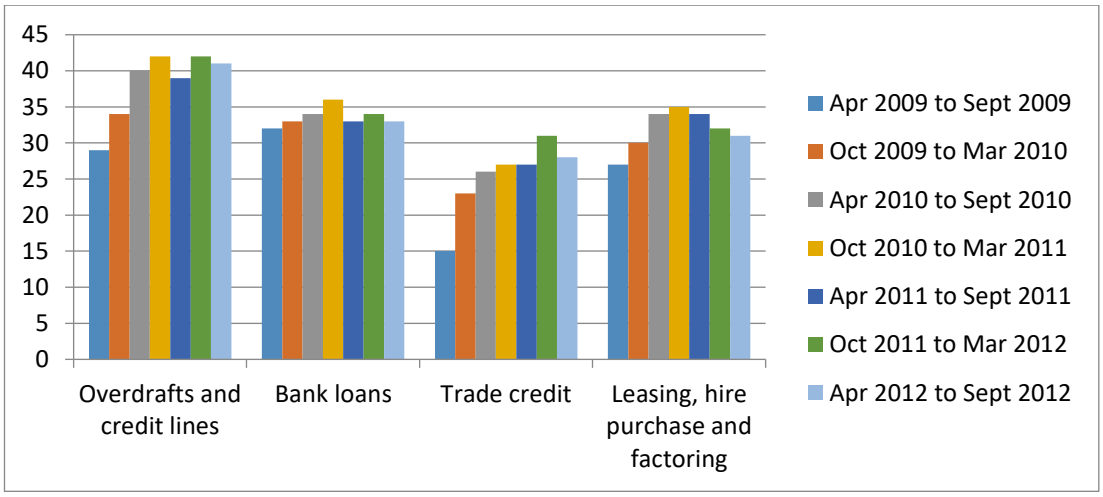
Figure 2.4 Relevance of financing types for MSMEs in EU-28



Source: SAFE (2013, 2015)

Figure 2.5 outlines the types of external funding used by MSMEs in the euro area from 2009 to 2012, during the financial crisis.

Figure 2.5 Types of external financing of euro area MSMEs (percentage of respondents)

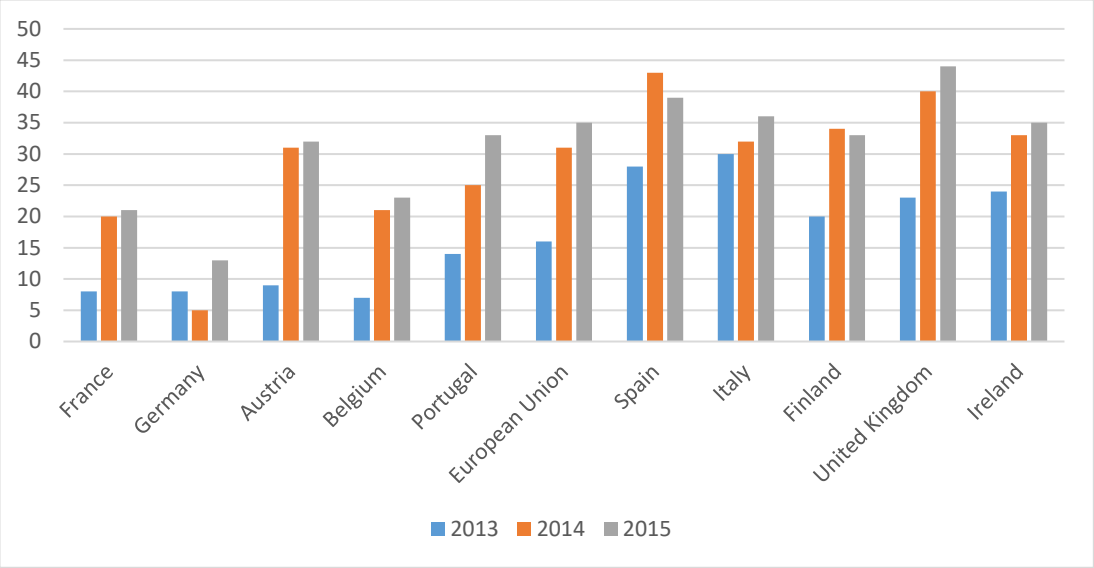


Source: European Commission reports on the Survey on the Access to Finance of Enterprises (SAFE, 2012)

As can be seen from Figure 2.5, a significant change occurred in external funding from April 2009 to September 2012, with an increase in trade credit usage from 15 percent to 27 percent (SAFE, 2012).

Figure 2.6 shows that Ireland's trade credit applications increased from 24 percent in 2013 to 33 percent in 2014 and to 35 percent in 2015 (SAFE, 2013, 2014, 2015).

Figure 2.6 Trade credit applications by MSMEs

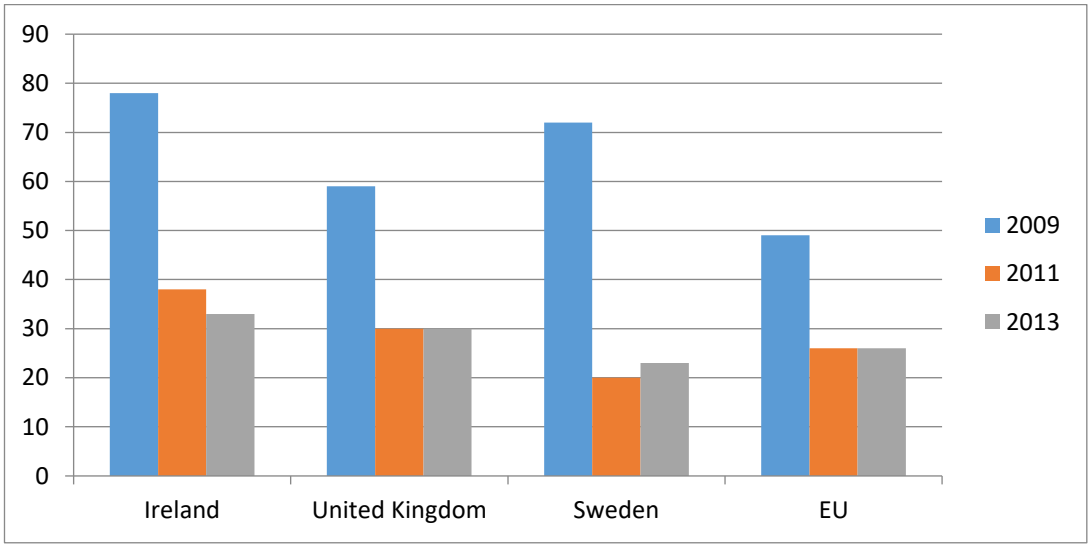


Source: SAFE Analytical reports (2013, 2014, 2015)

The combination of Irish MSMEs deleveraging (-22 percent in 2013 (SAFE, 2014)), the use of internal resources and the growth of trade credit all signify a movement towards Irish MSMEs using internal resources as a source of finance. During the financial crisis, MSMEs increased their use of internal funds, as can be seen in Figure 2.7. In 2009, 78 percent of Irish MSMEs used internal funds as a source of finance, compared to the EU average of 49 percent (SAFE, 2014). In 2011 these figures fell to 38 percent for Irish MSMEs and 26 percent for the EU average (SAFE, 2014). In 2013 the figures were 33 percent for Irish MSMEs and 26 percent for EU MSMEs (SAFE, 2014).

This signifies a change in the type of funding used by MSMEs, a move to reduce bank funding and increase internal resources. Irish MSMEs reduced their dependence on bank financing and moved more towards relying on themselves and using internal resources. The next section will address the change in the manner of financing working capital and investments in MSMEs.

Figure 2.7 MSMEs that used internal funds (percentage of MSMEs)



Source: SAFE (2014)

2.4.1 Finance for working capital and investment

Finance for working capital and investment is essential for the survival and growth of MSMEs (Lawless, McCann and O'Toole, 2013, p.1). Irish MSMEs' external funding is more reliant on banks than European MSMEs' (Lawless et al., 2013). In Ireland the share of MSMEs using bank finance for working capital or investment fell by 50 percent between 2005 and 2012 (Lawless et al., 2013). Internal funding (for investment) and trade credit (for investment and working capital) were used much more by Irish MSMEs in 2012 than in 2005, suggesting that a switch from bank to internal finance occurred (Lawless et al., 2013).

Lawless et al. (2013), in pre-crisis data, examined 6,354 businesses from the 2005 Business Environment and Enterprise Performance Survey; 501 of these businesses were Irish, and all businesses surveyed existed for at least three years. Each business was asked: "What proportion of your business's working capital and new fixed investment has been financed by internal funds, bank borrowings, trade credit and equity funds over the last 12 months?" (Lawless et al., 2013). Table 2.3 shows the changes in finance methods for working capital management before and after the crisis. Bank borrowing fell by 48 percent in funding working capital management, and equity increased 435.9 percent, from 3.3 percent to 17.6 percent. Trade credit

increased by 48.3 percent (Lawless et al., 2013). Working capital is being financed by trade credit and equity in preference to bank funding.

Table 2.3 Irish MSME financing since the financial crisis – working capital finance

Working capital financing			
	2005	**2012**	**% Change**
Internal resources	82.2%	79.9%	-2.9%
Trade credit	22.4%	33.2%	48.3%
Borrowing	46.7%	24.3%	-48%
Equity	3.3%	17.6%	435.9%
Number of businesses	456	1,004	

Source: Lawless et al. (2013)

Table 2.4 below shows the changes in finance methods for investments before and after the crisis. Bank borrowing fell by 56.6 percent for funding investments. Trade credit increased 107.9 percent, from 3.6 percent to 7.5 percent. Most significantly, internal resources as a source of funding for investment increased from 60.2 percent to 80.4 percent, making up over four-fifths of all funds used to finance investments after the financial crisis (Lawless et al., 2013). These findings highlight the importance of generating more internal resources in a business, by increasing cash available to avail of investments without banks.

Findings from Lawless et al. (2013) suggest that internal funds are being used to finance investment in preference to bank funds, which is a significant change since the financial crisis. In order to increase internal funds, resource management becomes very important. MSME access to bank credit is pro-cyclical, and in periods of financial stress other methods of finance become more important (Lawless et al., 2013).

Bank borrowings fell by approximately half between 2005 and 2012, and have been replaced by trade credit, equity and internal funding (Lawless et al., 2013). These findings lead to the expectation that the practice of bootstrapping is very important for Irish MSMEs.

Table 2.4 Irish MSME financing since the financial crisis – investment financing

Investment financing			
	2005	**2012**	**% Change**
Internal resources	60.2%	80.4%	33.7%
Trade credit	3.6%	7.5%	107.9%
Borrowing	38.6%	16.8%	-56.6%
Equity	2%	5.6%	180.6%
Number of businesses	451	322	

Source: Lawless et al. (2013)

2.5 MSME funding after the financial crisis

The financial crisis in Ireland ended in December 2013, and Ireland returned to growth. In the aftermath, there is evidence that MSMEs found it more difficult to secure bank funding (Jones-Evans, 2015). The landscape for financing MSMEs altered as a result. There was a move away from bank finance due to a combination of less funding, constrained/discouraged borrowers, and deleveraging. Irish MSMEs were deleveraging at -6 percent in 2011 and -22 percent in 2013 (SAFE, 2014). The financing patterns of Irish MSMEs altered as a result of the financial crisis. Businesses made much greater use of internal funds, with 78 percent of EU MSMEs using internal funds in 2009, 38 percent in 2011 and 33 percent in 2013 (SAFE, 2014). Trade credit usage increased from 24 percent in 2013 to 33 percent in 2014 for Irish MSMEs (SAFE, 2013, 2014). The percentage of constrained borrowers in the EU rose from 27 percent in 2013 to 35 percent in 2014. In the UK, this figure was 30 percent in 2013 and 24 percent in 2014 (SAFE, 2013, 2014). In Ireland, the figure for constrained borrowers was much higher, at 39 percent in 2013 and 55 percent in 2014 (SAFE, 2013, 2014), reflecting a move towards the increased use of internal funds, retained earnings and increased use of trade credit.

2.6 Bootstrapping after the financial crisis

As has been outlined, there is evidence of high levels of financial constraint in Irish MSMEs in 2013 and 2014, the time period this research examines. A move was made away from bank financing and towards internal resources. Irish MSMEs

reduced bank borrowings for both working capital and investment, as indicated in Tables 2.3 and 2.4. Trade credit usage increased by 48.3 percent for financing working capital in Irish MSMEs and by 107.9 percent for financing investments. Internal resources of MSMEs are being used for financing investments. Bootstrapping consists of the management of internal resources, customer payments and supplier payments. It is expected that as a result of the movement away from bank financing towards increases in internal resources and trade credit, bootstrapping usage would become more important for financing MSMEs, in particular for businesses that are financially constrained.

2.7 Evolution of funding over time

Berger and Udell (1998) developed a financial-growth life cycle model which places businesses on a size–age–information continuum and describes the vast array of financing choices available to them as they attempt to survive, grow and prosper. Figure 2.8 outlines the evolution and types of financing available as businesses age and grow. Berger and Udell (1998) found that for small businesses, the owner personally provides two-thirds of the total equity. This is followed by contributions of 18.75 percent from banks, 15.78 percent from trade creditors and 12.86 percent from family and friends. Combined, owner sources, loans and trade creditors account for 70.1 percent of total funding. Berger and Udell (1998) found that as the SME business moves into middle age, funds provided by the main business owner increase from 25 to 40 percent of all funding. In MSMEs, debt is fundamental to early business activities, and in maturity businesses are found to rebalance their capital structure, substituting debt for internal capital (La Rocca, La Rocca and Cariola, 2011). This is partly due to a build-up of retained profits in the business over time. Beck, Demirgüç-Kunt and Maksimovic (2008) found that small businesses used significantly more informal finance than larger businesses.

Prior to the financial crisis, Mac An Bhaird and Lucey (2010a) surveyed 299 Irish SMEs to investigate the determinants of their capital structure and their funding over their life cycle. As businesses survive the start-up stage and mature, personal funding becomes less important and retained profits begin to play a greater role (Mac An Bhaird and Lucey, 2010a). A trading history should facilitate bank lending and trade creditor funding (Mac An Bhaird and Lucey, 2010a). They found that business

owners preferred internal types of funding such as retained earnings over external funding. Table 2.5 shows that the total external finance used by businesses aged less than five years is 69 percent, and falls to 39 percent for businesses aged 20–29 years. This contrasts with total internal finance, which ranges from 31 percent for businesses aged less than five years to 61 percent for those aged 20–29. Funding from retained earnings ranges from 31 percent for businesses aged less than five years to 55 percent for those aged 15–19 years and a high of 61 percent for those aged 20–29.

In some cases this may be compatible with the business's goals (Hogan and Hutson, 2005). On maturity, financing choices should be plentiful and determined by owner preferences (Mac An Bhaird and Lucey, 2010a). If large amounts of funding are needed, equity might be sought which involves partial loss of ownership of the business. Most businesses follow this hierarchical pattern of bootstrapping, debt, and equity (Cassar, 2001).

2.8 Characteristics of micro businesses

Micro SMEs are by far the most common type of SME, accounting for 93 percent of all businesses (European Commission, 2017b). Irish micro businesses contributed 29.4 percent of all employment in the SME non-financial business sector in 2016 (European Commission, 2017b). Yet micro businesses are an under-researched group despite accounting for the majority of all MSMEs in the EU and in Ireland accounting for almost 30 percent of all MSME employment.

Micro businesses typically operate as single-owner-managed businesses (Marwa, 2014). They differ from larger businesses in their risk level and desire for independence (Berger and Udell, 1998). As micro businesses do not tend to publish annual accounts and there is limited public information available about them (Berger and Udell, 1998), information asymmetries and moral hazard problems are high (Daskalakis, Jarvis and Schizas, 2013). One of the most important characteristics defining micro business finance is informational opacity (Berger and Udell, 1998). Micro businesses do not enter into contracts that have public visibility, and their employees, suppliers and customers are generally kept private (Berger and Udell,

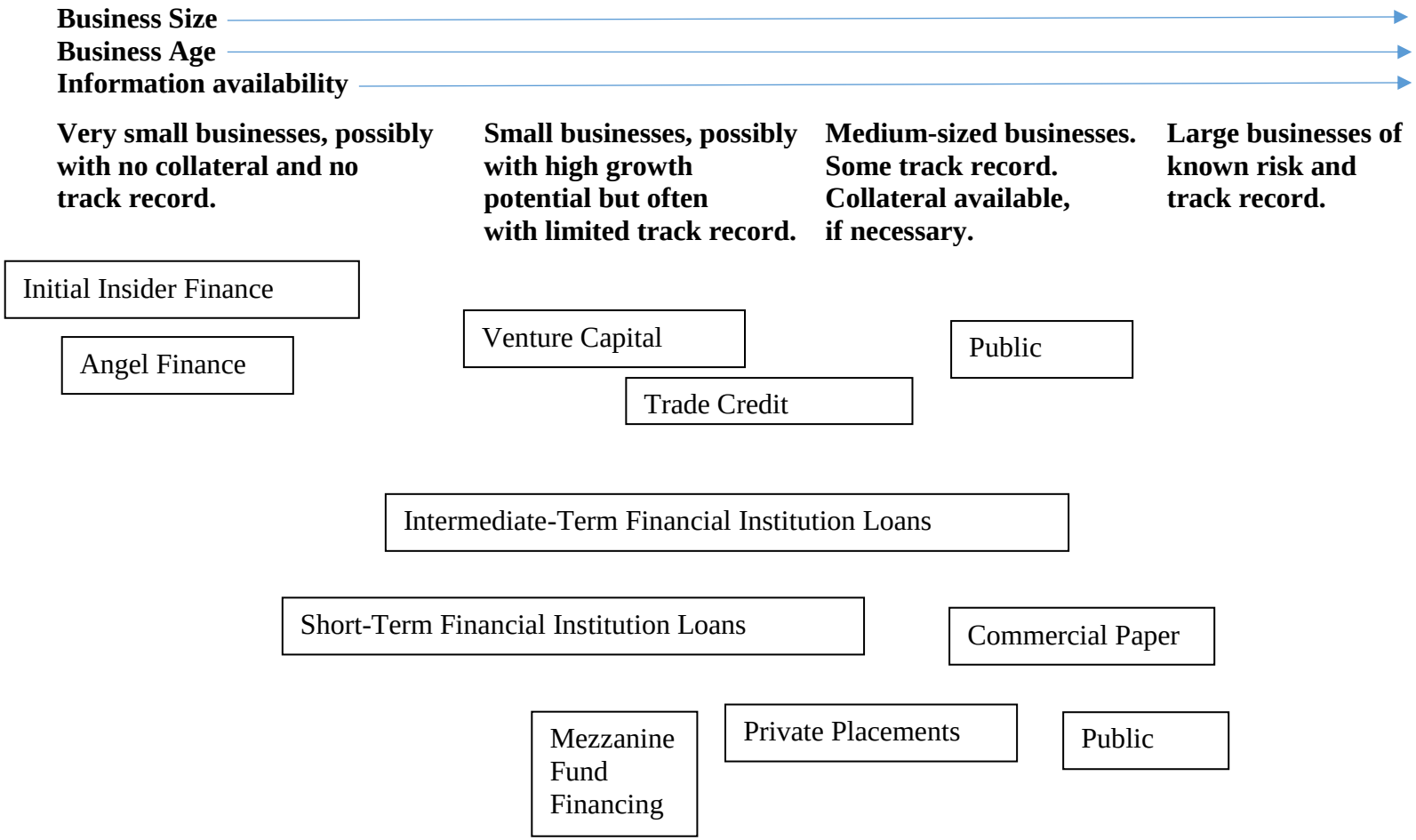
1998). Micro businesses do not issue equity to private stakeholders, nor are they listed on stock exchanges.

Micro businesses are usually exempt from audit due to a combination of their size and turnover. This means their year-end accounts are not audited, and often abridged accounts are filed with the Companies Registration Office in Ireland. This also means audited accounts are not available to be shared with providers of finance, and external finance providers have less confidence in the data provided to them. Moreover, micro businesses may have difficulty building their reputations to signal high-quality products or services in order to overcome informational opacity (Berger and Udell, 1998).

2.9 Financing of micro businesses

Research on MSME financing has increased over the last few years (Hall, Hutchinson, and Michaelas, 2004; Daskalakis and Psillaki, 2008; López-Gracia and Sogorb-Mira, 2008). Prior research has addressed the financing patterns of SMEs and large businesses (Moritz, Block and Heinz, 2015). However, there is little research on financing micro businesses, as most studies do not explicitly distinguish between business sizes (Masiak, Block, Moritz and Lang, Kraemer-Eis, 2017). Daskalakis et al. (2013) examined small and micro Greek businesses and found that they relied on their own funds rather than outside equity. Similarly, Lawless, O'Connell and O'Toole (2015) found that micro business rely more on internal funding than external funding. Masiak et al. (2017) found that micro businesses are less likely to use trade credit and more likely to use internal financing. Micro businesses are different from medium-sized businesses in relying more on short-term bank debt such as overdrafts and credit cards (Masiak et al., 2017). Table 2.6 outlines the percentage of Irish MSMEs who sought bank finance from 2012 to 2017.

Figure 2.8 Financial growth cycle



Source: Berger and Udell (1998, p.623)

Table 2.5 Types of finance employed by Irish MSMEs

Business Age	Personal savings	Retained profits	Total internal financing	Venture capital	Business angels	Govt. grants and equity	Short-term bank loans and overdrafts	Long-term debt	Off balance sheet financing	Total external financing
< 5 yrs	22%	9%	31%	15%	17%	5%	11%	18%	3%	69%
5–9 yrs	15%	27%	42%	16%	8%	5%	19%	7%	3%	58%
10–14 yrs	11%	32%	43%	10%	4%	1%	30%	6%	6%	57%
15–19 yrs	12%	43%	55%	4%	2%	0%	24%	10%	5%	45%
20–29 yrs	11%	50%	61%	2%	1%	2%	22%	6%	6%	39%
> 30 yrs	7%	47%	54%	0%	7%	1%	26%	7%	5%	46%

Source: Mac An Bhaird and Lucey (2010b, p.9)

Credit demand from banks continues to decline year-on-year, with 20 percent of Irish MSMEs having applied for bank finance in 2017, down from 26 percent in March 2016 (McShane and Reaper, 2017). This decline in credit demand is consistent across Irish MSMEs of all sizes, with the exception of medium businesses (up from 21% in March 2016 to 25% in March 2017) (McShane and Reaper, 2017). Thirty percent of micro businesses sought bank finance in 2012, and this reduced to 15 percent in 2017.

Table 2.6 Irish MSMEs seeking bank finance

	March 2012	**March 2013**	**March 2014**	**March 2015**	**March 2016**	**March 2017**
Micro	30%	36%	29%	26%	23%	15%
Small	43%	43%	40%	35%	31%	22%
Medium	42%	41%	37%	40%	21%	25%

Source: McShane and Reaper (2017)

There is a decline in credit demand across MSMEs since 2012, with the exception of medium businesses (McShane and Reaper, 2017). Micro businesses were the least likely business size to seek bank finance (McShane and Reaper, 2017). During a financial crisis, these findings are stronger (Casey and O'Toole, 2014). Micro businesses are still less likely to apply for alternative financing compared to small and medium businesses (Casey and O'Toole, 2014). Prior research has found that owner/managers try to avoid the influence of external parties (Masiak et al., 2017). External equity holders try to reduce risks by using voting rights, thereby reducing the influence of the owner (Chittenden, Hall and Hutchinson, 1996). External debt financiers such as banks do not hold voting rights; they try to reduce information asymmetries through collateral (Berger and Udell, 1998). Micro business owners' tendency to prefer internal resources over external resources is in line with the pecking order theory (López-Gracia and Sogorb-Mira, 2008).

Micro businesses are different from small and medium businesses in their finance structure: 48 percent of large companies (companies with at least 250 employees) had a financing structure based on internal and external sources of finance; for micro businesses this figure is 30 percent (SAFE, 2009).

Table 2.7 Sources of finance for Irish MSMEs

	2015
Micro businesses	
Bank overdrafts	32%
Bank loans	13%
Leasing/hire purchase	12%
Trade credit	15%
Grants	5%
Retained earnings	10%
Small businesses	
Bank overdrafts	39%
Bank loans	21%
Leasing/hire purchase	27%
Trade credit	21%
Grants	9%
Retained earnings	15%
Medium businesses	
Bank overdrafts	44%
Bank loans	28%
Leasing/hire purchase	37%
Trade credit	26%
Grants	12%
Retained earnings	23%

Source: SAFE (2015)

MSMEs in Estonia (73%), France (67%) and Latvia (65%) had the highest proportion that only used external financing in 2011 (SAFE, 2011). MSMEs in Finland (56%), Ireland (36%), and Denmark (32%) were the most likely to have used both internal and external financing sources (SAFE, 2011). Denmark (9%) and Ireland (8%) had the lowest proportion that used no funding sources in this time (SAFE, 2011). Bank overdrafts rose with company size: 34 percent for micro SMEs, 43 percent for those with ten or more employees (SAFE, 2013). Usage of bank loans was highest among larger SMEs (42% for those with 50+ employees, compared with 24% of micro SMEs) (SAFE, 2013). Trade credit usage (32% overall) also rose with company size (27% for micro SMEs, 39% for firms with 50+ employees) (SAFE, 2013). Bank loans, trade credit and overdrafts were used by 38 percent of micro businesses, 60 percent of small businesses and 72 percent of medium businesses (SAFE, 2014). Bank finance was the most popular type of finance sought, with over a fifth of all MSMEs applying for it in 2014 (SAFE, 2014). While 20 percent of

micro businesses applied for bank finance, the rate was 35 percent for small businesses and 39.8 percent for medium businesses (SAFE, 2014). Ninety-two percent of medium businesses successfully secured this finance, while less than 70 percent of micro businesses were successful (SAFE, 2014). Table 2.7 outlines the sources of finance for Irish MSMEs in 2015.

Micro businesses use less bank finance than their small and medium counterparts. They avail of less trade credit and use fewer internal resources. Because micro businesses use less external funding than small and medium businesses, they need to fund their resources by other means. It is expected that delaying payments and owner-related bootstrapping would be more important for micro businesses than their small and medium counterparts. This will be explored in this thesis.

2.10 Conclusion

Irish MSMEs have moved from dependence on bank financing for both working capital and investment in their business before the financial crisis, to increased reliance on internal funds and trade credit after the crisis. Irish MSMEs have become discouraged borrowers, preferring to rely on themselves. Micro businesses are different in that they rely on internal funding in preference to external funding and are more frequently rejected for bank finance. This leads to an expectation that Irish micro businesses would have been constrained and that bootstrapping would have become increasingly important as a source of funding in 2013 and 2014, the time period this research examines.

Chapter 3 Financial management and bootstrapping

3.1 Introduction

The thesis examines, in a post-financial-crisis environment, the main types of bootstrapping used by Irish MSMEs, and in particular, how the use of bootstrapping differs across business sizes. It aims to identify to what extent the concept of bootstrapping, as discussed in the entrepreneurship literature, is related to the concept of the cash conversion cycle in the finance and financial management literature. The cash conversion cycle is frequently the measure used to calculate the efficiency of working capital management.

This chapter is divided into different sections. Section two contains a review of the pecking order theory, from a theoretical perspective while also considering existing empirical evidence for large and small businesses. Section three explores working capital management, with a particular focus on trade credit usage in SMEs, and also reviews the literature in this area. Section four explores customer credit and highlights the dearth of research in this area. Section five examines the literature on the components of bootstrapping from the entrepreneurship perspective. Section six examines the literature on finance and financial management, with particular reference to working capital management and the cash conversion cycle. Section seven frames and positions this research within the finance and financial management literature. Finally, Section eight concludes the chapter.

3.2 The pecking order theory

The capital structure of a business is the manner in which the business is financed. Capital structure refers to internal funds, debt and equity. Discussion of the pecking order theory in this section is based predominantly on several studies. The most prominent studies in capital structure theories of both large and small businesses, as well as their key empirical findings, are outlined in Table 3.1 below. The table presents papers providing both theoretical and empirical evidence of capital structuring in large businesses (e.g. Myers and Majluf, 1984; De Jong, Verbeek and Verwijmeren, 2010), followed by the theoretical and empirical developments in the SME domain on capital structure (e.g. Cressy and Olofsson, 1997; Van Caneghem and Van Campenhout, 2012).

Table 3.1 Summary of studies of pecking order in large and listed businesses and SMEs

Paper	Country	Period	Findings
Large and listed businesses			
Myers and Majluf (1984)	Did not state	Did not state	Managers act in the best interests of shareholders due to asymmetric information. Businesses prefer to finance investments through internal funds, followed by external debt, and external equity as a last resort.
Shyam-Sunder and Myers (1999)	US	1971–89	The pecking order describes observed capital structures.
Fama and French (2002)	US	1965–99	There is support for both the pecking order and trade-off theories.
Frank and Goyal (2003)	US	1971–98	Small, high-growth businesses are the main providers of equity in the US. Pecking order does not hold in small businesses.
Bulan and Yan (2009)	US	1970–2004	When looking at life cycle where debt and external finance needs are homogenous, businesses with high adverse selection costs follow the pecking order more closely.
De Jong, Verbeek and Verwijmeren (2010)	US	1971–2005	Pecking order is highest when businesses have large financing surpluses, and lowest when businesses have large financing deficits.
Cressy and Olofsson (1997)	Sweden	1991–93	SMEs operate a constrained pecking order, preferring internal funds and if necessary bank funds or trade credit.
Berger and Udell (1998)	US	1993	Capital structure can be analysed from a life cycle perspective, as it varies with the age and size of the business.

Table 3.1 Summary of studies of pecking order in large and listed businesses and SMEs (cont.)

Paper	Country	Period	Findings
SMEs			
Watson and Wilson (2002)	UK	1994	Closely held SMEs prefer short-term financing to long-term debt. This is due to the higher levels of information required and greater costs associated with long-term debt.
Hogan and Hutson (2005)	Ireland	2001	Internal funds are the most important source of finance for new technology businesses. Debt is rare, and equity finance dominates the external financing needs of businesses.
López-Gracia and Sogorb-Mira (2008)	Spain	1995–2004	Trade-off theory is supported, as businesses aim to reach a target level of debt.
Cotei and Farhat (2009)	US	1980–2001	The pecking order and trade-off theories are not mutually exclusive.
Mac An Bhaird and Lucey (2010a)	Ireland	Did not state	Age, size and ownership determine the capital structure. Businesses that need more capital either provide personal assets as collateral for business debt or use external equity.
Vanacker and Manigart (2010)	Belgium	1997–2004	High growth businesses need new equity to grow beyond debt capacity. If they have lower cash flow and lower capacity for debt, they rely more on external equity.
Degryse, Goeij and Kappert (2012)	Holland	2003–05	Dutch SMEs use internal profit to reduce their debt, and SMEs that are growing increase their debt. There is support for the pecking order theory.
Sánchez-Vidal and Martín-Ugedo (2012)	Spain	1994–2000	Companies have different financing structures depending on their ages and size. There is support for the pecking order theory.
Van Caneghem and Van Campenhout (2012)	Belgium	2007	The amount and quality of financial information is positively related to SME debt. SMEs follow the pecking order theory.

Myers and Majluf (1984) suggest that businesses follow a pecking order to finance their business. The pecking order theory predicts a hierarchy of financing structure. It suggests that financing decisions are made by businesses to minimise financing costs. Initially, internal resources are used, followed by external debt and equity (Myers and Majluf, 1984). The pecking order is based on information asymmetries and on the assumption that businesses can choose between debt and equity. Information asymmetries refer to the different knowledge that insiders of a business have over outsiders, regarding the future prospects of the business and how they value the business. Asymmetric information is often considered the most significant reason for the perceived cost differences between internal and external funds (Berger and Udell, 1998). The pecking order assumes that businesses want to finance their investments in the least costly manner. According to Myers and Majluf (1984), the implications of asymmetric costs are that businesses prefer to finance according to the pecking order, through internal finance, followed by external debt, and finally external equity.

3.2.1 The pecking order and large businesses

The size of the business influences the capital structure. There are two plausible reasons why the pecking order is useful to explain the capital structure of large businesses. In large businesses such as public limited companies, there is a separation of ownership and control. The companies are owned by numerous external ordinary shareholders, while the day-to-day management resides with a chief executive officer and a chief financial controller, who control the company's capital structure decisions. MSMEs, particularly micro businesses, have fewer staff, and the owner undertakes the role of CEO and financial controller.

Most research on the pecking order theory examines listed companies in the US (Shyam-Sunder and Myers, 1999; Fama and French, 2002; Frank and Goyal, 2003; Bulan and Yan, 2009; Cotei and Farhat, 2009; De Jong, Verbeek and Verwijmeren, 2010), and of the studies focused on Europe, most concentrate on large PLCs (Al Manaseer, Gonis, Al-Hindawi and Sartawi, 2011; Muzir, 2011; Sánchez-Vital and Martín-Ugedo, 2012). Empirical findings of the pecking order theory are mixed for large businesses. Shyam-Sunder and Myers (1999), Bulan and Yan (2009) and De Jong et al. (2010) all find support of different magnitudes for the pecking order.

Frank and Goyal (2003) find that large businesses are more likely than small businesses to follow the pecking order. These issues raise the question as to the ability of the pecking order to explain the financing practices of MSMEs.

3.2.2 The pecking order and SMEs

Some support has been found for the pecking order in SMEs (Cressy and Olofsson, 1997; Sogorb-Mira, 2005; Mac An Bhaird and Lucey, 2010a). It is generally accepted that SMEs suffer more from information asymmetries and transaction costs than large businesses do (López-Gracia and Sogorb-Mira, 2008). SMEs are usually unlisted, certainly small and micro businesses. SMEs are often motivated to retain full ownership and control (Cressy and Olofsson, 1997; Watson and Wilson, 2002; Mac An Bhaird and Lucey, 2010a). Cressy and Olofsson (1997) studied the financing practices of 510 Swedish SMEs, and they found that 72 percent indicated that the most important reason to take on an equity partner was for their level of expertise. Sixty-nine percent of SMEs reported that new equity should come from retained profits of the business. Cressy and Olofsson (1997) found that most established SMEs avoid control by banks or outside investors by relying on retained profits to finance their operations: 78 percent of SMEs reported company profits as the most important source of finance, followed by banks (51%) and funding from business customers (26%). Cressy and Olofsson (1997) also found that 66 percent of SMEs reported that banks' demands for external collateral were too onerous, with 56 percent of banks demanding too high an equity–debt ratio from SMEs.

SMEs, particularly micro businesses, are often considered more financially constrained than larger businesses and in certain regions prefer to use less external bank finance due to its high cost (Beck, Demirgüç-Kunt and Maksimovic, 2008). Because of this, the transaction costs of external finance are much higher, as SMEs have less management and organisational power in credit markets compared to their larger business counterparts (López-Gracia and Sogorb-Mira, 2008). Typically, at the start of the business the owner will commit as much as they can, but as time goes by their personal funds will be depleted. Bank funding is not desired, due to the onerous requirements that banks place on SMEs in exchange for funding (collateral). SMEs have an obvious preference to use the least costly source of finance: internal funds. In a survey of Irish SMEs, Mac An Bhaird and Lucey (2010a) found support

for the pecking order and that surviving businesses increase their reliance on internal equity.

While the pecking order theory may be a valid explanation of capital structure in SMEs, albeit in a constrained form, recent developments in the SME finance literature have moved to focus on working capital behaviours of SMEs (Baños-Caballero, García-Teruel and Martínez-Solano, 2012; Vermoesen, Deloof and Laveren, 2013; McGuinness and Hogan, 2018). Only 5 percent of European SMEs are reported to have used equity finance in the last six months, whereas 45 percent have used trade credit (SAFE, 2013). This provides further evidence that equity finance is not a major source of finance for SMEs. Chapter two has shown the reduction in demand for bank finance by SMEs after the financial crisis. This research aims to offer a new approach to understanding the financing behaviour of MSMEs. Among the aims of this research are to analyse the recent movement in emphasis in SME finance literature – away from the traditional theories of capital structure based on debt versus equity, and towards theory which focuses on working capital and internal operational finance behaviour of MSMEs.

3.3 Working capital in SMEs

Working capital generally comprises four main components: trade credit (payables), inventories, trade receivables, and cash (Paul and Boden, 2011). As seen in Chapter two, trade payables are an important part of the finance mix alongside bank finance. Trade credit occurs when a business buys goods or services from another business and, rather than paying for them straight away, agrees to pay for them in the future (perhaps after 30 days), the terms being agreed between the two parties. While trade credit is generally thought of as a short-term method of financing (Nilsen, 2002), it plays a role in the decision-making of businesses too (Rodríguez-Rodríguez, 2006). Obtaining favourable trade credit terms enables businesses to reduce their overall borrowing costs, in particular if discounts are given for early payment (Giannetti, Burkart and Ellingsen, 2011).

3.3.1 Trade credit and SMEs

Trade credit has been examined in the existing literature as a source of finance for businesses (Smith, 1987; Lee and Stowe, 1993; Long, Malitz, and Ravid, 1993; Biais

and Gollier, 1997; Petersen and Rajan, 1997; Berger and Udell, 1998; Wilner, 2000; Winborg and Landström, 2001; Nilsen, 2002; Choi and Kim, 2005; Cuñat, 2007; Bosse and Arnold, 2010; Giannetti et al., 2011; Carbó-Valverde et al., 2012; Ogawa, Sterken, and Tokutsu, 2013). There is support for trade credit used in start-up businesses (Huyghebaert, 2006). Trade credit provides advantages over bank debt in terms of flexibility and cash-flow management (Lawless et al., 2015). Thus, trade credit management becomes very important for SMEs (Paul and Boden, 2011).

To demonstrate the importance of trade credit as a source of finance for SMEs, a sample of 15 studies have been selected in Table 3.2 across a wide range of countries (US, Belgium, Canary Islands, UK, Spain, Europe, Ireland). The 15 studies used secondary sources such as panel data, providing the advantage of large samples. The disadvantages include missing details, such as the outstanding time period for trade credit, matching suppliers of finance to customers, and identifying the businesses that were denied bank finance and thus resorted to trade credit. Four of the studies were in the US, where trade credit is an extremely important source of finance; three were in Spain, where businesses traditionally depend on banks, similar to Ireland. Four of the studies found trade credit to be in place of external finance (Cuñat, 2007; Carbó-Valverde et al., 2012; Casey and O'Toole, 2014; McGuinness and Hogan, 2014). In contrast, Garcia-Appendini and Montoriol-Garriga (2013) and Deloof and La Rocca (2015) found that trade credit and external debt are complements rather than substitutes. Overall, it is clear that trade credit is used as a method of finance.

Businesses in Ireland, the UK, the US and Canada are heavy users of trade credit relative to short-term debt (Demirgüç-Kunt and Maksimovic, 2001). Some research has focused on accounts payable (Huyghebaert, 2006; Rodríguez-Rodríguez, 2006; Huyghebaert, Van De Gucht and Van Hulle, 2007). Trade credit was found to account for nearly half of all short-term debt in two samples of medium-sized UK businesses and small US businesses (Cuñat, 2007). Spanish SMEs are very dependent on trade credit, as fewer external types of finance are available to them (García-Teruel and Martínez-Solano, 2010). Customers may also demand to buy on credit if the supplier is small, to give them time to clear the quality of the product purchased (Van Horen, 2007). Wilson and Summers (2002) looked at the different influences on trade credit granted by 500 micro businesses in the UK, and found that the size of the business directly affects access to finance and its bargaining strength

with its suppliers. Trade credit use is particularly important for small businesses as a source of funding (Cressy and Olofsson, 1997). Micro businesses, the focus of this study, will have less access to finance, and due to their size will purchase less from suppliers, so their bargaining strength will be less than that of their SME counterparts. This implies that micro businesses are unlikely to rely on trade credit as a main source of finance.

3.3.2 Trade credit and bank finance

There is mixed evidence as to whether trade credit is used as a substitute for bank finance. Theoretical support for this substitution effect has been found in some studies (Wilner, 2000; Cuñat, 2007). Empirical support has also been found for this substitution effect (Petersen and Rajan, 1997; Danielson and Scott, 2004). When studying businesses in the US, Petersen and Rajan (1994) found that businesses that are not bank-constrained rely less on trade credit. This could be explained by the fact that cash discounts for early payments are offered more frequently by US businesses, and UK businesses are much more likely than US businesses to impose conditions in trade credit contracts, such as title retention and third-party guarantees (Pike, Nam Sang, Cravens and Lamminmaki, 2005). Credit-constrained SMEs were found to depend on trade credit but not bank loans to finance expenditure, and dependency increased during times of financial crisis (Carbó-Valverde et al., 2012).

Financially constrained businesses use trade credit as a vital source of finance with agreement of suppliers when traditional bank finance is restricted (Petersen and Rajan, 1997; Choi and Kim, 2005; Huyghebaert, 2006; Rodríguez-Rodríguez, 2006; Cuňat, 2007), and their dependence increases during a financial crisis, particularly for financially vulnerable SMEs (Carbó-Valverde et al., 2012). As time goes on, established businesses' relationships will develop and suppliers will begin to trust customers. Businesses that are credit-constrained, due to lack of banking finance, resort to trade credit more (Biais and Gollier, 1997; Petersen and Rajan, 1997; Berger and Udell, 1998; Nilsen, 2002; Atanasova and Wilson, 2003; Choi and Kim, 2005; Giannotti and Bussoli, 2011). Researchers in Spain studied 4,076 Spanish SMEs from 2001 to 2005 (Baños-Caballero, García-Teruel and Martínez-Solano, 2010) and found that businesses with larger cash flows and lower leverage had higher cash conversion cycles. They also found that SMEs pursued a target cash

conversion cycle. They found that dependency on trade creditors increased during the financial crisis, with less reliance on bank loans. In a follow-up study on SMEs in financial distress, working capital management and the use of trade credit played a significant role in sustaining sales and profitability in Spanish SMEs (Baños-Caballero et al., 2012).

Other studies found support contrary to the substitution effect during the banking crisis. These studies indicated that small illiquid businesses pass liquidity shocks to their suppliers, thus leading to reduced trade credit (Love and Zaida, 2010). Love and Zaidi (2010) examined trade credit behaviour in SMEs in Thailand, Korea, the Philippines and Indonesia before and after the 1998 financial crisis. They found that businesses with less access to bank finance simultaneously obtained less trade credit and reduced the credit they offered their own customers. Love, Preve and Sarria-Allende (2007) studied the Asian crisis and its impact on large, publicly listed businesses and found that less trade credit was extended to customers by financially weaker businesses after the financial crisis. Choi and Kim (2005) suggest that when there is a monetary contraction, banks reduce their lending to smaller businesses, and large US businesses often refrain from extending trade credit to small businesses.

In 2013 and 2014, Ireland was no longer in financial crisis and was in a period of growth. It has already been demonstrated that Irish MSMEs were reluctant to borrow, were deleveraging and had increased their usage of trade credit and retained earnings in their businesses.

3.4 Customer credit

Little work has been done in Europe to assess the role of customer credit rather than supplier credit (Cressy and Olofsson, 1997). Customer credit is known as trade receivables and arises when a business sells goods or services on credit and waits to get paid.

Table 3.2 The importance of trade credit

Reference	Source	Sample	Country	Size	Findings
Petersen & Rajan, 1997	Database	3,404	US	Small	Businesses use more trade credit when credit from financial institutions is limited.
Choi and Kim, 2005	Compustat	659/690	US	Medium	Tighter monetary policy due to economic shocks lead to increased accounts payable and receivable.
Huyghebaert, 2006	Annual accounts	652	Belgium	Start-ups	When entrepreneurs own the majority shareholding in the business, trade credit is used more. Businesses rely more on trade credit if they are financially constrained.
Rodríguez-Rodríguez, 2006	Database	71	Canary Islands	SMEs	Trade creditors are used more by businesses that cannot access traditional finance types.
Cuňat, 2007	FAME database	39,500 /3000	UK and US	SMEs	Suppliers lend when banks will not. Trade credit accounts for half of the short-term debt.
Love et al., 2007	Worldscope database	890	Mixed	Large PLCs	Businesses cannot extend trade credit if their external finance is restricted.
Carbó-Valverde et al., 2009	Bureau van Dijk database	30,897	Spain	SMEs	Concentrated bank markets increase businesses' financial constraints.
Giannetti et al., 2011	National survey	3,489	US	< 500 staff	Trade credit is related to the produce traded and bank relationships. Businesses that use trade credit borrow from a large number of banks.

Table 3.2 The importance of trade credit (cont.)

Reference	Source	Sample	Country	Size	Findings
Carbó-Valverde et al., 2012	Bureau van Dijk database	40,000	Spain	SMEs	If SMEs are short of finance, they depend on trade credit, particularly during a financial crisis.
Garcia-Appendini & Montoriol-Garriga., 2013	Compustat database	19,432	US	SMEs	Financial-constrained businesses increased their reliance on trade credit, which provided an alternative source of finance complementary to bank loans.
Vermoesen et al., 2013	Bureau van Dijk database	2,354	Belgium and Lux.	SMEs	The global financial crisis led to a decrease in credit supplied. This reduced bank finance available to SMEs and limited their ability to finance investments.
Casey & O'Toole, 2014	SAFE	5,800	Europe	SMEs	Credit-rationed businesses and those that fail to secure bank finance use trade credit. Informal and intercompany loans also substitute for bank finance.
Martínez-Sola, García-Teruel and Martínez-Solano, 2014	Bureau van Dijk database	11,337	Spain	SMEs	Providing extra trade credit to customers can improve business profitability.
McGuinness & Hogan, 2014	Amadeus database	7,600	Ireland	SMEs	Bank finance was substituted by trade credit over the period of financial crisis by financially vulnerable SMEs.
Deloof & La Rocca, 2015	Bureau van Dijk database	14,662	Italy/Europe	SMEs	Trade credit acts as a complement to formal finance.

Customer credit is the other side of trade payables and part of working capital management. If monies received in take longer than monies paid out, funding gaps arise (Paul and Boden, 2014). Managing payments from customers has been examined as part of bootstrapping in the entrepreneurship literature. Managing trade receivables is part of working capital management and has been examined as such in the finance and financial management literature. Both issues are discussed below.

3.5 Bootstrapping and working capital management

Empirical research has shown the importance of bootstrapping as a method of finance for businesses (Boussouara and Deakins, 1999; Winborg and Landström, 2001; Barker, 2002; Carpenter and Petersen, 2002; Harrison et al., 2004; Carter and Van Auken, 2005; Ebben and Johnson, 2006; Ebben, 2009; Winborg, 2009; Jones and Jayawarna, 2010; Lam, 2010; Tomory, 2011). While bootstrapping studies to date have not specifically referred to trade receivables management, they have examined methods of bootstrapping such as offering customers the opportunity to pay online, selecting customers who pay on time, offering customers discounts if they pay in cash, and obtaining payment in advance from customers, which are all components of trade receivables management.

Table 3.3 illustrates the components that typically fall within customer-related bootstrapping. Prior research on factor analysis has led to the identification of four categories of bootstrapping: customer-related, delaying payments, owner-related and joint utilisation.

Table 3.3 Customer-related bootstrapping

Offered customers opportunity to pay online by credit card
Invoice issued immediately when order placed
Full payment required at point of order
Charged customers interest on overdue accounts
Ceased relationships with late-paying customers
Offered same conditions to all customers
Selected customers who paid on time
Offered customers discounts if they paid cash
Obtained payment in advance from customers

Table 3.4 outlines these four factors for bootstrapping and the components of each category. Delaying payments includes managing the timing of payments to suppliers (trade payables management). Customer-related bootstrapping includes taking steps to speed up payments from customers (trade receivables management). The timing of these payments forms part of cash management.

Cash management can be improved by ensuring payment is received quickly from customers, for example by offering discounts for quick payments, issuing invoices promptly after sale, taking a deposit at the time of order, and allowing customers to pay online.

Minimising credit offered to customers and setting strict payment terms can help. Another method of bootstrapping is minimising capital invested in stock (inventory management). These are all components of working capital management found in bootstrapping methods. Prior studies have not directly related working capital management to bootstrapping; however, Winborg (2000) did classify financial bootstrapping methods based on how each influenced the financial flows in the business.

Winborg (2000) identified four methods of financial flows: minimising the outflow of financial means, delaying the outflow, completely eliminating the outflow, and speeding up the inflow of financial means. All four relate to managing cash and are part of cash management. Internal resources can be used more effectively with strong financial management, in particular, cash management. Working capital management has not been directly linked to bootstrapping, but as Table 3.5 shows, elements of it have already been identified in prior research on bootstrapping. In studies of bootstrapping, speeding up collections and delaying payments to suppliers were identified by business owners as methods that reduced the need for outside debt and equity (Winborg and Landström, 2001: Ebben and Johnson, 2006; Jones at al., 2010; Grichnik et al., 2014). Business owners are often reactive in managing the cash conversion cycle when they should be proactive (Ebben and Johnson, 2011). Orobia, Byabashaija, Munene, Sejjaaka and Musinguzi (2013) interviewed ten owner/managers and found that business owners intuitively plan, monitor and control working capital.

Table 3.4 The four bootstrapping factors and methods

Bootstrapping methods
Owner-related bootstrapping
Owner's personal credit card for business
Loans from family and friends
Owner's salary was withheld
Owner worked elsewhere to fund the business
Delaying payments bootstrapping
Business deliberately delayed paying suppliers
Business deliberately delayed paying VAT
Business deliberately delayed paying taxes to Revenue
Better conditions were negotiated with suppliers
Goods were bought on consignment from suppliers
Assets were leased instead of bought
Capital was raised from a factoring company
Invoice financing was used
Customer-related bootstrapping
Offered customers opportunity to pay online using credit
Charged customers interest on overdue accounts
Ceased relationships with late-paying customers
Offered the same conditions to all customers
Selected customers who paid on time
Obtained payments in advance from customers
Offered customers discounts if they paid cash
Full payment required at the point of order
Invoice issued immediately when order placed
Joint utilisation bootstrapping
Bought equipment with others
Shared premises with others
Shared employees with other businesses
Shared equipment with other businesses
Borrowed equipment from other businesses
Purchases were coordinated with other businesses
Employed relatives/friends at below market rate
Minimised capital invested in stock
Bought used equipment instead of new
Bartered instead of buying/selling goods/services

These findings from bootstrapping literature – that as a business ages, owner-related payments, joint utilisation and delaying-payments bootstrapping are reduced while customer-related bootstrapping increases (Ebben and Johnson, 2006; Ebben, 2009) – suggest that bootstrapping is the management of internal resources. As a business becomes more established, relationships with customers are strengthened and the business can improve collection periods, reducing the need for owner-related funding.

Table 3.5 Evidence of working capital management components within bootstrapping

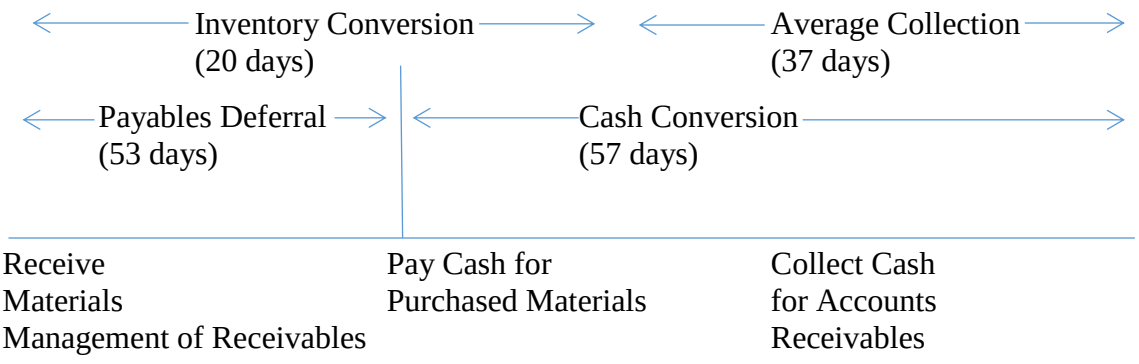
Factors	Winborg & Landström (2001)	Ebben & Johnson (2006)	Jones & Jayawarna (2010)	Grichnik et al. (2014)
Accounts Receivables				
Cease business relations with late payers	X	X		X
Use routines for speeding up	X	X	X	X
Use interest on overdue accounts	X	X		X
Offer the same conditions to all customers	X			
Offer customer discounts if paying cash	X	X	X	X
Choose customers who pay quickly	X	X		X
Obtain advance payments		X	X	X
Delaying payments				
Delay payment to suppliers	X	X	X	X
Best conditions negotiated with suppliers	X		X	X
Minimise inventory				
Use routines to minimise stock	X			

3.6 The cash conversion cycle and working capital management

Financial management from an accounting perspective involves managing a business's resources, including cash management. Working capital management is a key component of financial management. Poor liquidity and financial management by owner/managers are the main causes of SME problems (Jindrichovska, 2013). Cash is the lifeblood of a business, and liquidity is essential to survival. Short-term cash management consists of three elements: (1) cash budgeting, (2) investing temporary cash surpluses, and (3) controlling cash inflows and outflows (Cooley and

Pullen, 1979). Working capital is the result of the time lag between paying for purchases and collecting money from the sale of the final product. The efficiency of working capital management is based on speeding up cash collections and slowing down cash payments (Enqvist, Graham and Nikkinen, 2014). The most crucial issue in working capital management is the efficient management of cash, accounts receivable, accounts payable and inventories. The aim is to achieve an optimal balance for each, because how working capital is managed can affect a business's profitability and risk (Baños-Caballero et al., 2012). Prior research on financial management focuses primarily on new and small businesses (Brinckmann, Salomo and Gemuenden, 2011). Existing literature highlights the importance of acquiring financial resources (Watson and Wilson, 2002; Shane and Cable, 2002), while other financial management activities, such as financial planning and financial controlling, have received little attention (Brinckmann et al., 2011). The flow of cash from suppliers to inventory to accounts receivable and then cash is referred to as the cash conversion cycle (Shin and Soenen, 1998). The cash conversion cycle reflects the length of time between the start of the production process, when cash leaves a business, and the sale of the final product, when cash comes back into the business (days inventories + days receivables – days payable). If, for example, a business buys raw materials and has to pay for them in 53 days, it uses this material to make a product to sell, and this takes 20 days. The product is then sold and payment is received in 37 days. This gives a cash conversion cycle of four days, which means that from its initial outlay of cash, it takes the business four days to receive cash from customers to buy materials. Figure 3.1 illustrates the cycle.

Figure 3.1 Cash conversion cycle



Source: Jindrichovska (2013, p.90), adapted from Brigham & Houston (2010, p.496)

If a business owner wanted to improve the cash conversion cycle, they could, for example, get customers to pay two days earlier, reducing the cash conversion cycle to two days; or they could take three days longer to pay trade payables, reducing the cash conversion cycle to one day.

Business owners need to understand the importance of trade payables and trade receivables management in this cycle. The cash conversion cycle is a measure of working capital management. The shorter the cash conversion cycle, the less finance is needed (McLaney and Atrill, 2014). Businesses that manage their working capital more efficiently can finance a greater portion of their operation via payables, thus reducing the need for outside finance (Richards and Laughlin, 1980).

Existing finance literature supports the importance of cash conversion cycle management and its impact on profitability (e.g. Lazaridis and Tryfonidis, 2006; García-Teruel and Martínez-Solano, 2007; Gill, Biger and Mathur, 2010; Abuzayed, 2012; Kubíčková and Souček, 2013; Tauringana and Afrifa, 2013; Enqvist et al., 2014; Yazdanfar and Öhman, 2014). Raheman and Nasr (2007) investigated the impact of the cash conversion cycle and its components (receivable days, payable days, and inventory days) on businesses' net operating profit. Similar studies were undertaken by other researchers (Lazaridis and Tryfonidis, 2006; García-Teruel and Martínez-Solano, 2007; Gill et al., 2010; Abuzayed, 2012; Kubíčková and Souček, 2013; Tauringana and Afrifa, 2013; Enqvist et al., 2014).

In a sample of small Spanish businesses, García-Teruel and Martínez-Solano (2007) found that reducing the inventory days and days receivable shortened the cash conversion cycle and had a positive impact on return on assets. If the cycle is managed correctly, and accounts receivable are kept at an optimal level, profits can increase (Gill et al., 2010). Deloof (2003) examined a sample of 1,009 large Belgian non-financial businesses for the period 1992–1996. Shin and Soenen (1998) examined 58,985 business years covering 1974–1994, and based on their findings suggested that reducing the cash conversion cycle can increase shareholder value, and that managers can increase corporate profitability by reducing the numbers of accounts receivable days and inventory days. Lazaridis and Tryfonidis (2006) examined 131 businesses listed on the Athens Stock Exchange for the period 2001–2004, and suggested that managing the three components of the cash conversion

cycle – accounts payable, accounts receivable and inventory – can enhance profits. Enqvist et al. (2014) examined the impact of the role of business cycles on the working capital–profitability relationship of Finnish listed companies over 18 years, 1990–2008. Enqvist et al. (2014) found that efficient inventory management and accounts receivable increased during periods of economic downturns, and they suggested that active working capital management should be included in financial planning. Effective management of working capital improves profitability (Tauringana and Afrifa, 2013).

The above studies highlight the importance of working capital management in businesses, but they assume a well-established and sophisticated reporting framework characterised by consistent reporting and repeated inputs and outputs, which for many MSMEs is not the case. Small businesses by their nature have limited staff and a lack of separation of ownership and management. Management of the business revolves around the owner (D'Amboise and Muldowney, 1988; Beaver, 2003). Efficient management of the cash conversion cycle can lead to increased profitability (García-Teruel and Martínez-Solano, 2007; Gill et al., 2010; Yazdanfar and Öhman, 2014). Owners have been found to be reactive in managing their cash conversion cycle (Ebben and Johnson, 2011). Orobia et al. (2013) suggest that owners/managers manage working capital intuitively in the absence of formal structures and procedures.

The financial management literature is replete with studies based on the use of financial reports to investigate business performance and growth (e.g. Thomas and Evanson, 1987; McMahon and Davies, 1994; McMahon, 2001; Lazaridis and Tryfonidis, 2006; Samiloglu and Demirgunes, 2008; García-Teruel and Martínez-Solano, 2007; Sian and Roberts, 2009). There is mixed evidence on the impact of financial management on performance, with some studies finding that undertaking comprehensive financial reporting and ratio analysis did not lead to growth in business performance (Thomas and Evanson, 1987; McMahon and Davies, 1994). However, McMahon (2001) found that improved financial reporting can lead to more efficient management in SMEs. It would be expected that business owners use their accounts to help them make decisions on the strategic operation of their businesses.

Literature on established businesses provides more comprehensive financial management concepts (Brinckmann et al., 2011). If MSME owners decide to rely mainly on their own abilities, then it is important that these are sufficient to operate the business effectively. Basic management skills need to be taught to entrepreneurs (Pansiri and Temtime, 2008), because owner/manager capabilities in financial management can influence an SME's chance of success (Mbogo, 2011). Cost control improves SME performance if venture capitalists provide service activities (Wijbenga, Postma, and Stratling, 2007). Cash budgets are imperative (Moore and Reichert, 1983). Experienced entrepreneurs highlight the importance of financing from operations by quick sales, limited fixed costs, and positive cash flow (Chow and Fung, 2000; Baron and Ensley, 2006). Four financial management tasks are needed: (1) strategic financial management; (2) financing through non-operations; (3) financing through operations; and (4) financial controlling (Brinckmann et al., 2011). In many MSMEs the financial controller role will be filled by the owner due to limited staff, so financial competence is needed. Competence is defined similarly to Brinckmann et al. (2011) as a fit between what a task requires and a person's ability to complete it (Chandler and Hanks, 1994; Man, Lau and Chan, 2001). Managing financial resources to achieve a business's objectives is financial management competence (Brinckmann et al., 2011). Some scholars believe strategic planning is important for the success of new ventures (Delmar and Shane, 2003), while others challenge this view (Bhide, 1992). A team that has competence in financial management (e.g., securing external finance and financing through operations) has a positive impact on business growth (Brinckmann et al., 2011). Collaboration with local suppliers has been found to have a strong positive relationship with profitability growth (Robson and Bennett, 2000).

Being proactive in business can help an entrepreneur to foresee liquidity problems and pose solutions before they are needed. The most frequently used sources of general information in small businesses are periodic management accounts, cash-flow information, and bank statements (Collis and Jarvis, 2002), which all focus on cash management: the lifeblood of a business. Working capital management is a very important component of financial management (Shin and Soenen, 1998; Deloof, 2003). Working capital in the finance and financial management literature has mainly been explored from the cash conversion side. As we have seen, bootstrapping

has been found to include components of working capital management: delaying paying suppliers, managing inventory and getting customers to pay early, which has been explored from the funding side. The next section will explore the framing and positioning of this study within the finance and financial management literature and will demonstrate the overlap between methods of bootstrapping and components of the cash conversion cycle.

3.7 Framing and positioning of this research within the finance and financial management literature

Table 3.6 outlines how this research is positioned within the finance and financial management literature. The financial management literature examines working capital management using the cash conversion cycle as a measure. This cycle comprises trade receivables days (customers) + inventory days – trade payable days (suppliers). The cash conversion cycle examines the movement of cash in a business and how quickly cash frees up. Accounting training and practice are governed by rules. Generally accepted accounting principles (GAAP) refers to the standard set of guidelines used by accountants worldwide. It includes all rules and regulations which govern accounting from whatever source, such as local/national country legislation, national and international accounting standards, statutory requirements in countries and stock exchange requirements (Irish Taxations Institute, 2013). The most common GAAP worldwide is the International Financial Reporting Standards (IFRSs), issued by the International Accounting Standards Board (IASB) (Irish Taxation Institute, 2013). Before the IASB was formed, International Accounting Standards (IAS) were issued by the International Accounting Standards Committee (IASC), and these remain in force until an IFRS replaces each IAS.

Preparation of all accounts by accountants is done in line with rules set by the IASs and the IFRSs. For example, IAS 1 Presentation of Financial Statement explains the presentation of financial statements to ensure comparability with other years and other businesses. This is where accountants use ratios after the financial statements have been prepared. It is no surprise that when accountants are researching working capital management, they rely mainly on their training and use ratios such as those that form part of the cash conversion cycle.

Table 3.6 Research framing and reconciling bootstrapping within the finance and financial management literature

	Bootstrapping	**Working Capital Management**
Research Paradigm and Focus	Entrepreneurship Funding and resource management **SME funding** Bank lending to SMEs Funding constraints and decisions in SMEs re internal, debt and equity	Accounting/Financial management Professional practices Accounting standards Financial skills **Financial management** Cash management
Key Topics	Funding for nascent entrepreneurs Funding for micro businesses Practices and routines reported by owners to manage finances in the business - Customer-related bootstrapping - Delaying payments bootstrapping - Minimising inventory - Good management of bootstrapping reduces need for outside debt	Working capital management practices Cash conversion cycle - Trade receivable days - Trade payable days - Inventory days Good management of the cash conversion cycle reduces the need for outside debt Impact on working capital management and profitability
Data and methodology	Analysis of primary data – surveys **Factor analysis** - Customer-related bootstrapping - Delaying payment bootstrapping - Owner-related bootstrapping - Joint utilisation bootstrapping	Analysis of secondary data – financial accounts **Ratio analysis** Trade receivable days + Inventory days – Trade payable days

The finance literature also examines cash conversion and trade credit as means of financing businesses. The bootstrapping literature examines customer-related bootstrapping, delaying payments bootstrapping (suppliers) and minimising inventory as means of financing businesses. These are the components of the cash conversion cycle but to date have not been identified as such. Each field – finance, accounting and entrepreneurship – has examined the same concept (working capital management) but in different ways. No researchers on bootstrapping considered that bootstrapping might be a practice born of financial management, namely working capital management.

Perhaps this is because prior researchers in this field have a background in entrepreneurship (e.g., Jay J. Ebben, Richard Harrison, Dilani Jayawarna, Ossie Jones, Lynn Neeley, Joakim Winborg), business administration (Hans Landström, Howard Van Auken) and would not consider bootstrapping as part of financial management. This researcher has 18 years' experience with MSMEs as an accountant and business adviser/trainer. If a relationship is established between the entrepreneurship concept of bootstrapping and the cash conversion cycle in the finance literature, then bootstrapping needs to be positioned in the finance and financial management literature. Examining the different usage of and motives for bootstrapping among different business sizes will add to the bootstrapping literature. The next section will examine the motives for the use of bootstrapping.

Existing accounting research has examined the components of the cash conversion cycle using ratios to provide an answer in days, which is a measure of working capital. Ratios are usually used when there are hypotheses about numerator variables (cash conversion cycle days) and the denominator size variable (profitability). Entrepreneurship literature on bootstrapping examines the components and usage of each element of the cash conversion cycle. The focus of the entrepreneurship literature to date has been on factor analysis to identify the most commonly used methods of bootstrapping. Factor analysis measures the impact of unobserved variables on a large number of observed variables. The purpose of factor analysis is to reduce many individual items to a smaller number of dimensions. By using a data reduction method it can uncover and establish the cause-and-effect relationship between variables or confirm hypotheses. Factor analysis is possible for the methods of bootstrapping to reduce them to factors that align with the methods of the cash

conversion cycle descriptively rather than numerically. The analysis is derived from surveys of owners' behaviour, while accounting literature focuses on the analysis of accounting material.

A fundamental difference in the measurement of working capital management between the accounting and an entrepreneurial lens is that the accounting lens has studied working capital management by using the cash conversion cycle (ratios). The entrepreneurial lens has studied bootstrapping from the methods that make up bootstrapping, and literature in this field has suggested methods that can help improve customer-related bootstrapping in order to get customers to pay more quickly. By highlighting to business owners exact steps that can be taken to improve trade receivables and trade payables (supplier-related) and inventory days, bootstrapping can provide a step-by-step guide for each component of the cash conversion cycle. This led to the following research question: *Are the factors for bootstrapping as articulated in the entrepreneurship literature related to the components of the cash conversion cycle in the finance and financial management literature?*

Bootstrapping routines have been found to provide stability and can demonstrate to external financial providers that entrepreneurs act prudently with money (Patel, Fiet and Sohl, 2011). Grichnik and Singh (2010) found resource bootstrapping to be a choice by the individual and not a forced reaction. Mac An Bhaird and Lynn (2015) found bootstrapping to be an essential resource-management strategy for the growth and survival of computer software companies. Using a strategic approach suggests a resource management angle, while using an accounting lens implies a link between bootstrapping and financial management – a relationship this study seeks to clarify. Neeley and Van Auken (2012) found that most techniques of bootstrapping used were to enhance cash flow. Of the top five techniques used, three were customer-related (invoicing customers promptly, stopping sales to late-paying customers, and giving preference to early-paying customers) (Neeley and Van Auken, 2012). These are all components of working capital management.

The role of bootstrapping in working capital and financial management merits further attention. A systematic literature review on "bootstrapping and working capital" in the Business Source Complete database from 1984 to 2016, a period of 33

years, produced no results. Similarly, no articles were found for searches using the string “bootstrapping and the cash conversion cycle”. The second string, “bootstrapping and financial management”, produced one result: Winborg (2009). Winborg (2009) redefined bootstrapping to be financial bootstrapping as “methods of securing resources at low or no cost” (p.72). Winborg (2009) makes no direct connection between financial management and bootstrapping in the article. The current research explores bootstrapping using the entrepreneurial lens. The reason for this approach is that the researcher wanted to survey business owners directly and to look at extending the definition of bootstrapping, bridging the current knowledge gap between the entrepreneurship literature and the finance and financial management literature.

3.8 Conclusion

Financing in MSMEs in Ireland has moved from a majority of bank funding (European Commission, 2005) to a deleveraging at -22 percent in 2013 (SAFE, 2014) and to an increase in the use of trade credit (SAFE, 2014, 2015). This signifies a move from external funding to internal funding and is a deliberate decision taken by business owners. Financial flows have been discussed in relation to bootstrapping (Winborg, 2000). If bootstrapping is related to the cash conversion cycle and is a deliberate practice, then it must be positioned in the finance and financial management literature and not just the entrepreneurship literature. There is evidence that bootstrapping is resource management (Mac An Bhaird and Lynn, 2015). Bootstrapping has been found to include delaying payments to suppliers, speeding up customer payments, managing inventories and managing resources (Winborg and Landström, 2001; Brush et al., 2006; Ebben and Johnson, 2006). It is posited that bootstrapping is more than a response to a capital constraint but is also a deliberate practice used by MSMEs. This study will conduct factor analysis to determine the factors for bootstrapping in MSMEs. Despite increased academic research on bootstrapping, researchers have identified the lack of a concise definition (Grichnik and Singh, 2010; Rutherford et al., 2012; Mac An Bhaird and Lynn, 2015). The next chapter will seek to define bootstrapping and to identify the motives for its use.

Chapter 4 Bootstrapping and motives for its use

4.1 Introduction

Bootstrapping has been defined in prior studies as acquiring resources without using traditional types of funding, such as bank lending or equity (Winborg and Landström, 2001; Carter and Van Auken, 2005; Lahm and Little, 2005; Brush et al., 2006; Ebben and Johnson, 2006; Ebben, 2009; Grichnik et al., 2014; Malmstrom, 2014; Jayawarna et al., 2015; Winborg, 2015). The focus of this thesis is to examine the practice of bootstrapping in MSMEs. Specifically the thesis seeks to identify a relationship between bootstrapping in the entrepreneurship literature and the cash conversion cycle in the finance and financial management literature. It also seeks to identify the motives for using bootstrapping and the differences in the use of bootstrapping between business sizes. This research will clarify what bootstrapping is.

4.2 Bootstrapping definition

There is consensus among scholars that the vast majority of businesses, whether new or established, use bootstrapping to some extent (Winborg and Landström, 2001; Harrison et al., 2004). Its importance as a source of finance is well established (Van Auken and Neeley, 1996; Bhide, 1992; Ebben and Johnson, 2006; Ebben, 2009; Atherton, 2012). Despite increased academic research on bootstrapping, there is no concise definition (Grichnik and Singh, 2010; Rutherford et al., 2012; Mac An Bhaird and Lynn, 2015). In 21 of the studies detailed in Table 4.1, bootstrapping is defined as acquiring resources without using traditional types of funding such as bank lending or equity (Freear and Wetzel Jr., 1990; Bhide, 1992; Van Auken and Neeley, 1996; Winborg and Landström, 2001; Harrison et al., 2004; Carter and Van Auken, 2005; Lahm and Little, 2005; Ebben and Johnson, 2006; Brush et al., 2006; Ebben, 2009; Winborg, 2009; Jones and Jayawarna, 2010; Jayawarna et al., 2011; Vanacker et al., 2011; Atherton, 2012; Neeley and Van Auken, 2012; Rutherford et al., 2012; Grichnik et al., 2014; Malmstrom, 2014; Jayawarna et al., 2015; Winborg, 2015). The definition of bootstrapping used in this study is derived from analysis of the 23 studies on the subject (see Table 4.1) and is: acquiring resources without using traditional types of funding such as bank lending or equity.

Table 4.1 Bootstrapping definitions

Reference	Theory	Bootstrapping Definitions
Freear & Wetzel Jr., 1990	N/A	Bootstrapping is "highly creative ways of acquiring the use of resources without borrowing money or raising equity financing from traditional sources." (p.102)
Bhide, 1992	N/A	"Bootstrapping is launching ventures with modest personal funds." (p.110)
Van Auken & Neeley, 1996	RD	"Bootstrap financing is defined as capital acquired from sources other than traditional providers of capital." (p.2)
Winborg & Landström, 2001	RD	"Financial bootstrapping refers to the use of methods to meet the need for resources, without relying on long-term external finance." (p.238)
Harrison et al., 2004	RD	"Bootstrapping involves imaginative and parsimonious strategies for marshalling and gaining control of resources." There are two forms: (1) Raising finance without banks or equity; (2) Gaining resources without the need for finance. (p.308)
Carter & Van Auken, 2005	FT	Bootstrapping is "financing methods other than traditional debt from financial institutions and personal equity". It includes delaying payments to suppliers and withholding owner's salary and sharing employees or equipment. (p.131)
Lahm & Little, 2005	N/A	"Bootstrapping…is the transformation of human capital into financial capital, personal savings, credit cards, loans from friends and family and other non-traditional forms of capital." (p.15)
Ebben & Johnson, 2006	OT	"…finding creative ways to avoid the need for external financing through reducing costs of operation, improving cash-flow or using financial sources internal to the company." (pp. 851–52)
Brush et al., 2006	PO	"…entrepreneurs generally use personal or internally generated funds, and then control costs and manage capital expenditures to achieve benchmarks…two forms: first, to minimize the need for financing by securing resources at little or no cost; and second, to creatively acquire resources without using bank financing or equity." (p.16) A definition part-combined of Freear and Wetzel Jr. (1990) and Harrison and Mason (2004).
Ebben, 2009	RD	"…small business owners devise methods to acquire essential resources that minimize the amount of outside debt and equity financing needed from banks and investors. Common techniques range from withholding owner's salary to bartering for goods and services." (p.347)
Winborg, 2009	RD	"…financial bootstrapping as methods for securing the use of resources at relatively low or no cost." (p.72)

Table 4.1 Bootstrapping definitions (cont.)

Reference	Theory	Bootstrapping Definitions
Grichnik & Singh, 2010	RD	Refers to research bootstrapping as opposed to financial bootstrapping: "Research bootstrapping is conceived of as a strategic approach implementable through diverse bootstrapping methods for entrepreneurs to acquire and manage a venture's resources to enable the pursuit of business opportunities where conventional approaches would instead discourage them." (p.7)
Jones & Jayawarna, 2010	RD	Used Harrison, Mason and Girling's (2004) definition.
Jayawarna et al., 2011	RD	Used Carter and Van Auken's (2005) definition.
Patel et al., 2011	RD	"Bootstrapping consists of a set of processes through which entrepreneurs find resources, increase resource efficiency and minimize explicit costs." (p.421)
Vanacker et al., 2011	RD	"Bootstrap strategies take two interrelated forms…strategies that minimize the need for cash by securing resources at little or no cost. Second, strategies to acquire resources without using bank finance or outside equity finance." (p.682)
Atherton, 2012	OFT	Defined bootstrapping as a funding other than acquired from personal savings or external debt and equity. (p.31)
Neeley & Van Auken, 2012	RD	Used Freear and Wetzel's (1990) definition.
Rutherford et al., 2012	RD/ST	Used Freear and Wetzel's (1990) definition.
Grichnik et al., 2014	RD	"Bootstrapping…an alternative resource management approach directed at avoiding market-based resource transactions." (p.312)
Malmstrom, 2014	RD	"Bootstrap financing activities are opportunities to develop the venture without taking on additional debt that may drain the venture's working capital and cash-flow." Aligns with definition by Freear and Wetzel Jr. (1990). (p.29)
Jayawarna et al., 2015	RD	"Bootstrapping – which denotes resource accrual through informal pathways." (p.316)
Winborg, 2015	RD	"Creative ways of acquiring the use of resources without long-term external finance." (p.1)

Codes: RD = Resource Dependency, ST = Signalling Theory, PO = Pecking Order Theory, OT = Organisational Theory, OFT = Other Finance Theories – Debt Equity Trade-Offs and Pecking Order.

For this study, bootstrapping is understood to be a practice that involves engaging in resource management. Five studies (Carter and Van Auken, 2005; Ebben and Johnson, 2006; Brush et al., 2006; Ebben, 2009; Jones and Jayawarna, 2010) used a

form of the questionnaire created by Winborg and Landström (2001) on the types of bootstrapping used. From these studies, two aspects emerged:

a) Accessing cash using non-traditional types of finances, such as private funding and reducing costs (Van Auken and Carter, 1989; Bhide, 1992; Winborg and Landström, 2001; Harrison et al., 2004; Carter and Van Auken, 2005; Brush et al., 2006; Ebben and Johnson, 2006; Atherton, 2012).

b) Managing existing resources to reduce the need for finance (Winborg and Landström 2001; Harrison et al., 2004; Ebben and Johnson, 2006; Ebben, 2009; Bosse and Arnold, 2010; Jones and Jayawarna, 2010; Neeley and Van Auken, 2012).

Bootstrapping methods have been clearly identified in the literature (Freear and Wetzel Jr., 1990; Winborg and Landström, 2001; Ebben, 2009; Grichnik and Singh, 2010; Neeley and Van Auken, 2012; Winborg, 2015), and the usage of various types at different stages of the business life cycle has also been established (Brush et al., 2006; Ebben and Johnson, 2006; Mac An Bhaird and Lynn, 2015).

4.3 Bootstrapping factors

While there is no commonly agreed and accepted definition of bootstrapping, there are accepted commonly used techniques for it (Mac An Bhaird and Lynn, 2015). Winborg and Landström (2001) gathered qualitative and quantitative data from small Swedish businesses to identify the 25 most commonly used bootstrapping methods. The factors developed in this seminal study have been used in five key studies in the field. The researchers started the factor analysis from all 32 variables, eliminating the variable "obtain subsidy from the foundation Innovationscentrum" before analysis, as it was not used by any of the businesses. Variables were reduced on the basis of each one's correlation with other variables, eliminating one variable at a time. Variables showing no correlation (< 0.2) with any other variable were excluded.

Winborg and Landström (2001) excluded the following variables in the final factor solution: "obtain subsidy from County Labour Board", "buy on consignment from suppliers", "run the business completely in the home", "buy used equipment instead of new", "hire personnel instead of employing permanently", and "obtain payment in advance from customers". After applying statistical techniques, these were grouped

into six clusters: delaying bootstrappers, relationship-oriented bootstrappers, subsidy-oriented bootstrappers, minimising bootstrappers, non-bootstrappers, and private owner finance bootstrappers. Five studies on bootstrapping are outlined in Table 4.2, demonstrating the factors that the studies found. Winborg and Landström (2001) found two of the six factors for bootstrapping to be accounts receivable and delaying payments. Ebben and Johnson (2006) used a survey adopted from Winborg and Landström (2001) and found similar types of bootstrapping used by US businesses, including customer-related methods, delaying payments and owner-related financing and resources, and finally joint utilisation resources with other businesses. Ebben and Johnson (2006) also found that customer-related bootstrapping and delaying payments increase over time, whereas joint utilisation and owner-related bootstrapping have the opposite effect. This could in part be due to working capital management and in particular the management of trade receivables and trade payables, which are part of the cash conversion cycle. Perhaps as businesses became more established, their owners' experience enabled them to make these decisions. Ebben and Johnson's study involved asking respondents to recall bootstrapping used "early in the life of the business" versus "currently used", which allowed them to track any changes in bootstrapping over the businesses' life cycles. This was a limitation in the study, as the mean age of the responding businesses was 14 years, meaning businesses had to recall bootstrapping methods a decade after their occurrence.

These bootstrapping factors all include methods of finance, owner-related finance, delaying paying suppliers, getting customers to pay early, and sharing resources. Using Winborg and Landström's (2001) 25 bootstrapping methods, Ebben and Johnson (2006) conducted principal components analysis with varimax rotation to verify Winborg and Landström's grouping of bootstrapping methods into the four categories related to the propositions in their paper (customer-related, delaying payments, owner-related, and joint utilisation). They found that owner-related methods and delaying payments methods loaded on a single factor, while joint utilisation methods and customer-related methods loaded on separate factors. Both studies were based on well-established small businesses. Customer-related bootstrapping increased (38.4%) or stayed the same (39.1%), and delaying payments decreased (55.6%) or stayed consistent (28.9%). Owner-related methods decreased

(65%) or stayed the same (27%), and joint utilisation decreased (47.2%) or was maintained (33.3%). In effect, customer-related bootstrapping was the only method that increased over time as relationships developed and perhaps as business owners became more adept at working capital management, especially cash management. More specifically, Ebben and Johnson (2006) found that speeding up overdue invoices, charging interest on overdue payments, and ceasing business with late payers were prevalent.

Ebben (2009) found three bootstrapping factors: owner-related methods, customer-related methods and delaying payments, and sharing of resources with other businesses. Ebben (2009) examined SMEs with a mean age of 38 years in the US between 2002 and 2004. Negotiating payment conditions was the main reported delayed-payment method that increased over time. Jones and Jayawarna (2010) found factors for owner-related, joint utilisation and payments-related bootstrapping for new businesses. Jones and Jayawarna (2010) found three factors: payment-related, joint utilisation, and owner-related.

Neeley and Van Auken (2012), examining SMEs in the US, found three of the five most frequently used bootstrapping methods related to managing receivables: invoice customers promptly (96%), stop selling to late-paying customers (76.2%), and give preference to early-paying customers (71.8%); the remaining two were buying second-hand equipment (77%) and minimising inventories (76.2%). These were all components of working capital management and part of the cash conversion cycle, though not identified as such in the research paper. Bootstrapping studies have typically focused on new ventures (Winborg and Landström, 2001; Neeley and Van Auken, 2012), incumbent small businesses (Ebben and Johnson, 2006), or new businesses in deprived areas (Jones and Jayawarna, 2010). The context of Grichnik et al.'s (2014) study is nascent ventures. Grichnik et al. found four factors: customer-related, joint utilisation, self-financing, and temporary resources. Temporary resource utilisation was new (Grichnik et al., 2014) but may reflect the fact that businesses being examined were nascent businesses. These factors have similar components to those in Winborg and Landström (2001) and Ebben and Johnson (2006).

Table 4.2 Bootstrapping factors

Researchers	Country	Method	Question	Analysis	Reason	Findings
Winborg and Landström (2001)	Sweden	Unstructured interviews followed by 262 surveys. Response rate 30%.	To understand bootstrapping.	Exploratory factor analysis and cluster analysis	Due to the limited knowledge on bootstrapping.	32 variables reduced to 25. Grouped into six clusters: (1) owner-provided financing and resources, (2) accounts receivable management methods, (3) sharing or borrowing of resources from other businesses, (4) delaying payments, (5) minimization of resources invested in stock through formal routines, and (6) use of government subsidies.
Ebben and Johnson (2006)	US	146 surveys. Response rate 28%.	To examine if bootstrapping usage changed over time.	A principle components analysis with varimax rotation	To verify W&L (2001) grouping of bootstrapping methods into the four categories related to the propositions in this paper (customer-related, delaying payments, owner-related, and joint-utilisation).	Difference in this study and Winborg and Landström (2001) is that in this study owner-related methods and delaying payments methods loaded on a single factor, while joint-utilization methods and customer-related methods loaded on separate factors.

Table 4.2 Bootstrapping factors (cont.)

Researchers	Country	Method	Question	Analysis	Reason	Findings
Jones and Jayawarna (2010)	UK	211 surveys 22.9% and 48.7% response rate	How social networks are used by business owners in nascent businesses to engage in bootstrapping.	All individual items related to bootstrapping; social network ties and firm performance were then subjected to exploratory factor analysis which were then used in SEM.	To examine if bootstrapping activities mediate the impact of social networks on firm performance	Items for bootstrapping techniques for new ventures were extracted from studies by Winborg and Landström (2001) and Carter and Van Auken (2005). 21 bootstrapping items provided a three-factor solution (owner-related, joint utilisation and payments) which explained 57.9% of the variance in the sample, and the items within these factors provided high internal reliability (Cronbach's alphas ranging from 0.68 to 0.82).
Neeley and Van Auken (2012)	US	247 surveys 16.5% response rate	Examines the relationships between use of bootstrap financing methods and access to debt.	The data were summarised with univariate statistics generalised least squares regression	To provide a better understanding of respondents and characteristics of the companies. This was used to examine the relationship between the use of bootstrap financing, financial variables and characteristics.	Questionnaire based on the study by Winborg and Landström (2001). Bootstrap financing can be a complement to short-term debt.

Table 4.2 Bootstrapping factors (cont.)

Researchers	Country	Method	Question	Analysis	Reason	Findings
Grichnik et al. (2014)	Germany and Austria	298 surveys 38.8% response rate	What causes nascent entrepreneurs to engage in bootstrapping?	Ran exploratory principle component factor analysis. Used hierarchical regression analysis to stepwise elucidate how the different independent variables and contingency factors contributed to the explanation of ventures' degrees of bootstrapping activity.	To understand the antecedents of bootstrapping for nascent entrepreneurs.	Used Winborg and Landström (2001) bootstrapping methods but changed from 5-point scale to 7-point scale. Four factors emerged explaining 55% of the variance: customer-related, temporary resource utilisation, internal self-financing (which combines owner-related and delaying payments) and joint utilisation.

If these four factors are examined as part of working capital management, then the first relates to trade receivables management and the second relates to trade payables management. This leads to the first hypothesis of this research:

Hypothesis 1: The factors for bootstrapping include the components of the cash conversion cycle.

4.4 The theoretical basis for bootstrapping

This section will examine the resource dependency and pecking order theories in the context of bootstrapping. Ebben and Johnson (2006) relate bootstrapping to organisational theory, while Brush et al. (2006) is the only study that refers to the pecking order theory. Rutherford et al. (2012) identified that bootstrapping is still in need of an appropriate theory. Bootstrapping has not been properly couched in theory (Ebben and Johnson, 2006; Rutherford et al., 2012). Attempting to rectify this, Rutherford et al. (2012) examined the resource dependency and signalling theories. Approaches to acquiring resources vary throughout the development of a business (Winborg and Landström, 2001; Brush et al., 2006). This study will also consider the most appropriate theoretical framework to use when examining bootstrapping.

The findings indicate that resource dependency theory is the predominant theoretical lens for researching bootstrapping when it is considered a solution for capital constraints. The pecking order theory applies mainly to public limited companies, and the findings in SMEs relate to businesses using internal resources in the first instance due to an aversion to loss of control. The pecking order has been examined in Chapter three. As this study seeks to address whether bootstrapping is a deliberate practice, the pecking order theory is a good theoretical fit, as it is a planned resource management: internal resources before external resources.

4.4.1 Resource dependency theory

Most of the research pertaining to bootstrapping is based on resource dependency theory (Freear and Wetzel Jr., 1990; Bhide, 1992; Van Auken and Neeley, 1996; Winborg and Landström, 2001; Harrison et al., 2004; Carter and Van Auken, 2005; Lahm and Little, 2005; Ebben, 2009; Winborg, 2009; Jones and Jayawarna, 2010;

Jayawarna et al., 2011; Vanacker et al., 2011; Atherton, 2012; Neeley and Van Auken, 2012; Rutherford et al., 2012; Grichnik et al., 2014; Malmstrom, 2014; Jayawarna et al., 2015; Winborg, 2015), which operates on the assumption that bootstrapping is a resource used when external finance is restricted. Resource dependency theory holds that tangible and intangible resources held by businesses are heterogeneous and can be configured in different ways to enable a business to differentiate itself from its competitors (Penrose, 1959). Resource dependency theory characterises the business as open, dependent on contingencies in the external environment (Pfeffer and Salancik, 1978). According to Pfeffer and Salancik (1978, p.1), "To understand the behaviour of an organization you must understand the context of that behaviour – that is, the ecology of the organization." Resource dependency theory recognises that external factors influence organisational behaviour and that managers can act to reduce environmental uncertainty (Hillman, Withers and Collins, 2009). Resource dependency theory has become the theoretical lens used widely to explain why businesses merge, engage in joint ventures and plan for executive succession (Hillman et al., 2009). The proposition that organisations must respond to the external environment has become axiomatic in both organisational and strategic management theory (Hillman et al., 2009). In the introduction to the second edition of his co-written book, Pfeffer writes:

> My colleague and co-author Jerry Salancik was fond of saying, "success ruins everything." To some extent, the very success of resource dependency theory has also been a problem. The idea, seemingly now widely accepted, that organisations are constrained and affected by their environments and that they act to attempt to manage resource dependencies, has become so accepted and taken for granted that it is not as rigorously explored and tested as it might be. (Pfeffer and Salancik, 2003, p.xxxiii)

Businesses do not have all the resources they need and must source them from outside, and when they cannot secure them externally they act strategically to decrease dependency on others (Ebben, 2009). The use of resource dependency fails to consider bootstrapping as an active resource-management strategy. Resource dependency theory posits that bootstrapping is used when other types of finance are not available. However, the entrepreneur can choose bootstrapping to lower costs and risk (Carter and Van Auken, 2005; Winborg, 2009; Grichnik and Singh, 2010). Bootstrapping can be a choice and not always a necessity (Carter and Van Auken,

2005; Winborg, 2009; Grichnik and Singh, 2010). This indicates that a theory other than resource dependency might be more appropriate for studying bootstrapping.

4.4.2 Motives for the pecking order

As demonstrated in Chapter two, MSMEs were moving away from bank finance towards trade credit and internal resources after the financial crisis. The constrained pecking order applies to MSMEs. External equity is not used in particular by micro businesses. Only three percent of SMEs reported using external equity (Cressy and Olofsson, 1997), providing evidence that this is either not desired or not an option for SMEs. Watson and Wilson (2002) demonstrated that the harmony of interests between shareholders and managers (insiders), and the high information asymmetry that exists between outsiders and insiders of the business plays a crucial role in verifying the pecking order model in SMEs which are owner-managed. SME owner/managers show a strong aversion to partially relinquishing control (Cressy and Olofsson, 1997; Hamilton and Fox, 1998). Ou and Haynes (2006) confirmed the importance of internal resources as a financing source for small businesses. Specifically, the authors describe the following pecking order: internal funds (including owner's capital and owner's loans); external borrowing from traditional lenders (banks); and non-traditional lenders (such as families, other businesses, government and other individuals).

With a move away from bank funding, this suggests the focus will be on internal resources. Internal resources will include resource management, such as bootstrapping. This will include managing payments from customers, managing the timing of the outflow to suppliers, and, where there is a deficit, relying on finance from the owner. The motive for using this pecking order is most likely maintaining control and ownership of the business. From the 23 studies highlighted in Table 4.1, only two mentioned the capital structure of businesses and the costs of debt and equity as influencing a business's financing choices (Van Auken and Neeley, 1996; Carter and Van Auken, 2005), but neither applied any noticeable underlying theory, such as the pecking order theory, to its research. Atherton (2012) alluded to capitalisation patterns in the 20 cases he studied for bootstrapping use in new businesses. Brush et al. (2006) mentioned the pecking order theory in their paper but did not apply it in detail to bootstrapping.

4.5 Motives for bootstrapping

This research heeds the call of several scholars for more coherent research on the determinants of bootstrapping behaviour (Winborg and Landström, 2001; Harrison et al., 2004; Van Auken, 2005; Ebben and Johnson, 2006; Grichnik and Singh, 2010). Prior research demonstrates that motivation plays an important role in understanding the financing practices of SMEs (Mac An Bhaird and Lucey, 2010a). The motives question has received cursory attention (Ebben, 2009; Winborg, 2009; Grichnik and Singh, 2010). There is a paucity of literature on the motives for using bootstrapping, despite research commencing in this area more than a decade ago. Previous studies on the motives for bootstrapping usage have several limitations. Only three studies were identified in the literature that examined the motivations for bootstrapping usage among business owners (Carter and Van Auken, 2005; Winborg, 2009; Grichnik and Singh, 2010).

Some researchers maintain that bootstrapping is used exclusively as a response to a lack of financing alternatives (Bhide, 1992; Van Auken and Neeley, 1996). The first study of bootstrapping motives was by Carter and Van Auken (2005), who looked at the importance of owners' perception of risk in the environment and the use of bootstrapping. The researchers applied finance theory, and their sample comprised businesses with a mean age of 20.2 years. The study was undertaken in 2001 in the US, had 91 usable respondents, and explored capital acquisition theory factor analysis by asking questions about owners' perceptions of the constraints and opportunities faced by their businesses. Carter and Van Auken (2005, p.130) defined bootstrapping as "the use of methods to meet the needs for resources, without relying on long-term external finance". They extended Winborg and Landström's (2001) study, which identified and explored the use of bootstrapping finance, to explain why certain businesses or owners use particular bootstrapping techniques and to attempt to generalise results beyond Sweden to the US. This led to the following three motivating factors: risk perception, ability, and effort. Regression analysis was undertaken with motives as the independent variable and the bootstrapping clusters as the dependent variable. The findings indicated that if people perceived themselves to have less ability, private owner finance was used, whereas if opportunities were found to exist in the external environment, minimising accounts receivable was used as a source of finance. However, the main motivator for using bootstrapping was to

manage risk in the business. Carter and Van Auken (2005) described bootstrapping methods as "financing methods other than traditional debt from financial institutions and personal equity" (p.131), thus linking bootstrapping to capital acquisition.

Winborg (2009) examined the motives for using bootstrapping in new businesses in Sweden. Winborg focused on new Swedish SMEs in incubation centres in 2006. From the 91 respondents, it was found that as experience was gained, more was understood about the advantages of using bootstrapping. Winborg (2009) identified seven motives for bootstrapping usage: cost reduction, managing without long-term external finance, lack of capital, risk reduction, gaining freedom of action, saving time, and enjoyment helping others and getting help. Business owners were asked if they dealt with the need for resources in their business at low or no cost (borrowing or sharing resources), and if so, the motive for doing so from the seven outlined – or any other motive, as many as they wanted. The experience of the founder was the most significant influence on the bootstrapping motive (Winborg, 2009). As the business owner becomes more experienced, their behaviour moves away from a cost reduction focus to a risk reduction focus for their business (Winborg, 2009). Grichnik and Singh (2010) focused on nascent entrepreneurs in Germany and Austria and found bootstrapping to be a conscious choice rather than a forced reaction. This leads to the research question: *Does the motive for using bootstrapping influence the type of bootstrapping used by MSMEs?*

In order to advance understanding of bootstrapping use, that is, extend the notion that bootstrapping is only used when external finance is unavailable, the motives for its use must be re-examined. This is a key primary objective of the current research study. Previous research has examined the range of bootstrapping techniques employed by businesses, yet the underlying motives for using bootstrapping have received scant attention. Prior empirical findings indicate that using financial bootstrapping is not just a question of last resort (Winborg and Landström, 2001; Brush et al., 2006; Winborg, 2009).

Table 4.3 outlines prior bootstrapping studies examining motives for the use of bootstrapping. The table also presents studies on bootstrapping when examining the impact of business characteristics and life cycle on its use. Perceived risk in the environment is important for owners' assessment of the use of bootstrap finance. If

the environment is perceived to be risky, all bootstrapping financing methods are important (Carter and Van Auken, 2005). As a result, perceived risk in the business is likely to be a strong motivating factor in using bootstrapping. Grichnik et al. (2014) also found that entrepreneurs who perceived their nascent business environment as riskier pursued more bootstrapping (p.319). An environment could be perceived as risky if there was economic uncertainty or if interest rates were rising. In these cases, business owners might decide to engage in bootstrapping to avoid the risk of fluctuating interest rates if they were to borrow externally. This leads to the following hypothesis:

Hypothesis 2: The risk motive for bootstrapping will be positively related with using delaying payments and owner-related bootstrapping.

The direct relationship found between the perceived risk in the environment and the use of bootstrapping finance links bootstrapping to finance theory (Carter and Van Auken, 2005). Bootstrapping is a choice based on a proactive maximisation plan (Grichnik and Singh, 2010). Owners who perceive themselves to have limited ability are more likely to use private, owner-related bootstrapping methods (loans from family and friends, employing friends and relatives, and using outside employment) (Carter and Van Auken, 2005). Bootstrapping finance complements existing types of capital and should be a part of finance theory (Carter and Van Auken, 2005). Bootstrapping is not a last resort, as assumed by Bhide (1992) and Van Auken and Neeley (1998). The top two motives identified are lower costs (89%) and lack of capital (50%) (Winborg, 2009). Of the seven motives identified by Winborg (2009), five could be viewed as a desire for independence and not relying on outsiders for funding (managing without external finance, lack of capital, risk reduction, cost reduction, and gaining freedom of action). This leads to the following hypothesis, which will be examined as part of this research:

Hypothesis 3: The independence motive for bootstrapping will be positively related with using delaying payments and owner-related bootstrapping.

Carter and Van Auken (2005) already identified that businesses use accounts receivable management to avail of business opportunities. This leads to the following hypothesis, which will be examined as part of this research:

Hypothesis 4: The opportunities motive for bootstrapping will be positively related with using customer-related bootstrapping.

Small software businesses use bootstrap finance as an important source of growth capital (Freear, Sohl and Wetzel, 1990; Mac An Bhaird and Lynn, 2015). Ebben and Johnson (2006) and Ebben (2009) confirm that as a business ages, owner-related payments, joint utilisation and delaying-payments bootstrapping are reduced, while customer-related bootstrapping is increased. Neeley and Van Auken (2012) view bootstrapping as an alternative to external debt. Literature to date has focused on bootstrapping as a source of funding for start-up businesses (e.g. Brush et al., 2006; Grichnik and Singh, 2010; Jones and Jayawarna, 2010; Lam, 2010; Jayawarna et al., 2011; Patel et al., 2011; Vanacker et al., 2011; Atherton, 2012; Rutherford et al., 2012; Winborg, 2015), but Neeley and Van Auken (2012) confirmed that bootstrapping may be used as an alternative to external finance. Ebben and Johnson (2006) and Ebben (2009) found that as the business survives, there is a decrease in the use of owner-related, joint utilisation and delaying-payments bootstrapping, and an increase in customer-related bootstrapping. New ventures require money to develop products or services for market, while more established businesses use cash to hire employees and grow (Bhide, 1992). The view is that bootstrapping fills a financial gap and is used in place of external finance and equity, as businesses are often not in a position to obtain this. Carter and Van Auken (2005) mention that bootstrap finance can supplement or substitute for traditional finance and examine bootstrapping as a source of capital acquisition.

It is therefore predicted that business owners will strategically manage all internal resources before resorting to outside finance (Winborg, 2001; Ebben and Johnson, 2006; Ebben, 2009; Winborg, 2009; Atherton, 2012; Rutherford et al., 2012). Bootstrapping has been found to fill a resource dependency gap and is used in place of more traditional finance, as posited in 18 studies (Freear and Wetzel Jr., 1990; Bhide, 1992; Van Auken and Neeley, 1996; Winborg and Landström, 2001; Harrison et al., 2004; Carter and Van Auken, 2005; Lahm and Little, 2005; Ebben, 2009; Winborg, 2009; Jones and Jayawarna, 2010; Jayawarna et al., 2011; Atherton, 2012; Neeley and Van Auken, 2012; Rutherford et al., 2012; Grichnik et al., 2014; Malmstrom, 2014; Jayawarna et al., 2015; Winborg, 2015).

Table 4.3 Prior bootstrapping studies

Reference	Time	Response Rate	Sample Used for Data	Cty	Business Size	Business Age	WCM	Findings	Cumulative knowledge
Motives									
Carter & Van Auken, 2005	2001	49%	91 surveys	US	SMEs	Mean age 20.2 years	No	Perceived environmental risk increases the likelihood of bootstrapping. If a person perceives they have limited ability, they will use private funding.	Carter and Van Auken (2005) explained why certain business owners use a particular bootstrapping technique.
Winborg, 2009	2006	76%	91 surveys	Sweden	SMEs	New	No	The three main motives are lower costs, lack of capital, and fun helping others and getting help from others.	Winborg (2009) extended Carter and Van Auken's (2005) findings to look beyond the owners' perception of the business environment to see why bootstrapping is used.
Grichnik & Singh, 2010	N/D	N/D	298 surveys	Germany and Austria	SMEs	New	No	Bootstrapping use is a choice made by entrepreneurs.	Extended the work of Carter and Van Auken (2005) and Winborg (2009) to clarify that bootstrapping is a conscious choice and not a forced reaction.

Table 4.3 Prior bootstrapping studies (cont.)

Reference	Time	Response Rate	Sample Used for Data	Cty	Business Size	Business Age	WCM	Findings	Cumulative knowledge
Other studies									
Bhide, 1992	1990s	N/A	100 interviews	US	SMEs	> 5 years	No	Identified the importance of bootstrapping for starting a business.	Bootstrapping is financing of ventures with modest personal funds.
Van Auken & Neeley, 1996	1993	30.7%	78 surveys	US	SMEs	New	No	Bootstrapping is all types of finance after finance from personal savings and loans have been exhausted, such as loans from friends and relatives, credit cards, home loans, life insurance, supplier credit, leases and customer financing.	Expanded Bhide's (1992) definitions and Freear et al.'s (1995) definition of bootstrapping .
Winborg & Landström, 2001	1994/96	30%	262 interview and surveys	Sweden	SMEs	Mature	No	Winborg and Landström (2001) for the first time identified 32 methods of bootstrapping, reduced them to 25 and divided them into six clusters.	Provided clarity on what bootstrapping is.

Table 4.3 Prior bootstrapping studies (cont.)

Reference	Time	Response Rate	Sample Used for Data	Cty	Business Size	Business Age	WCM	Findings	Cumulative knowledge
Brush et al., 2006	2000	18.9%	88 interviews	US	SMEs	Mean age 2 years	No	Emerging businesses reduced labour costs, businesses in rapid growth reduced operational costs.	The first study to link female gender to the type of bootstrapping used at the various stages of the life cycle of the business.
Ebben & Johnson, 2006	N/D	28%	183 surveys	US	SMEs	Mean age 14 years	No	Older SMEs decrease owner-related, joint utilisation and delaying payments bootstrapping and increase customer-related bootstrapping.	Expanded on Brush et al. (2006) by looking not just at female-owned businesses. Linked the type of bootstrapping used to the age of the business.
Ebben, 2009	2002–04	20.6%	186 surveys	US	SMEs	Mean age 38 years	No	Lower liquidity businesses used more owner-related, delaying payment and joint utilisation bootstrapping methods.	Supported Ebben and Johnson's (2006) findings and for the first time linked bootstrapping usage to the financial condition of businesses.
Neeley & Van Auken, 2012	N/D	16.5%	247 surveys	US	SMEs	Mixed	No	Bootstrapping alleviates liquidity by providing businesses with finance when traditional finance is unavailable.	Confirmed bootstrapping is used as an alternative to external finance.

N/D Not Defined BS Bootstrapping N/D Working capital management

Ebben and Johnson (2006) found that usage of each type of bootstrapping altered with the age of the business: customer-related increased over time, while the other three methods decreased. Ebben (2009) suggested that the fact that financially constrained businesses use customer-related and delaying payments bootstrapping could indicate that they want quick fixes for cash flow issues that do not involve the owner risking their own money, and implied that businesses focus on working capital turnover only in times of financial need. Neeley and Van Auken (2012) found that the relationship between debt use and bootstrapping use could signify greater sophistication of the business owner. Four studies consider bootstrapping as more in line with resource management (Grichnik and Singh, 2010; Patel et al., 2011; Vanacker et al., 2011; Mac An Bhaird and Lynn, 2015). Grichnik and Singh (2010) examined bootstrapping using resource dependency theory in nascent entrepreneurs in Germany and Austria.

A gap exists to demonstrate differences in bootstrapping usage across business sizes, which leads to the following research question: *Are there differences in bootstrapping across business sizes?* This in turn leads to the following hypothesis:

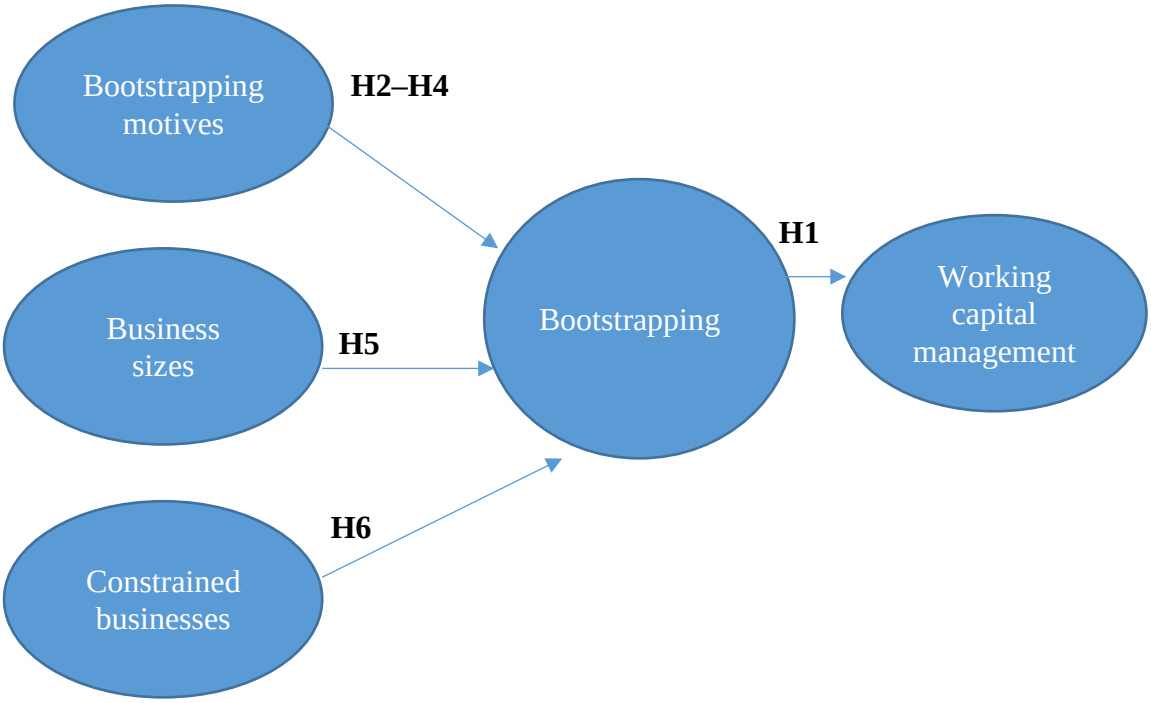
Hypothesis 5: Smaller businesses will have a significantly greater use of owner-related bootstrapping.

Ebben (2009) found less-liquid businesses, regardless of age, used more delaying payment and owner-related bootstrapping methods than other types of bootstrapping. This leads to the following research question: *How does financial constraint influence bootstrapping?*

Hypothesis 6: A constrained business will have a significant positive relationship with using delaying payments and owner-related bootstrapping.

There is a gap to integrate orientations from the finance and financial management literature with the entrepreneurship literature to examine bootstrapping, which this research will seek to address. Figure 4.1 summarises the hypothesised research framework.

Figure 4.1 Hypothesised research framework



4.6 Conclusion

Bootstrapping usage in a post-financial-crisis environment needs to be explored. The gap identified between examining bootstrapping using an accounting lens and an entrepreneurial lens merits further attention. This study will explore if the factors for bootstrapping include the components of the cash conversion cycle. Motives for bootstrapping have received little attention (Ebben, 2009; Grichnik and Singh, 2009; Winborg, 2009). Bootstrapping has been identified to be a choice (Carter and Van Auken, 2005; Grichnik and Singh, 2010), but more research is needed on why bootstrapping is used and what motives link to what types of bootstrapping. This research will address this gap. It will also identify differences in the usage of bootstrapping across business sizes. Constrained businesses have been found to use bootstrapping as an alternate to external finance. This thesis will explore the relationship between constrained businesses and bootstrapping. Smaller businesses have been found to be constrained, and as a result would be expected to rely on different types of bootstrapping in place of external finance. Finally, this chapter identified the hypotheses that will be examined to answer the overarching research objective: the relationship between bootstrapping and the cash conversion cycle, and the usage and motives for bootstrapping in Irish MSMEs.

Chapter 5 Methodology

5.1 Introduction

This chapter describes the research design and methodology used to test the hypotheses derived in Chapters three and four. It addresses the philosophical basis for the research methodology. It defends the choice of a positive paradigm, which in turn provides support for questionnaire-based data collection. A significant portion of the chapter discusses the questionnaire development and the key variables in the study. It makes reference to prior researchers in the area and their influence on this study's design. It addresses the common flaws in questionnaire design and the steps taken to mitigate these. It then describes the whole research process. Next, the chapter outlines the role of the interviews undertaken to help shape the questionnaire for this study. It presents the procedure to conduct the survey by employing Dillman's (2000) Tailored Design Method, and it presents all variable measurements in the survey. (Table 5.13 describes the sample businesses and the business owners surveyed.) The chapter then outlines the origins of factor analysis, the reasons for its use, and the steps in factor analysis. It also examines its use in prior research in the domain of bootstrapping. Descriptive analysis is undertaken from the 167 usable respondents in this sample. Finally, a chapter summary is provided.

Access to MSMEs was negotiated by visiting networking groups to meet business owners before sending them an anonymous survey link. Before engaging with the questionnaire, the existing literature on core aspects of bootstrapping, accounting, finance and financial management was reviewed. Future research could benefit from merging two methods, using a survey for bootstrapping use combined with reviewing accounts of companies to work out days for cash conversion cycle and by examining bootstrapping longitudinally. This would add to the entrepreneurship literature by bringing numeric measurements for the cash conversion cycle to bootstrapping. It would also add to the finance and financial management literature by introducing specific steps that business owners could take to manage each area of the cash conversion cycle. Combining surveys with accounts would enrich the data and may enable additional observations and findings to be found.

5.2 Bootstrapping exploration

The relationship between bootstrapping in the entrepreneurship literature and the cash conversion cycle will be explored. The motives for bootstrapping will be examined to see how they influence the methods used. The relationship between business size and bootstrapping usage will be explored. The usage of bootstrapping by constrained businesses will be explored. These will be tested by H1 to H6. The next section examines the research philosophy and its application to this study.

5.3 Research philosophy and its application to this study

This study examines the practice of bootstrapping in MSMEs in Ireland. The research questions drive the framework. The choice of method is critical, as it will deliver results that may or may not succeed in addressing the research questions. Uddin and Hamiduzzaman (2009) write, "All research is based on assumptions about how the world is perceived and how we can best come to understand it" (p.658). Positivism, a term coined by Comte (Martineau, 2000), is the prevailing paradigm in prior research in business studies. Comte identified three stages in the development of knowledge: (1) theoretical or fictitious; (2) metaphysical or abstract; and (3) the scientific or positive (Johnson and Duberley, 2000). These could be explained as God, nature, and human senses. Logical positivism continues to prevail in business research and assumes the observer can observe objectively (Johnson and Duberley, 2000). The Vienna Circle, originating at the University of Vienna in the 1920s, was created by members from various disciplines who gathered to discuss philosophy. Its key members Moritz Schlick (1882–1936), Otto Neurath (1882–1945) and Rudolf Carnap (1891–1970) were practising scientists (Lee and Lings, 2008). They were the initial logical positivists. They believed they had discovered the true meaning of philosophy: to analyse knowledge statements logically and to make them clear and unambiguous (Caldwell, 1980). According to the Vienna Circle, we are obliged to abandon the illusion that there should be absolute knowledge. Based on this logic, there are no ultimate, everlasting, absolutely valid truths.

The history of science has shown that no thought or idea can be free from criticism, and that simply because an idea persists across time does not make it coincide with quantitative methods, due to three main advantages. First, comparisons are possible and attempts can be made to identify causal mechanisms to help predict other

phenomena. Second, large amounts of data can be collected. Third, positivism provides a clear theoretical focus (Saunders, Lewis and Thornhill, 2007). Post-positivists recognise the critiques of positivism. Karl Popper (1902–94) suggested that theories cannot be proven but can be falsified with observations that contradict them (Lee and Lings, 2008). Remenyi, Williams, Money and Swartz (1998) wrote that positivism "emphasises quantifiable observations that lend themselves to statistical analysis" (p.33).

Positivism underpins most theory and research in management and business sciences (Johnson and Duberley, 2000). This study uses a positivist approach and so aligns with the mainstream quantitative methodology found in bootstrapping research (Van Auken and Neeley, 1996; Winborg and Landström, 2001; Carter and Van Auken, 2005; Ebben and Johnson, 2006; Ebben, 2009). After 12 interviews with MSME business owners and accountants, pilot tests of the questionnaire were conducted with small-business owners. Key academics reviewed the questionnaire to refine it. The questionnaire-based method was then employed to collect data for the main research findings, and the results were analysed to allow hypotheses to be tested. The findings based on the questionnaire data are discussed. As a result, it is possible to make comparisons between this study and previous research findings. This approach also allows the investigator to statistically control for variables such as sector and business age.

5.4 Research process

MSMEs are the backbone of the Irish economy and were therefore chosen for this study. Collecting data for small businesses creates particular problems for researchers. Small businesses are often unincorporated, meaning public accounts information and data are unavailable. The research process incorporated an exploratory sequential design, which is outlined in Figure 5.1. An initial qualitative phase was followed by two quantitative phases; these, along with the timeline, are detailed in Figure 5.2.

5.4.1 Adoption of a mixed-method design to shape the final questionnaire

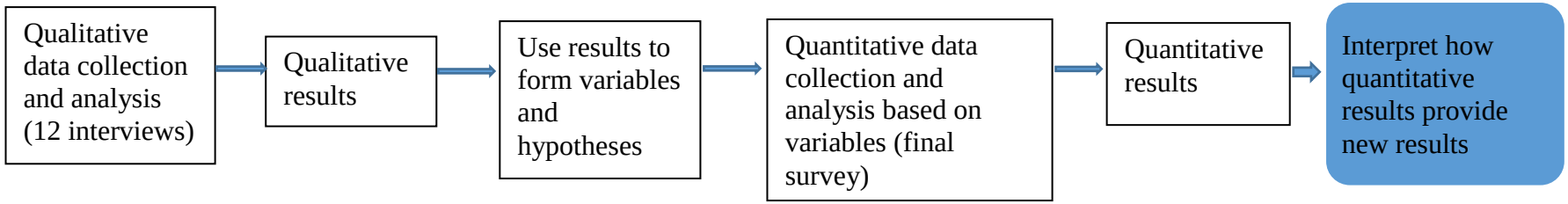
Mixed-method research involves collecting, analysing and mixing both qualitative and quantitative methods in a single study (Creswell, Shope, Plano Clark and Green,

2006; Sandelowski, Voils and Barroso, 2006; Williams, 2007). A more comprehensive definition is provided by Creswell and Plano Clark (2011, p.5), who define mixed methods as follows:

> Mixed methods research is a research design with philosophical assumptions as well as methods of inquiry. As a methodology, it involves philosophical assumptions that guide the direction of the collection and analysis and the mixture of qualitative and quantitative approaches in many phases of the research process. As a method, it focuses on collecting, analysing, and mixing both quantitative and qualitative data in a single study or series of studies. Its central premise is that the use of quantitative and qualitative approaches, in combination, provides a better understanding of research problems than either approach alone.

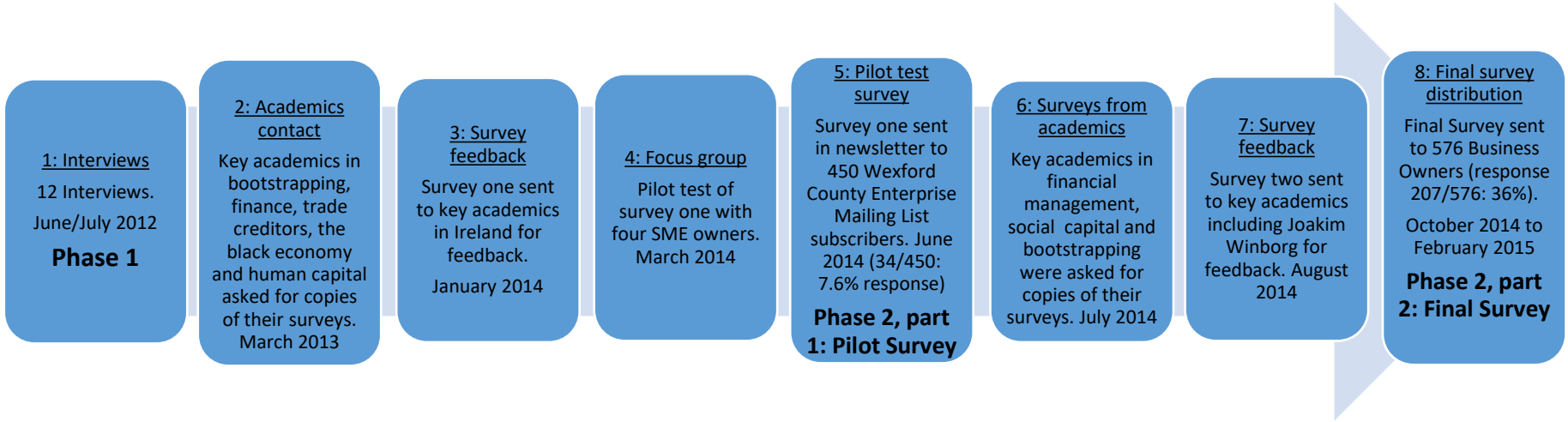
There is no one overall agreed approach to undertaking a mixed-method study (Bazeley, 2006). Mixed-method design involves obtaining a detailed view of the phenomenon from individual respondents, which is then used to generalise the findings to the population. This methodology is popular in business research (Ciabuschi, Dellestrand and Martín, 2011; Aherne, Lam, and Kraus, 2014). Individual qualitative and quantitative methods result in compromises to research, which is the main reason for using mixed methods in social science research (Denzin and Lincoln, 2008). The combination of methods partially addresses the flaws inherent in any one method (Scandura and Williams, 2000). By using a hybrid approach in the overall design, the quantitative phase is enhanced by the qualitative phase, which provides in-depth exploratory insights into the key areas being investigated. As Scandura and Williams (2000) write, "The use of a variety of methods to examine a topic might result in a more robust and generalizable set of findings" (p.1250). This study adopted a multi-phased process using sequential mixed-method research (Creswell and Plano Clark, 2011) in order to help shape the final questionnaire, which will be detailed below. This approach to the investigation allowed a deeper understanding of MSME owners' requirements and use of bootstrapping. Sequential mixed-method designs have at least two strands that occur chronologically, for example qualitative and quantitative (Teddlie and Tashakkori, 2006). Figure 5.2 illustrates the sequential mixed design approach used in this study to explore the research questions and gather the data.

Figure 5.1 Graphic representation of exploratory sequential design



Source: Adapted from (Creswell, 2013)

Figure 5.2 Timeline of empirical phase of the research



Phase one of the data collection (qualitative) provided new insights for the study that helped in the design of the questionnaire that was used to survey. Phase one was qualitative and consisted of 12 face-to-face interviews with MSME business owners, accountants and a banker.

Phase two, part one, was the pilot test of the questionnaire. The pilot was sent to 450 business owners who had engaged with Wexford County Enterprise Board. It provided vital insights that informed the subsequent survey design and provided a clearer roadmap for the study. This helped shape the research questions and objectives under investigation. The final part involved sending the online questionnaire to 576 business owners using the Qualtrics survey tool. Figure 5.2 shows the timescale of the process and expands on the phases of the sequential design for this research.

5.4.2 Timeline of the research for the interviews

Phase one was qualitative and took place between June and July 2012.

Table 5.1 Profile of interviewees

Business Description	Sector	Age	Number of respondents
Mature Management Accountancy Practice	Accountant	17	4
Mature Chartered Accountancy Practice	Accountant	14	4
Established Sole Trader	Accountant	7	0
Mature Small Practice	Accountant	14	20
Mature Micro Practice	Accountant	28	2
Young Chartered Accountant	Accountant	5	0
Mature Accountant and Financial Adviser	Accountant	11	1
Mature Micro Printing Business	Printing	25	4.5
Second-Generation Signage Business	Signage	51	6
Young Micro Architectural Business	Architect	4	3
Bank Manager	Banking		>10,000
Invoice Finance Provider Franchise Owner	Invoice Financing	1	0

This involved interviews with seven accountants, three micro-business owners, one invoice-financing franchise owner, and one bank manager in Ireland. The

accountants were all working with MSMEs and provided wide-ranging and independent perspectives on the funding environment. Due to the sensitivity of the subject matter, the participants requested to remain anonymous. Six of the seven accountants were micro-business owners, and almost all of their clients were micro businesses. The four sole traders were micro business owners, and the bank manager was the manager of a branch of Bank of Ireland. The interviews were semi-structured, and respondents were asked open-ended questions, drawn from the finance literature, about access to finance, the role of cash, credit terms, banking relationships, and methods used by business owners to secure the necessary funds for their businesses. Each interview took approximately 60 minutes. Table 5.1 provides more details on the respondents. The first three interviews were taped, but one respondent spoke more candidly when the recorder was switched off. In the interest of gathering rich information, the remaining interviewees were given a choice to be recorded or not. All stated they would prefer not to be recorded, but detailed notes were made by the interviewer. The transcribed findings from the interviews were sent back to each participant for verification. The accountants were drawn from members of Chartered Accountants Ireland, and the micro business owners were chosen from a networking group in Dublin. Accountants were the main interviewees, because by their nature they have various micro and small sole traders and companies on their books. The motive behind this phase was to shape the final research questionnaire, and accountants could provide a broad overview of the challenges facing business owners.

5.4.3 Interview findings

The findings are presented as follows. Section one outlines respondents' experiences and perceptions of current bank financing restrictions. Section two explores the types of bootstrapping finance: (a) accessing cash using non-traditional methods (black market, credit cards, and invoice financing), and (b) managing resources to reduce the need for finance (trade credit, delayed revenue returns, and reductions in employment costs). Respondents were also asked if banks had imposed loan restructuring or alterations to overdrafts on MSMEs. The owner of a mature micro printing company reported the following:

> I had a solid relationship with the same bank for twenty-five years and applied for a bank loan to buy a new machine that would save the business

> €25,000 per year for five years and reduce monthly repayments. The bank approved 70% of the loan and the same day reduced the business overdraft from €75,000 to €38,000. I was able to secure the shortfall of 30% from family and was then in a position to buy the machine. Four months later I met with the bank and showed them the positive financial implications of the purchase and they agreed to reinstate the bank overdraft to €75,000.

This experience of restructuring is corroborated by the respondents who were advisers to the MSMEs, who reported the following:

> Banks have been for some time switching overdrafts to term loans to improve bank liquidity. If a bank customer has a standing order that bounces to a supplier, often times the bank cancels the standing order without telling the client. —*Mature Accountant and Financial Adviser*

> In the last three years no client got an increase on their overdraft or term loan … people who do not need money are being offered it, but there are less of them around than there used to be. —*Mature Management Accountancy Practice*

This suggests banks would interpret these restructuring practices differently. The bank manager's response to queries on loan restructuring was as follows:

> Yes, with the consent of the customer. The reason being that overdrafts are provided on a percentage of annual turnover, and turnover for a lot of businesses has reduced. Businesses are struggling with debtor days. Term loans are cheaper than overdrafts. One customer came into the branch to thank us for converting his overdraft into a term loan, as the repayments became more manageable.

While the bank manager interviewed did agree that banks have a commitment to the government regarding the money they lend, in reality, loans are being restructured more often than new funds are being provided for smaller businesses. Hence, bank funding to MSMEs is increasing nominally, yet actual lending remains unchanged or has even been reduced.

> Small businesses have a higher rate of restructuring. The majority of businesses with lending of less than €120,000 are having finance restructured as opposed to new lending within our branch, but this may not apply nationwide and may be specific to our location. —*Bank Manager*

The accountants also reported increased paperwork and longer decision times on the part of lenders to MSMEs. Even if the business plan appears legitimate, banks are not always lending. One accountant, from a mature small accounting practice, noted that banks are discouraging businesses to apply for funding if the likelihood of

success is low, in order to sustain the percentage of successful applicants for loans in reported figures.

> As regards bank funding, the business plan could stack up and the bank says no … banks are trying to keep applications down so they can keep portraying "We lend to 80 percent of applicants". They are trying to put people off applying, as funds are not available.—*Mature Small Practice*

> Delay in bank decisions, it is easier to get a car loan than a bank loan. —*Mature Chartered Accountancy Practice*

> Credit cards are harder to get, overdrafts are harder to get and banks are more stringent, they have excessive requirements. —*Established Sole Trader Practice*

This suggests that if businesses perceive that they are not provided with the funds they require on reasonable terms, they will resort to bootstrapping.

As noted in the literature, bootstrap financing can be divided into two sources of practices: (a) accessing sources of cash using non-traditional financing, and (b) managing resources to reduce the need for financing. An open-ended question was asked regarding how MSMEs are financing themselves if access to traditional sources of finance is not available. The answers included:

> People are inventive about where they are getting cash from; they are borrowing from family, credit unions, using credit cards, selling assets, and people are cashing in their pension funds. The funds are then used to restart the business. —*Mature Chartered Accountancy Practice*

> Clients over 50 years have liquidated their business to access pension funds. This means they get 25 percent of the fund tax free and then draw down 5 percent per annum as an approved retirement fund and pay tax. —*Mature Management Accountancy Practice*

The above responses indicate the resourcefulness of business owners to secure cash for their business. Prior research indicates that credit card usage rises when more traditional sources of finance are unavailable (Danielson and Scott, 2004). In order to test this, respondents were asked if credit cards played an important role in their businesses.

> Some clients pay part of a utility bill on a credit card. —*Mature Micro Practice*

> People are taking more credit cards in order to access credit; one client has six cards with a limit of €15,000 each. —*Mature Management Accountancy Practice*

The above responses provided some evidence regarding the use of credit cards, but overall, the accountants did not report a major increase in credit card usage. This may reflect the fact that an accountant would not always be in a position to know if clients were using business or personal credit cards, and furthermore, the balance on most micro business credit cards in Ireland is automatically deducted from the client's account by the bank monthly, thus the business has no control over the length of their credit term.

Invoice financing has not traditionally been used in Ireland by micro and small businesses, due to the costs involved and low levels of turnover in the sector. A recent entrant to the market, Interfinance Group, offers invoice financing on an invoice-by-invoice basis. The finance provided can stem from one invoice or a combination of invoices.

> [As a result of a] lack of credit availability, alternative sources of credit are being sought after, such as invoice discounting. —*Mature Management Accountancy Practice*

Bootstrapping is associated largely with managing resources in order to lower the funding requirement of the business and includes practices such as postponing debt payments, managing the timing of payments, and cost-cutting.

(a) Trade credit

All accountants and micro business owners interviewed reported an increase in creditors' days taken as opposed to given by agreement as prior literature would seem to indicate (Petersen and Rajan, 1997). One respondent summed up the manner in which trade credit was being used by customers:

> Hospitals were always taking 60 days credit, now we are chasing some invoices over 6 months old and are then told by the accounts department that there is a problem with receiving the invoice even though the invoice was sent to the same person as always. —*Second Generation Signage Firm*

(b) Revenue

> More people are paying under instalment arrangements over two to three years. Revenue is really cooperative and helpful in order to get people out of tax problems. —*Mature Management Accountancy Practice*

> Businesses are delaying paying VAT returns and PAYE/PRSI. —*Established Sole Trader*

> Revenue will settle debts as opposed to put the person out of business; for example, one client owed €300,000 and Revenue settled the debt for €75,000 to avoid putting him out of business. —*Mature Micro Practice*

> Revenue is financing a lot of small businesses. Suppliers are being paid and Revenue is at the end of the line. Revenue is very supportive by agreeing instalment arrangements. —*Young Chartered Accountant*

One interesting and unexpected finding is the role of the Taxation Authorities in funding MSMEs through the late payment of taxes. The Taxation Authorities were reported as a source of finance for many MSMEs.

As evidenced by the above responses, the Taxation Authorities are aware of the financial difficulties of businesses, and in this regard are negotiating agreements in order to keep the MSME in business. MSMEs' first concern is about payment of immediate debt, and as Taxation Authorities are not a supplier of resources to the businesses, they are moved down the payment priority list. A possible prevailing reason for Taxation Authorities negotiating with businesses in financial difficulty could relate to Ireland's image as a recovering economy; in other words, if Taxation Authorities close down businesses, then more people must join the live register, thus national unemployment statistics increase, to the detriment of Ireland's planned return to the global financial markets.

(c) Employment

Cost-cutting is one strategy all businesses focus on during a recession. Often, the first cost to be examined is staff, as this is one of the main expenditures for employers. The capabilities of existing employees are stretched, while relatives are being sought to assist the business, as indicated in the responses below.

> People will work longer for less. —*Mature Management Accountancy Practice*

> Relatives are being employed at a reduced rate. —*Young Chartered Accountant*

> People are getting rid of existing staff and hiring new ones at lower rates, they pay redundancy, leave a time gap, and then replace staff with new, lower-paid ones. —*Mature Chartered Accountancy Practice*

> Business people are not paying for expertise. They are, for example, getting children to do their website. This will affect the business brand and positioning. —*Mature Accountant and Financial Adviser*

Some small business owners described having cut employment and subsequently changing size classification to become micro due to the economic trading conditions.

> I had nine to eleven employees over the last twenty years; I have six employees now. —*Second Generation Signage Firm*
>
> I had sixteen staff, now four and a half staff; the changes started at the end of 2006. —*Mature Micro Printing Firm*

These comments reveal that respondents are aware of the cost-reduction measures to ensure business survival, and furthermore, that they are taking the necessary steps to lower their costs. One of the key findings, repeated by several respondents, was the resourcefulness of individuals in securing cash for their business, including borrowing from family, using credit cards, cost cutting and cashing in personal pension funds. All of these indicated a move away from traditional external financing and a reliance on bootstrapping methods. The findings highlighted the importance of cash management and the fact that respondents were relying on themselves more than banks, indicating resource management. Methods of bootstrapping were evident, such as cost cutting, paying employees less and delaying paying Revenue. This led to the expectation that business owners would be very aware of the importance of cash management.

The researcher used the information from the above interviews to inform the questionnaire for the next phase of the research. Based on the responses obtained through interviews, it became evident that the questionnaire would have to examine the use of bootstrapping and owners' resourcefulness in cash management.

5.4.4 The initial questionnaire

Phase two, part one, consisted of a five-section questionnaire. A thorough review of previous research instruments was undertaken. Key researchers in the areas of bootstrapping, finance, trade creditors, the black economy and human capital were contacted in March 2013 to request the questionnaires for key papers. In the field of bootstrapping, the questionnaires found to be the most appropriate were those of Winborg and Landström (2001) and Carter and Van Auken (2005). Initially the idea was to examine bootstrapping and provide a pecking order for it. The need to develop a "respondent-friendly questionnaire" (Dillman, 2000) was a priority. With this in mind, the questionnaire was designed to take just 20 minutes.

The questionnaire, which was designed based on the interviews conducted in the first phase, commenced with questions about the owner (e.g., gender, age, education, and prior experience in the business they established). It also included questions about the business status (e.g., legal form, age, sector, sales, and number of employees). Section three of the questionnaire covered access to finance for MSMEs. Section four reviewed the business's use of bootstrapping, using five-point Likert scales based on the measurement instrument employed by Winborg and Landström (2001). The instrument was expanded to include buying and selling in the black economy as part of bootstrapping. The final section referred to the black economy and sought to identify the business owners' ethical and moral views (Feld and Larsen, 2012). The black economy section consisted of five-point Likert scales, and the items asked were drawn from previous studies as part of an extensive literature review (European Commission, 2007; Feld and Larsen, 2012).

To ensure validity, the questionnaire underwent rigorous development. Expert academics (Prof. Coughlan, Dr Hogan, Prof. Sharkey Scott, Dr Winborg) reviewed the questionnaire, and based on their comments it was refined, advanced, and pre-tested with four SME owners in March 2014 as a pilot. The feedback received suggested ensuring that each section was clear, explaining where in prior research the questions came from, and confirming with Dr Winborg (author of the seminal paper in bootstrapping) that the bootstrapping methods included and the phrasing of the questions were appropriate and relevant. As this was a pilot test with the aim of finalising the questionnaire for phase two, part two, the instrument could not be administered to the final sample group. The questionnaire was disseminated by Wexford Local Enterprise Office as part of their fortnightly newsletter in June 2014. It was not administered or managed by the researcher, who had no access to the respondents. The newsletter was opened by 450 people, but only 34 completed the questionnaire. While the response rate of 7.9 percent is sub-optimal, it had been recognised that the sample group was not entirely applicable for this questionnaire – the newsletter was sent to all people who have taken courses or received mentoring or grants from the Wexford Local Enterprise Office, and not all of these subjects started a business. This, in part, might explain the low response rate.

In general, respondents' ages were under forty-four years (51%), with 63 percent reporting to have prior work experience in the area their current business now

operated in. At least 57 percent of respondents possessed at least five years of prior managerial experience in the sector. Most businesses were limited companies (57%), and 39 percent were established pre-2005 (before the global financial crisis). Most of the businesses (95%) were micro and employed fewer than nine people, and most served the national Irish market (81%). Most of the businesses were owned in their entirety by one person (61%). For the businesses that disclosed another shareholder, 70 percent were legal spouses of the main owner. In sum, the respondents were mainly micro family-owned businesses with long-established experience in their relevant sectors. 64 percent of the respondents did not use external finance in 2013, and 85 percent operated only one business bank account. Almost three-quarters said they would not relinquish some of their business for finance (73%). Over four-fifths of the businesses used an accountant to prepare their financial statements (83%), and only 25 percent prepared monthly cash budgets for their business in 2013. Only 11 percent applied for external finance in 2013 and, of those, 67 percent received the finance they requested, which indicates that external finance was not regularly an issue for MSMEs. The questionnaire responses were analysed using the five bootstrapping clusters: owner-related methods, customer-related methods, delaying payment methods, joint utilisation, and illegal means (the black economy).

Table 5.2 summarises the pilot study findings. To measure scale reliability, Cronbach's alpha was calculated for each cluster.

Table 5.2 Pilot survey findings

Bootstrapping Category	Number of Items	Mean	Standard Deviation	Cronbach's Alpha
Owner-related	8	2.02	1.06	0.82
Delaying payments	4	1.68	0.71	0.74
Customer-related	10	2.42	0.97	0.70
Joint utilisation	5	1.61	0.98	0.75

The lowest score was 0.7 for the customer-related methods, and the highest was 0.96 for the illegal means. The findings from the survey indicate that the main cluster of bootstrapping used was sources from the owner, with 36 percent of business owners not paying themselves, and 23 percent of respondents using their personal credit card for business expenses often or all the time. The two key findings were that business

owners were not seeking bank finance and that five of the top seven bootstrapping methods used were customer-related in order to speed up payment times.

Findings from the qualitative phase and the initial quantitative phase were thoroughly reviewed. During the refining process it was decided that the need for content validity was paramount, so the number of constructs to be measured was reduced. The first constructs to be eliminated were those considered most susceptible to a social desirability bias. For example, the first drafts of the questionnaire attempted to measure activity in the black economy from both a purchasing and selling point of view. However, this measure was not answered by everyone, and the majority of those who did said they did not engage in the black economy.

The second area to be revised was access to finance. In the pilot test of the questionnaire this topic had a full section on its own. Highlighting the importance of the pilot test, most respondents said they did not apply for external finance in the last twelve months, with many saying this was mainly because they did not need it. Interestingly, 64 percent of respondents did not use external finance in 2013. In the subsequent revision, the section on funding was reduced, as pilot results suggested that very few businesses were using external finance.

In phase two, the findings indicated that bootstrapping was used with a particular focus on customer-related methods. Owners focused on maintaining cash flow by offering opportunities to pay by card (35%) and issuing invoices promptly (23%), with 22 percent requiring full payment at the point of order. The top seven bootstrapping methods found included five relating to customer payment management: offering the same conditions to all customers (55%), giving customers the opportunity to pay online or using a credit card (35%), issuing the invoice immediately when the order was placed (33%), requiring full payment at the point of order (22%), and selecting customers who paid on time (21%). These all appeared to indicate a deliberate attempt to manage cash flow from customers.

The extant literature highlighted bootstrapping as a source of finance, but the results indicated it was being used for another reason too. The finding that most of the bootstrapping methods that were used related to customer payments indicated a link between bootstrapping and the cash conversion cycle, because trade payables management is a component of the cash conversion cycle. Business owners appeared

to be making active choices to get customers to pay sooner. With this in mind, the literature was consulted again to try to find an area where a more significant contribution could be made. The motives behind the use of bootstrapping were not just due to capital constraints but also related to risk reduction (Winborg, 2009). Jones and Jayawarna (2010) found social ties related to bootstrapping and in turn business performance. Key researchers in financial management, social capital and bootstrapping were contacted in July 2014, to request copies of questionnaires. In social capital, the questionnaire found to be most useful was that of (De Carolis, Litzky and Eddleston, 2009). In financial management the questionnaire found to be most appropriate was that of Collis and Jarvis (2002). The main questionnaires on which the bootstrapping section of the final questionnaire was based were those used by Winborg and Landström (2001), Carter and Van Auken (2005), and Neeley and Van Auken (2010). The revised questionnaire was sent to key academics in the field, including Joakim Winborg, for detailed feedback in August 2014. The following section outlines in more detail the final questionnaire design and dissemination.

5.5 Final questionnaire development

A good questionnaire cover increases response rates (Dillman, 2000). Colours, graphics, and a picture of the researcher were used on the front page to distinguish it from other questionnaires. The title, "Understanding the Financial Management Practices of Small Businesses", was decided on as the researcher felt it captured the essence of the study's objective. A small biography of the researcher and her link with MSMEs and networking groups was included in an attempt to establish a connection with business owners. Two important logos were included on the questionnaire to add credibility: Dublin Institute of Technology (DIT) and Dublin City University (DCU). The back page of the survey gave participants an opportunity to comment on the questionnaire and provide contact details to be contacted for future research, as recommended by the Total Design Method (Dillman, 2000). This proved successful, as 87 business owners included their contact details, which could provide opportunities for follow-up or other relevant research in the future.

Table 5.3 Total Design Method

To Establish	To Increase Rewards	To Reduce Social Costs
Provide token of appreciation in advance.	Give tangible rewards.	Avoid subordinating language.
Sponsorship by legitimate authority.	Say thank you.	Avoid embarrassment.
Make the task appear important.	Communicate scarcity of response opportunities.	Make questionnaire short and easy.
Invoke exchange relationships.	Make the questionnaire interesting.	Minimise request to obtain personal information.

Source: (Dillman, 2000, p.27)

Dillman's (2000) Tailored Design Method in Table 5.3 was employed in the final questionnaire distribution. In the introduction to the final questionnaire, a donation to charity was promised for each completed response. The researcher also received the endorsement of the Chapter Directors of BNI and the leaders of the other networking groups to help achieve buy-in from respondents. The researcher met nearly each networking group face to face in advance of distribution to explain the importance of each response and the purpose of the research. For the one group the researcher did not meet, the members of Management Works, the senior programme manager, Dr O'Hobain, conveyed the purpose and importance of the study to business owners to whom he emailed the questionnaire link before asking them to complete it.

5.5.1 Structure of the questionnaire

The study's dependent, independent, and control variables are discussed below. As mentioned earlier, many measures from previous studies were adapted. With a few exceptions, multiple indicators were used to measure the multi-dimensional constructs under examination. Several indicators were measured using a five-point Likert scale anchored at 1 = "Never" and 5 = "Weekly", or at 1 = "Not at all useful" and 5 = "Extremely useful" for financial management. For bootstrapping measures, the scale was set at 1 = "Not at all useful" and 5 = "Extremely useful". For social capital, the scale was anchored at 1 = "Weekly" and 5 = "Yearly".

It was vital that the questionnaire be easy to comprehend, as the researcher would not be on hand when respondents were completing it. The questionnaire was set up

using established and tested questions to help support this. It was divided into four sections: A: Owner Background and Social Ties (13 questions). B: Business Background and Performance (11). C: Finance and Financial Management (10). D: Bootstrapping (5). A copy of the questionnaire can be found in Appendix A.

5.5.2 Owner background and social ties

This section can be split into two: human capital and social ties. Four measures of human capital were considered, two reflecting education and two reflecting experience. Similar to those used by Carter and Van Auken (2005), the study drew upon the following measures: financial education, number of prior businesses established, and managerial experience. Respondents were asked to provide information about themselves and their education, in line with other studies (e.g., Brush et al., 2006; Winborg, 2009; Jones and Jayawarna, 2010; Neeley and Van Auken, 2010; Jayawarna et al., 2011; Neeley and Van Auken, 2012). They were also asked to indicate their gender and age category, similarly to Carter and Van Auken (2005), Winborg (2009) and Jones and Jayawarna (2010).

Prior studies asked for the highest level of educational attainment (Brush et al., 2006; Winborg, 2009; Jones and Jayawarna, 2010; Neeley and Van Auken, 2010; Jayawarna et al., 2011; Neeley and Van Auken, 2012). This study asked for all levels of education attained. To gather more information on qualifications attained, this study also asked for the field of study for each qualification. To examine human capital, respondents were asked if they had completed a "Start Your Own Business" course or a part-time business or finance course – a line of questioning that has featured in many other studies (e.g., Davidsson and Honig, 2003; Jones and Jayawarna, 2010; Jayawarna et al., 2011). In a further exploration of human capital, this study also asked about the business owner's prior managerial experience in the sector of their now-established business (Brush et al., 2006; Winborg, 2009). Consistent with Winborg (2009), business owners were asked how many businesses they previously started. Table 5.4 below outlines the independent variables for owners' background.

Table 5.4 Owner background – independent variable

Variable Name	Definition
Majority owned variable	I am the majority owner of my business **0 = no 1 = yes**
Human capital variables	
Leaving Certificate	Whether or not founder had a Leaving Certificate
Diploma	Whether or not founder had a diploma
Degree	Whether or not founder had a degree
Masters	Whether or not founder had a masters
Professional qualification	Whether or not founder had a professional qualification
PhD	Whether or not founder had a PhD **Tick box for each of the 6 above if you had them**
Manage exp	Prior managerial experience in sector **1 = none 6 = 10+ yrs**
Start-up	How many businesses have you started prior to this business? **Number**

Social capital was measured using methods already established in the research field (Davidsson and Honig, 2003; Berry et al., 2006; De Carolis et al., 2009; Jones and Jayawarna, 2010; Jayawarna et al., 2011). Business owners were asked if they belonged to certain organisations, similarly to De Carolis et al. (2009).

Some organisations appropriate to Ireland were added to this questionnaire, such as Irish Business and Employers Federation (IBEC), the Referrals Institute, Business Network International, Chamber of Commerce, and Small Firms Association. This study was interested in identifying how often advice was sought from the various organisations of which the business owner was a member. A five-point Likert scale was used to examine how often advice was sought in the last year: 1 = 1–3 times, 2 = 4–6 times, 3 = 7–9 times, 4 = 10–12 times, 5 = more than 12 times. Two questions were asked in relation to the use of business advisers: (i) whether businesses consulted with them in the last year, and (ii) the frequency of this contact.

5.5.3 Business background

Business background was examined via questions on the legal form of the business, sector, number of employees, and markets served (Carter and Van Auken, 2005;

Winborg, 2009; Jones and Jayawarna, 2010). The age of the business was examined by Carter and Van Auken (2005) by asking what year it became a legal entity, and by Winborg (2009) by looking at the number of years since registration. Table 5.5 outlines the independent variables used for social capital in the present study.

Table 5.5 Total social capital variables – independent variables

Variable Name	Definition
Advice sought org.	Trade Organisation Community Group Political Organisation College alumni Business Network International (BNI) Referrals Institute Chamber of Commerce Small Firms Association IBEC Former Employer Network Craft Group Professional Group Religious Group Other **Scale 1–5: 1 = yearly; 5 = weekly**
Advice sought adviser	External Accountant Solicitor Financial Consultant General Business Consultant Banker Another Business Owner Informal Mentor Academic Adviser Friends Family Government Support Agency Non-Government Support Agency **Scale 1–5: 1 = yearly; 5 = weekly**

To reflect a more accurate age, this questionnaire asked two questions: (i) the year the business registered as a legal entity, (ii) the year the business opened its first business bank account. This decision was informed by the literature, Storey and Greene (2010), and by a discussion in person with Professor David Storey. A question was added to examine if the respondent was the majority owner of the business, and another to see if accountants or bookkeepers were employed. Sales for

2013 were asked, as this could determine a stage of business development if needed (Brush et al., 2006). Neeley and Van Auken (2010, 2012) used a seven-point Likert scale to examine the movement in sales: 1 = >10% down, 2 = 10–5% down, 3 = 4–1% down, 4 = flat, 5 = 1–4% up, 6 = 5–10% up, 7 = >10% up. This study examined sales movement and profit margin movement on a nine-point scale: 1 = >50% down, 2 = 26–50% down, 3 = 11–25% down, 4 = 1–10% down, 5 = flat, 6 = 1–10% up, 7 = 11–25% up, 8 = 26–50% up, 9 = >50% up. It was felt that this scale provided more detail and was easier for respondents to read and understand.

5.5.4 Finance and financial management

The first question in this subsection examined if the business used external financing in the last twelve months, and was derived from studies by Winborg (2009) and Neeley and Van Auken (2010, 2012). The second question, examining the types of information used for managing the business, was based on the survey by Collis and Jarvis (2002), and the use of the business plan was added as an option to this question.

Rather than just asking business owners if they used information monthly, quarterly or annually, as in Collis and Jarvis (2002), this questionnaire expanded the time frame to include weekly and never. The usefulness of the accounts was examined using a similar question to Collis and Jarvis (2002); in this study a five-point Likert scale was used, with 1 being “not at all useful” and 5 being “extremely useful”. This study also asked a separate question on the usefulness of the cash budget, which was not asked in isolation by Collis and Jarvis (2002). The researcher added three questions on keeping accounts, revising calculations, and sales from one customer. Business were asked if they applied for a bank loan over the last twelve months, and if so, what the outcome was, using two questions taken from the questionnaires on the access to finance of businesses (SAFE) questionnaires (SAFE, 2009, 2011, 2014, 2015, 2016). A new question was added, asking owners if they would be willing to give away ownership for finance, in order to see if there could be a tie-in with the desire to retain control. Table 5.6 outlines the independent variables for financial management.

5.5.5 Bootstrapping methods and motives

The main questionnaires used for the bootstrapping section were those employed by Winborg and Landström (2001), Carter and Van Auken (2005) and Neeley and Van Auken (2010). Winborg and Landström (2001) used a five-point Likert scale: 0 = not at all, 1 = very seldom, 2 = seldom, 3 = often, 4 = very often, and NA = no answer, for the methods of bootstrapping that related to customers, suppliers, leasing, delaying payments, some joint utilisation, withholding owner's salary, and subsidies.

Table 5.6 Financial management variables – independent variables

Variable Name	Definition
Accounts for	Short-term planning Long-term planning Decide owner's pay Decide staff pay Marketing/pricing decisions Borrowing decisions Capital expenditure Comparing performance with targets Comparing performance with previous periods Comparing performance with other businesses Confirming management information In connection with loans/finance Reassuring customers and suppliers Cash management Other **Scale 1–5: 1 = yearly; 5 = weekly**

For other joint utilisation methods, and sharing of resources, they used four points: Yes, No, Inapplicable, and No Answer. Carter and Van Auken (2005) left out subsidies and examined all other bootstrapping methods on a five-point Likert scale, with 0 = never used, and 5 = frequently used. In this thesis, subsidies were not included, based on prior researchers (Carter and Van Auken, 2005; Ebben, 2009; Jayawarna et al., 2011). A five-point Likert scale was used to examine the extent of the bootstrapping methods used in the business over the last 12 months: 1 = never used, 2 = rarely, 3 = sometimes, 4 = often, 5 = all the time.

Table 5.7 Bootstrapping methods – dependent variables – Likert scale items

Bootstrapping methods
Owner-related bootstrapping
Owner's personal credit card for business
Loans from life partner/spouse
Loans from other family members
Loans from friends
Owner's salary was withheld
Owner worked elsewhere to fund the business
Cashed in personal pension and put money in business
Delaying payments bootstrapping
Business deliberately delayed paying suppliers
Business deliberately delayed paying VAT
Business deliberately delayed paying taxes to Revenue
Better conditions were negotiated with suppliers
Goods were bought on consignment from suppliers
Assets were leased instead of bought
Capital was raised from a factoring company
Invoice financing was used
Customer-related bootstrapping
Offered customers the opportunity to pay online using a credit card
Charged customers interest on overdue accounts
Ceased relationships with late-paying customers
Offered the same conditions to all customers
Selected customers who paid on time
Obtained payments in advance from customers
Offered customers discounts if they paid cash
Full payment required at the point of order
Invoice issued immediately when order placed
Joint utilisation bootstrapping
Bought equipment with others
Shared premises with others
Shared employees with other businesses
Shared equipment with other businesses
Borrowed equipment from other businesses
Purchases were coordinated with other businesses
Hired temporary personnel instead of permanent personnel
Cost-cutting bootstrapping
Let staff go and rehired at lower rate
Moved office out of premises to home or a lower-rental location
Employed relatives/friends at below market rate
Minimised capital invested in stock
Bought used equipment instead of new
Bartered instead of buying/selling goods/services
Ran business completely out of home
Business acquired goods/services for cash knowing it would not be declared
Business provided goods/services for cash knowing it would not be declared

As a result of phase one, two bootstrapping black-economy measures were included: acquiring and supplying goods or services, knowing that the income would not be declared for cash. Two other methods were also added: cashing in a personal pension to fund the business, and hiring temporary staff instead of permanent staff. Table 5.7 provides a list of all methods used. A third question was included to rank the sources of bootstrapping with the objective of identifying an internal pecking order for bootstrapping methods used. The questionnaire was distributed using a software package called Qualtrics. As the questionnaire was on Qualtrics, the only results that would appear to be ranked were bootstrapping methods that the respondent had already indicated they used. If they did not select a method in previous questions, it would not appear to be ranked. This meant there were fewer methods to rank than the 40 that appeared in the printed version of the questionnaire. The dependent variable of interest was, in the main, bootstrapping.

The motives for using bootstrapping were examined by reviewing Carter and Van Auken's (2005) and Winborg's (2009) questionnaires. Carter and Van Auken (2005) did not examine a list of motives behind bootstrapping usage, but rather asked several individual questions focusing on growth strategy (two questions) and capital acquisition (seven). Winborg (2009) used 0 for No and 1 for Yes for nine bootstrapping motives (lower costs, manage without external finance, lack of capital, reduce risk, freedom of action, save time, fun helping others/getting help from others, other motive, and no explicit motive).

It was decided for this questionnaire to identify the reasons business owners used bootstrapping by giving 18 reasons and a five-point Likert scale (1 = strongly disagree, 5 = strongly agree). Winborg's (2009) motives were used and new ones were added, such as growth, investment, and necessity. One final question was included on financial objectives for the business in 2015, adapted from McChlery, Meechan and Godfrey (2005). The motives were grouped under risk management, financial independence, opportunities and cost management.

Table 5.8 outlines the independent variables for bootstrapping motives.

Table 5.8 Bootstrapping motives variables

Motives
Risk Management
It was necessary in order for the business to survive
There was not enough capital in the business
I wanted to manage without external finance
I wanted to manage risk in the business
I used bootstrapping methods in order to save time
Financial Independence
I wanted to get money into the business without taking in outsiders
I wanted to get money for my business without dealing with banks
I wanted to get money for the business but the banks turned me down
I wanted to get money for my business but knew there was no point in going to the bank
I prefer to delay paying suppliers rather than use outside finance
I prefer to share resources rather than use outside finance
I prefer to buy second-hand rather than relying on outside finance
Opportunities
I wanted to grow the business
I wanted to invest in new opportunities
My business contacts opened up new opportunities to bootstrap
Cost Management
The margins had decreased in the business
The fixed costs could not be reduced in the business
I was reacting to circumstances
Other
Scale 1–5: 1 = strongly disagree; 5 = strongly agree

5.5.6 Performance

The two measures of performance used in the questionnaire were the movement in sales and the movement in profit margin.

Table 5.9 Performance measurement variables

Variable	**Definition**
Sales	Movement in sales from 2012–13
Profit	Movement in profit from 2012–13 **Scale 1–9: 1 = >50% down; 9 = >50% up**

Neeley and Van Auken (2010, 2012) asked about the change in sales using a seven-point Likert scale: 1 = >10% down, 7 = >10% up. The questionnaire in this study

expanded this to nine points. Neeley and Van Auken (2010, 2012) also examined the profit margin on a five-point Likert scale: 1 = <0%, 5 = >15%. The questionnaire in this study expanded this to nine points. Table 5.9 outlines the independent variables for performance measurement.

5.5.7 Control variables

Sector, business age, and business size were considered control variables, similarly to prior studies (Jones and Jayawarna, 2010; Jayawarna et al., 2011). Business age has been used as a control variable by numerous studies (e.g., Brush et al., 2006; Ebben, 2009; Jones and Jayawarna, 2010; Jayawarna et al., 2011; Rutherford et al., 2012). Business size was used as a variable under the assumption that smaller businesses have less access to traditional finance and so use bootstrapping more. Business size has been used as a control variable by Ebben (2009), Jones and Jayawarna (2010), and Jayawarna et al. (2011). The sector variable was used in recognition of the different sectors featured and their various requirements. Sector has been used as a control variable by Jones and Jayawarna (2010), Jayawarna et al. (2011), and Rutherford et al. (2012). The variables for each heading are listed in Table 5.10 below.

Table 5.10 Control variables

Variable Name	Definition
Sector variable	Manufacturing, construction, agriculture, trade, hotel/restaurant, consulting/other service, transport, other **Scale 1–8: 1 = manufacturing; 8 = other**
Business age variable	
Legal	Month and year business registered as a legal entity
Bank Account	Month and year business opened business bank account **Month and year**
Business size variable	
Employees	Number of employees **Number**

5.6 Common challenges in questionnaire design

Researchers face three key challenges in designing questionnaires, relating to non-response bias, self-reported data, and common method variance; each will be addressed in this section. Low response rates are a concern, as it is believed that this

affects the ability to generalise results to the population at large, reducing external validity. Another problem is low statistical power, as too small a sample cannot give a statistically significant result (Lance and Vandenberg, 2009). Steps can be taken throughout the questionnaire design to increase the response rate, such as using well-established tested questions, connecting with participants, and pilot testing, all of which were exercised in this study. There is little evidence of what determines the appropriate response rate for a questionnaire (Cycyota and Harrison, 2006). For prior researchers the responses were as low as 16.5 percent (Neeley and Van Auken, 2012) and as high as 76 percent (Winborg, 2015). The typical rate fell in the twenties range (e.g., Harrison et al., 2004; Ebben and Johnson, 2006; Ebben, 2009; Jones and Jayawarna, 2010; Jayawarna et al., 2011; Patel et al., 2011; Vanacker et al., 2011; Jayawarna et al., 2015). This questionnaire had a response rate of 36 percent, which is acceptable. The biases will, in any case, depend on the statistical non-response parameters, which will be examined. The sample size in this study is large, so there is no concern over decreasing statistical power. Table 5.11 outlines methods that can increase response rates, and examples of how these were implemented in the current study.

Lance and Vandenberg (2009) identify four myths associated with self-reported data and suggest methods to address each: (1) construct validity of self-reported data, (2) interpreting the correlations in self-reported data, (3) social desirability responding in self-report data, and (4) value of data collected from non-self-report measures. Lance and Vandenberg (2009) argue that construct validity of self-reported data is a myth for four reasons. Firstly, systematic measurement errors may not always exist, and for each possible systematic error its influence depends on the measure being investigated. Evidence exists of self-reported data with construct validity through convergent and discriminant validity (Digman, 1990). The second myth is that self-reported data cannot accurately estimate inter-construct relationships (Lance and Vandenberg, 2009). Scholars have suggested that this problem has been exaggerated (Crampton and Wagner, 1994; Chan, 2001). In any case, inflation of the correlation has been shown as only a possibility, not a certainty (Lance and Vandenberg, 2009). The third myth is that of social desirability, which refers to respondents presenting themselves in a very positive light with regard to social norms and which is often cited as a criticism of self-reported data. Lance and Vandenberg (2009) point out that

not all constructs are equally susceptible to responding in a certain way due to social desirability. Indeed, studies have found few differences in scores between self-reported applicants, whose likely interest is to portray a favourable view of themselves, and individuals who have no reason to do so (Hough, Eaton, Dunnette, Kamp and McCloy, 1990). Falseness has been found to be most prevalent in situations where the stakes are high (e.g., to get a job) and the respondent has considerable motivation to achieve their end goal (Lance and Vandenberg, 2009). Common method variance, as a result of social desirability in self-reported data, can only occur when social desirability directly causes systematic measurement errors in both of the two self-reported measures being correlated (Lance and Vandenberg, 2009, p.323). Literature supports the fact that little faking exists in self-reported data, and even when it does occur it does not impact on the criterion-rated validity (Hough et al., 1990; Cunningham, Wong and Barbee, 1994; Ellingson, Smith and Sackett, 2001).

The last myth is that data collected from non-self-reported means is superior and provides more valid information (Lance and Vandenberg, 2009). In some cases self-reported data is necessary when no other data will answer what is being asked. For example, motives for using bootstrapping and methods of bootstrapping used cannot be obtained from any existing data; they can only be investigated by asking respondents. Also, because businesses that use bootstrapping are often unincorporated, access to published accounts is not possible. This study recognises the myths of self-reported data and will use statistical analyses where beneficial to address them. Many of the errors outlined can also apply to other, non-self-reported methods of data collection, and there is no evidence to conclude that self-reported data is flawed (Lance and Vandenberg, 2009).

This study was explicit about the intended constructs and the specific self-reported items it investigated, such as each item of bootstrapping used and the motives for using bootstrapping. The questions used had undergone testing which has been published by existing studies. To increase the likelihood of truth-telling, the study was anonymous and no monetary benefits could be obtained upon completion of the questionnaire. Therefore, respondents' main interest in completing the questionnaire was to educate policymakers on the situation of MSMEs. A pilot study was undertaken to ensure that no questions were deliberately left unanswered, and the

questionnaire was amended as necessary. This evaluation of the self-reported data counteracted any problems associated with the urban legends and myths of self-reported data. There is a concern that where a single informant provided the data for both dependent and independent variables, common method variance could result. Podsakoff and Organ (1986) advise on the use of statistical procedures to control for this. Skewness and kurtosis tests would be undertaken on the data collected as part of the present study, and items that measured +/-3 would be excluded.

It was decided that any items measuring +/-3 would be examined in depth to try to identify the reason for the results, such as perhaps very few respondents using these particular methods as examples of bootstrapping. A marker variable that is theoretically unrelated to other variables should be included in the questionnaire so that there is an a priori rationale for this variable to have no correlations with other variables. The marker variable used in this study was the percentage of sales to any main customer. The correlation matrix in Table 6.5 confirms that this variable does possess some correlations with the variables in the study, but these are not at a level which would cause concern.

5.7 Sampling

The ideal sample would have included all MSMEs in Ireland. There were 79,509 micro businesses and 13,348 small businesses in Ireland in 2012 (Table 1.2, present work; OECD, 2016). Larger sample sizes are more representative of the total population (Kerlinger and Lee, 2000), but time constraints and access must be considered. A population, as defined by Scheaffer, Mendenhall and Ott (1996), is a collection of items on which inferences are drawn. From prior bootstrapping literature, usable responses varied from 84 (Carter and Van Auken, 2005) to 262 (Winborg and Landström, 2001). The starting point was to identify groups of MSME business owners to whom access could be negotiated. To decide the most appropriate group to sample, several key advisers to MSMEs were consulted. Discussions with Tom Banville (CEO, Wexford Local Enterprise Office), Josephine Brown (president, Dun Laoghaire–Rathdown Chamber of Commerce) and Peter Byrne (CEO, Tallaght South Dublin Chamber of Commerce) revealed that the average response rates to questionnaires was very low, ranging from one to three percent.

In light of this, it was decided that a more appropriate method had to exist beyond a mass email questionnaire to all members of a particular group. The researcher is a former member of BNI (Business Network International), a business networking group that meets weekly from approximately 6.45am to 8.30am in various parts of Ireland. The researcher also founded the Wexford BNI chapter. Each group is called a chapter, and each chapter usually comprises 15–25 members. It is a networking group with the underlying value of "givers gain". The organisation works based on the principle of reciprocity in business, whereby initially all members work to generate business for other group members in the expectation that this will be reciprocated. These weekly meetings follow a very structured format through which members educate each other about their businesses and generate business for each other. Each member has 60 seconds to talk about their business activity. There is one person per trade or profession in each group. It was decided to contact several BNI chapters to explain the purpose of the research and to seek an invitation to attend a meeting to discuss the questionnaire. The director of each networking group was contacted and the purpose of the research explained. The researcher then visited the networking groups and spoke for 60 seconds about the purpose of the research, later emailing each business owner with a link to the questionnaire. The subject title of the email was "PhD Questionnaire", and all participants were contacted in advance by the directors of the networking organisation to ask for their help in completing it.

The aim of attending the meeting and explaining the purpose of the research was to encourage an optimal response rate for when the online questionnaire, created using Qualtrics, would be disseminated following the meeting. The first group the researcher visited was Marketwest BNI on 31 October 2014 in the Green Isle Hotel, Newlands Cross at 6.05am. The researcher was a former member of this group and was the fifth person to arrive. The researcher used her 60-second window to talk about her background, including her job in DIT and the purpose and areas of her research, and to determine the likelihood of members completing a questionnaire sent via an untraceable link. It was explained that every response counted, and most respondents were receptive to this and agreed that the questionnaire could be disseminated. After the meeting, the researcher had 30 minutes to network with members. After this introduction, more BNI chapters were approached and visited in the same way; Table 5.12 lists the chapters and dates of visits.

Table 5.11 Methods that can be used to increase response rates

Facilitation Technique	Summary	Execution
Pre-notify participants.	Personally notify them that the questionnaire is on the way.	Participants were notified at networking meetings.
Publicise the questionnaire.	Inform questionnaire respondents about the research purpose and how results will be considered.	Vocalised at network meetings before the questionnaire was sent.
Provide incentives.	Distribution of pens, keys chains, etc. has been shown to increase response rate.	Donation to charity was promised for each completed questionnaire.
Manage questionnaire length.	Use a theory-driven approach to the questionnaire design.	Theory was vital to the design, with relevant past questions considered and used.
Use reminder notes.	Send reminder notes to respondents 3 to 7 days after questionnaire distribution.	Reminders were sent within a few days of the initial questionnaire dissemination.
Establish questionnaire importance.	Understanding of the importance of opinions and participation will increase completion.	This was explained to participants in advance of sending questionnaire and at the beginning of questionnaire.
Foster questionnaire commitment.	Involve a wide range of individuals.	Reached out to various network groups.
Provide questionnaire feedback.	Once data is collected, provide questionnaire feedback.	Questionnaire feedback was promised. Such feedback would be communicated via presentation by the researcher.

Source: Rogelberg and Stanton (2007, p.197)

Table 5.12 Groups to be surveyed

Date	Name of Group	No. of Businesses
31 October 2014	BNI Marketwest	33
6 November 2014	BNI Fortyfoot	27
10 November 2014	BNI Menapia	12
11 November 2014	BNI Grosvenor	27
14 November 2014	BNI Fitzwilliam	20
25 November 2014	BNI Paramount	25
27 November 2014	BNI Prosperity	37
4 December 2014	Smart Leads	10
9 December 2014	B2B Dun Laoghaire COC	25
10 December 2014	Venture-Bewleys	9
8 January 2015	Southside B2B	9
8 January 2015	B2B South Dublin	31
13 January 2015	Venture-Gresham	10
14 January 2015	Kilmacud Crokes	3
16 January 2015	Dublin Business Network	22
21 January 2015	Bray BNI	21
23 January 2015	Chamber of Commerce Clare Street	8
26 January 2015	Business Network Direct	16
30 January 2015	Venture Fri – Bewleys	25
13 February 2015	Chamber of Commerce Ballsbridge	6
Total		**376**

The questionnaire link was sent from the researcher to the members of the chapters, with the exception of the BNI Grosvenor chapter. In this case, the chapter organiser herself sent the questionnaire. The BNI Menapia chapter was the only one not to receive a personal visit from the researcher, due to distance. It was included in the study because of personal affiliation: the researcher had set it up in 2004 and contacted Niall Reck, an original member, who agreed to circulate the questionnaire. It was determined that BNI chapters alone would not provide enough business owners. Chris Lascar, an ex-BNI member, informed the researcher about his membership of Smart Leads. Smart Leads follows the same format as BNI and meets in the morning (7.30–9.00am). The researcher paid a visit to this group in Donnybrook on 4 December 2014. Two members were present whom the researcher had met at previous meetings, so they were excluded from the sample. The researcher asked for the names of more networking groups to visit, and was given the name of Venture, another networking group with small business owners, and the mobile number of the organiser.

In conversation with this organiser, it became apparent that there were five Venture groups and two were having a joint meeting on 10 December 2014, from 7.00–8.20am, and the researcher was welcome. The researcher attended and noted some differences between this style of meeting and the others witnessed: business was generated by providing leads and good contacts for each other, and there was a focus on introductions to contacts as opposed to referrals. The members were very receptive to completing the questionnaire. One of the people present was Dr Lorcan O'HObain from Management Works, a government-funded organisation that trains small-business owners. Dr O'HObain agreed to meet the researcher, as he felt the results of the questionnaire could be quite useful. On review of his database, he identified 200 business owners to whom he could send the questionnaire. Initially the researcher was cautious, as the response rate is paramount, but Dr O'HObain was confident that he could achieve a rate of about 25 percent based on his personal relationships with these people. The Venture groups were visited in January and February 2015.

Josephine Brown, president of Dun Laoghaire Chamber of Commerce, was contacted to discuss the best way to inform business owners who were part of the Chamber about the questionnaire. It was identified that the most effective way to secure members was to attend all business-to-business breakfast meetings, which, as it turns out, take the same format as BNI meetings. The researcher did so and, as a result, spoke with 25 members on 9 December 2014 about the questionnaire. The researcher was made aware of an evening networking event at Southside B2 in Dun Laoghaire, secured an invite, and visited this group on 8 January 2015. This was a small group of nine businesses, which again gave the researcher 60 seconds to discuss the questionnaire. A similar format took place in the South Dublin Chamber of Commerce business-to-business breakfast meeting in Lucan. Kilmacud Crokes, a Gaelic football club, is a network of business owners who are connected to the club. Although the group was small, all members responded. Another person informed the researcher of Dublin Business Network (ex-BNI members), which following the same format was visited on 16 January. The Dublin City Chamber of Commerce had a meeting of business owners on 23 January 2015 at 7.00am which took a different format. There was informal networking and no chance to obtain a list of attendees (due to data protection) unless you had a membership card. Only nine people were

met face-to-face, and business cards were exchanged; following this, 100 percent of that group completed the questionnaire. The researcher's personal connections were essential to accessing these meetings, which were by invite only.

5.8 Final questionnaire response details

The researcher visited the networking groups as detailed in Table 5.13 below. Twenty groups were visited.

Table 5.13 Groups surveyed

Date	Name of Group	No. of Businesses	No. of Responses	%
31 October 2014	BNI Marketwest	33	14	41%
6 November 2014	BNI Fortyfoot	27	9	45%
10 November 2014	BNI Menapia	12	3	25%
11 November 2014	BNI Grosvenor	27	7	26%
14 November 2014	BNI Fitzwilliam	20	7	35%
25 November 2014	BNI Paramount	25	7	28%
27 November 2014	BNI Prosperity	37	12	32%
4 December 2014	Smart Leads	10	2	20%
9 December 2014	B2B Dun Laoghaire COC	25	8	32%
10 December 2014	Venture-Bewleys	9	8	89%
6 January 2015	Management Works*	200	60	30%
8 January 2015	Southside B2B	9	3	33%
8 January 2015	B2B South Dublin	31	9	29%
13 January 2015	Venture-Gresham	10	6	60%
14 January 2015	Kilmacud Crokes	3	3	100%
16 January 2015	Dublin Business Network	22	8	36%
21 January 2015	Bray BNI	21	8	38%
23 January 2015	Chamber of Commerce Clare Street	8	8	100%
26 January 2015	Business Network Direct	16	10	63%
30 January 2015	Venture Fri – Bewleys	25	11	44%
13 February 2015	Chamber of Commerce Ballsbridge	6	4	67%
Total		**576**	**207**	**36%**

*Not visited, but the group became involved after a personal meeting with a direct contact for the group. The survey was then sent to the member businesses.

Eight of the groups were BNI members (35% of the total business owners surveyed), and 35 percent of business owners surveyed were connected with Management Works. The remainder were from Chamber of Commerce groups, Venture and other networking groups. Each group visited consisted of business owners from different sectors, with businesses of varying ages. Following an introductory visit, a link to the survey on Qualtrics was emailed to 576 potential respondents, followed by two reminder emails over the next two weeks. Of the 576 people contacted, 207 completed the questionnaire, giving a response rate of 36 percent. This is above the response rate recorded in many previous studies: Neeley and Van Auken (2012), 16.5 percent; Brush et al. (2006), 18.9 percent; Ebben and Johnson (2006), 28 percent; Ebben (2009), 20.6 percent; and Jones and Jayawarna (2010), 22.9 percent. Other studies reported slightly higher rates: Patel et al. (2011), 26 percent; Vanacker et al. (2011), 29 percent; Van Auken and Neeley (1996), 30.7 percent; Winborg and Landström (2001), 30 percent; and Grichnik et al. (2014), 38.8 percent. Three studies, which coincidentally each had 91 respondents, achieved higher response rates than the present study: Carter and Van Auken (2005), 49 percent; Winborg (2009), 76 percent; and Malmstrom (2014), 61 percent. Low response rates can undermine generalisability of the findings to the population at large (Rogelberg and Stanton, 2007).

There is no agreement on the minimum response rate in business and management research (Mellahi and Harris, 2016). Mellahi and Harris (2016) examined the response rate in 134 papers in top-tier and second-tier international business journals and found that a rate of over 35 percent was considered good. The rate for this study therefore falls within the parameters of both previous surveys adopting a quantitative approach and prior published international business research in top journals. A possible reason for the higher response rate in this study was the initial face-to-face contact with most of the business groups, which gave the researcher the opportunity to explain the purpose of the research to business owners before the survey link was sent. This step, which was not done by prior researchers, may have helped the business owners relate to the research. A further advantage of meeting respondents was the ability to identify them as business owners, thus ensuring they were the correct target respondents for this research study.

5.9 Final sample

Following data collection, the sample was reviewed for suitability, beginning with the year the business was established. Eighteen businesses were set up in the year of the survey (2014) and so were excluded from the sample, as they were not in a position to answer key questions about bootstrapping that their business may have undertaken in the last 12 months. Fourteen did not engage in bootstrapping, and five had not submitted answers to the bootstrapping questions and thus were also excluded, as this was vital to the research aims. In total, 19 respondents were eliminated, resulting in 170 valid responses (29.5% response rate). Mahalanobis distance, a statistical tool to determine outliers based on a chi squared distribution (Tabachnick and Fidell, 2007), was then used for bootstrapping and financial management variables in the remaining sample. This measures the distance between one point and a distribution, evaluating the amount of standard deviations the point is from the mean of the distribution. Three responses were identified as outliers and eliminated, which left 167 valid respondents (29% rate) as the final sample.

5.10 Data analysis strategy

The first stage of data analysis in this study involved conducting tests for common method bias (CMB). The research measurement and design that were implemented used established recommendations to test for CMB (Podsakoff and Organ, 1986). In an attempt to control for common method variance, a marker variable was also used (Lindell and Whitney, 2001). The marker variable was the question examining the percentage of sales to one main customer only: “In your business in the last 12 months, what percentage of your sales came from one main customer?” The second stage of data analysis was to check for normality, as this is a key assumption of the methods used. Initial analysis of the responses on all the variables did not indicate any problems on range in the data. The shape of the distributions of the variables for bootstrapping and financial management was tested for normality by calculating values for skewness and kurtosis (Hair, Anderson, Tatham and Black, 1998). When analysing skewness, a Z statistic value of greater than +/-3 indicates that the assumption of a normal distribution can be rejected at the 0.1 probability level. The results for bootstrapping methods indicated that some of the distributions were not presumed to be normal, as outlined in Appendix B.

Fifteen bootstrapping methods were removed before factor analysis (Appendix B, Table B.4). Five of these had been removed by prior researchers: use a factoring company, invoice financing, obtain loans from spouse, obtain loans from friends, and coordinate purchases with other businesses (Ebben, 2009; Jones and Jayawarna, 2010; Jayawarna et al., 2011). Four items were added to the current study: black economy trading (purchases and sales), cashing in personal pension funds, letting staff go and rehiring at a lower rate, and moving premises to home or a lower-rental location. The remainder were never or rarely used by the majority of respondents.

5.11 Descriptive statistics

These same fifteen were skewed and kurtic. There was no significant level of skewness or kurtosis for bootstrapping motives and financial management variables. The third stage of data analysis in this study used SPSS to generate descriptive statistics, which are outlined in the next section. Table 5.14 summarises the business owner characteristics. Almost three-quarters of respondents were male (73%), and just over a quarter were female (27%). Given the early time of the networking meetings (usually 7.00am), anecdotal evidence suggests that more males than females attend these meetings, and this explains the higher number of male respondents in this study.

A total of 71 percent of the business owners were aged 35–54; this indicates that they have life experience, work experience, and education which may influence their business success. In the professional qualification grouping (36%), 19 percent said they were qualified accountants. Of the business owners surveyed, 73 percent had industry experience before setting up their business in the same sector. Many business owners (41%) with prior experience had eight-plus years of relevant industry experience before establishing their company. Of the 73 percent with prior experience, 51 percent had been a manager in the industry of their current business. For the vast majority of business owners (72%), this was the first business they started.

Table 5.15 outlines the business characteristics. Two-thirds of the businesses are limited companies (67%) and 29 percent are sole traders. The research used two measures to determine a start date: the date when the business was legally

incorporated, and the date when it opened its first business bank account (Storey and Greene, 2010).

Table 5.14 Business owner characteristics

Respondent profile	Percent	Number
Gender		
Male	73%	122
Female	27%	45
Age		
25–34 years	7%	12
35–44 years	39%	65
45–54 years	32%	53
55+ years	22%	37
Education		
Secondary school	52%	87
Diploma	43%	72
Degree	39%	65
Masters	11%	18
Professional Qualification	35%	59
PhD	1%	2
Prior industry experience in sector that business is in		
Yes	73%	122
No	22%	36
No. of years' experience in industry prior to set-up		
1 year or less	4%	6
2–4 years	15%	25
5–7 years	13%	22
8–10 years	13%	21
10+ years	28%	47
No. of years a manager in industry prior to set-up		
None	22%	37
1 year or less	7%	12
2–4 years	13%	21
5–7 years	11%	19
8–10 years	5%	9
10+ years	15%	24
Number of prior businesses started		
None	72%	120
1	12%	20
2	9%	15
3+	7%	11

Table 5.15 Business characteristics

Business profile	Percent	Number
Legal form		
Sole trader	29%	49
Partnership	3%	4
Franchise owner	1%	1
Limited company	67%	113
Sector		
Manufacturing	9%	15
Construction	10%	17
Agriculture	1%	1
Trade	8%	13
Hotel/restaurant	3%	5
Consulting/service	45%	75
Transport	2%	4
Other	22%	37
Number of employees		
Micro	79%	132
Small and medium	21%	35
Age of business		
2–4 years	13%	22
5–24 years	75%	125
25 years plus	12%	20
Majority-owned business		
Yes	75%	125
No	25%	42
Applied for a bank loan in the last 12 months		
Did not apply because thought application would be rejected	16%	27
Did not apply because business had enough internal funds	50%	84
Did not apply for another reason	9%	15
Yes, applied in last 12 months	25%	41
Did you use external finance in your business in the last 12 months		
Yes	51%	86
No	39%	65
Did not disclose	10%	16

The mean age for both is almost identical, at 13.4 and 13.73 years respectively, and the standard deviations are 10.96 and 10.99 years respectively. Twenty-three percent

of the businesses were aged two to five years, 33 percent were between six and ten years, and the remaining 44 percent were 11 years or older.

Most respondents, 79 percent, are micro businesses, and 16 percent of the businesses are small. This was not unexpected, as the networking groups that were visited consisted primarily of micro business owners. The mean for full-time employees is 8 and the mean standard deviation is 20.48. The mean for part-time employees is 3.85 and the standard deviation is 17.52. When asked to identify the sector to which their business belonged, 45 percent of business owners said they were involved in consulting or another service. Upon further examination it was found that 5 percent were accountants, 12 percent were financial advisers, 25 percent operated in financial services, 25 percent in I.T., and 12 percent in marketing. Nine percent of the businesses were engaged in manufacturing and 10 percent in construction. Seventy percent of the businesses were majority-owned by the respondent. Half of the businesses did not apply for bank funding, as they had adequate internal resources; 16 percent desired funding but were reluctant to seek a bank loan. Of the 25 percent that applied for a bank loan, 73 percent received the total requested.

Seventy-nine percent of the businesses are micro businesses and 20 percent are small and medium. Forty-five percent operate in the consulting/service sector. The majority are small, service businesses. Sixty-nine percent said they would not be prepared to relinquish ownership for finance. The majority of businesses experienced growth between 2012 and 2013. The majority are micro (79%), and the sector the majority operate in is consulting/service (45%).

5.12 Individual items descriptive analysis

This section presents a summary of the 167 respondents' use of variables to measure bootstrapping, social capital, and financial management. Table 5.16 presents the mean and standard deviations for 40 individual bootstrapping items for the study's participants.

Table 5.16 Bootstrapping methods

Bootstrapping	N	%	Mean	S.D.
Owner-related bootstrapping				
Owner's personal credit card for business	81	49%	2.05	1.284
Loans from life partner/spouse	33	20%	1.37	0.801
Loans from other family members	32	19%	1.36	0.767
Loans from friends	10	6%	1.08	0.352
Owner's salary was withheld	9	57%	2.22	1.228
Owner worked elsewhere to fund business	38	23%	1.48	0.992
Cashed in personal pension and put money in business	23	14%	1.30	0.823
Delaying payments bootstrapping				
Business deliberately delayed paying suppliers	90	54%	2.04	1.104
Business deliberately delayed paying VAT	59	35%	1.71	1.059
Business deliberately delayed paying taxes	61	37%	1.71	1.051
Assets were leased instead of bought	55	33%	1.68	1.074
Capital was raised from a factoring company	5	3%	1.04	0.260
Invoice financing was used	12	7%	1.20	0.786
Better conditions were negotiated with suppliers	10	63%	2.24	1.092
Goods were bought on consignment from suppliers	41	25%	1.49	0.923
Offered customers opportunity to pay online using credit card	65	39%	2.07	1.500
Charged customers interest on overdue accounts	17	10%	1.18	0.608
Ceased relationships with late-paying customers	93	56%	1.96	1.053
Offered the same conditions to all customers	12	74%	3.00	1.449
Selected customers who paid on time	10	61%	2.54	1.320
Obtained payments in advance from customers	10	60%	2.29	1.195
Offered customers discounts if they paid cash	52	31%	1.58	0.946
Full payment required at the point of order	10	65%	2.37	1.267
Invoice issued immediately when order placed	12	72%	2.89	1.452
Joint utilisation				
Bought equipment with others	19	11%	1.17	0.507
Shared premises with others	45	27%	1.73	1.317
Shared employees with other businesses	39	23%	1.38	0.770
Shared equipment with other businesses	38	23%	1.41	0.858
Borrowed equipment from other businesses	45	27%	1.42	0.744
Purchases were coordinated with other businesses	33	20%	1.39	0.889
Hired temporary personnel instead of permanent	74	44%	1.95	1.208
Cost-cutting bootstrapping				
Let staff go and rehired at lower rate	6	4%	1.05	0.270
Moved office to home/lower-rental location	17	10%	1.28	0.869
Employed relatives/friends at below market rate	40	24%	1.43	0.875
Minimised capital invested in stock	76	46%	2.21	1.415
Bought used equipment instead of new	76	46%	1.85	1.061
Bartered instead of buying/selling goods/services	56	34%	1.54	0.837
Ran business completely out of home	56	34%	2.08	1.611
Business acquired items on black economy	20	12%	1.17	0.492
Business provided items on black economy	19	11%	1.17	0.506

The survey document asked respondents to what extent they had used each bootstrapping measure, on a five-point Likert Scale from 1 “never used” to 5 “all the time”. Sometimes, often and all the time are reported in the percentages outlined in Table 5.16. The low mean variation, mean and plus one standard deviation show that even though the means are low, there is variation and a significant proportion of engagement in bootstrapping. The most frequent methods were aimed at ensuring early payment from customers: 74 percent offered the same conditions to all customers; 72 percent issued an invoice immediately when the order was placed; 65 percent stipulated that full payment was required at the point of order; 61 percent selected customers who paid on time; and 60 percent obtained payment in advance. Better conditions were negotiated with suppliers by 63 percent of respondents, and 57 percent withheld the owner’s salary.

5.12.1 Bootstrapping motives

Table 5.17 shows the motives for using bootstrapping, and presents the mean and standard deviations for individual motives for the study’s participants. The table identifies participants’ responses to being asked to what extent they agreed with various statements seeking to identify their reason for using bootstrapping. A five-point Likert Scale was used, from 1 “strongly disagree” to 5 “strongly agree”.

When businesses were asked to explain their use of bootstrapping, five main reasons emerged: sourcing finance without resorting to external finance (54%); growing the business (50%); reducing risk (49%); and, joint fourthly, a shortage of capital (44%) and necessity (44%). This strongly suggests that owners wish to retain business control, which is supported by the fact that most would not give away equity or take on debt for finance. Forty-one percent of business owners reported that they did not use any external finance in the last 12 months in their business. Only 11 percent used bootstrapping to invest in new business opportunities, whereas 50 percent used it to grow, which may indicate a propensity among bootstrapping businesses to grow internally rather than by using external sources. The motives for using bootstrapping were classified under the headings risk management, meaning the reason that bootstrapping was used was to reduce risk in the business. The risk reduction could be to reduce the risk of business failure (bootstrapping used by necessity for survival, not enough capital in the business).

Table 5.17 Motives for using bootstrapping

Motives for using Bootstrapping	N	Percent	Mean	S.D.
Risk Management				
It was necessary in order for the business to survive.	73	44%	3.18	1.383
There was not enough capital in the business.	73	44%	3.14	1.375
I wanted to manage without external finance.	91	54%	3.55	1.196
I wanted to manage risk in the business.	82	49%	3.48	1.150
I used bootstrapping methods in order to save time.	33	20%	2.72	1.120
Financial Independence				
I wanted to get money into the business without taking in outsiders.	65	39%	3.21	1.316
I wanted to get money for my business without dealing with banks.	59	35%	3.18	1.306
I wanted to get money for my business but the banks turned me down.	13	8%	2.21	1.105
I wanted to get money for my business but knew there was no point in going to the bank.	41	25%	2.77	1.352
I prefer to delay paying suppliers rather than use outside finance.	29	17%	2.46	1.159
I prefer to share resources rather than use outside finance.	28	17%	2.63	1.108
I prefer to buy second-hand rather than rely on outside finance.	35	21%	2.65	1.149
Opportunities				
I wanted to grow the business.	83	50%	3.51	1.122
I wanted to invest in new opportunities.	18	11%	2.42	1.093
My business contacts opened up new opportunities to bootstrap.	29	17%	2.60	1.165
Cost Management				
The margins had decreased in the business.	40	24%	2.81	1.142
The fixed costs could not be reduced in the business.	56	34%	3.08	1.197
I was reacting to circumstances.	56	34%	3.12	1.222

Another risk management motive was to manage without external finance, to avoid the risks that come with dilution of ownership when equity is given away in exchange for finance, or the risk of fluctuating interest rates and monthly loan repayments that comes with bank finance. The next category was financial independence, and the motives listed here were to manage without outside finance in order to have financial independence. The opportunities motive includes the chance to grow the business, to invest in new opportunities, and new opportunities to bootstrap. Finally, bootstrapping could be used because of reduced margins in the business and fixed costs that could not be reduced.

5.12.2 Social capital

Table 5.18 outlines the number of organisations the respondents were a member of, and what percentage sought advice from each organisation on a weekly, fortnightly, or monthly basis.

Table 5.18 Social capital: organisations

Organisations	Belong to the following organisations – Number of respondents	Belong to the following organisations – Percentage of respondents	Seek Advice (weekly, fortnightly, or monthly) – Number of respondents	Seek Advice (weekly, fortnightly, or monthly) – Percentage of respondents
Trade Organisation	58	35%	9	5%
Community Group	62	37%	13	8%
Political Organisation	5	3%	0	0%
College Alumni	40	24%	1	1%
Business Network International (BNI)	77	46%	57	34%
Referrals Institute	18	11%	9	5%
Chamber of Commerce	72	43%	29	17%
Former Employment Network	11	7%	2	1%
Religious Group	8	5%	2	1%
Small Firms Association	23	14%	3	2%
IBEC	3	2%	1	1%
Craft Group	5	3%	1	1%
Professional Group	71	43%	25	15%

The survey asked respondents to tick all organisations they belonged to and how frequently they sought advice from them for their businesses. To determine social capital, the survey posed questions about business owners' organisational membership and whether they consulted with such organisations for business advice. As expected, many were members of Business Network International (BNI) (46%) and the Chamber of Commerce (43%). Given that eight of the business groups surveyed from Table 5.12 were BNI groups, the BNI membership makes sense. Interestingly, 34 percent of BNI members sought weekly, fortnightly or monthly advice from their group, whereas only 17 percent of Chamber of Commerce

members did so. This could be partially because BNI members must attend weekly meetings and are penalised for missing them. This means the same people are present each week. Furthermore, they are not competing businesses, due to the BNI membership rules, which strengthens trust and relationships between members. There is no obligation to attend the fortnightly Chamber of Commerce meetings, and competing members can attend.

Table 5.19 Social capital: advisers

Advisers	Consult with Advisers for Business – Number of respondents	Consult with Advisers for Business – Percentage of respondents	Seek Advice (weekly, fortnightly, or monthly) – Number of respondents	Seek Advice (weekly, fortnightly, or monthly) – Percentage of respondents
Solicitor	98	59%	16	10%
External Accountant	131	78%	43	26%
Financial Consultant	70	42%	18	11%
General Consultant	70	42%	27	16%
Banker	53	32%	11	7%
Another Business Owner	136	81%	74	44%
Informal Mentors	100	60%	55	33%
Friends	109	65%	101	41%
Family	91	54%	64	38%
Government Support Agency	29	17%	3	2%
Academic Adviser	15	9%	3	2%

Membership attendance is inconsistent, and so ties between members develop more slowly. Business owners were asked what professionals they consulted with about their businesses in the last 12 months. The aim was to identify their strong and weak ties and the use of them for seeking business advice. The survey also asked respondents to tick all advisers they consulted with for their business and how often they did so. Table 5.19 outlines the results. Business owners consulted most often with other business owners (81%) and external accountants (78%). While bankers are often considered business advisers, only 32 percent of business owners consulted with their banker for business guidance. Friends were consulted more than family (65% vs. 54%).

Academic advisers were consulted the least (9%). The frequency of consultation was highest for seeking advice from other business owners (44%). Strong ties, such as

family and friends, were next. External accountants were consulted frequently by only 26 percent of respondents.

5.12.3 Financial management

Table 5.20 details the ratings from respondents on how useful they found their profit and loss accounts and balance sheet for decision-making in their business.

Table 5.20 Profit and Loss Account and Balance Sheet

Use Profit and Loss Account and Balance Sheet for the following decisions:	Number (very and extremely useful)	Percentage	Mean	S.D.
Short-term planning	51	31%	2.74	1.310
Long-term planning	69	41%	3.22	1.287
Decide owner's pay	47	28%	2.78	1.273
Decide staff pay	39	23%	2.58	1.286
Marketing/pricing decisions	62	37%	2.94	1.371
Borrowing decisions	58	35%	2.89	1.382
Capital expenditure	66	40%	2.99	1.379
Comparing performance with targets	76	46%	3.28	1.346
Comparing performance with previous periods	86	51%	3.48	1.250
Comparing performance with other businesses	27	16%	2.17	1.346
Comparing management information	52	31%	2.93	1.319
In connection with loans/finance	49	29%	2.72	1.445
Reassuring customers and suppliers	27	16%	2.10	1.341
Cash management	65	39%	3.08	1.329

The survey document asked respondents how useful they found their profit and loss account and balance sheet for specific business decisions on a five-point Likert scale from 1 "not at all useful" to 5 "extremely useful". Table 5.20 records the responses for very useful and extremely useful. In general, business owners were found to use their profit and loss accounts and balance sheets for comparison purposes, such as comparing with previous periods or with targets. The low mean variation, mean and plus one standard deviation show that even though the means are low, there is variation, and a significant proportion of business owners use the profit and loss account and balance sheet for business decisions.

Table 5.21 Financial Management: Cash budget

Use cash budget for the following decisions:	Number (very and extremely useful)	Percentage	Mean	S.D.
Short-term planning	71	43%	3.33	1.335
Long-term planning	58	35%	3.23	1.176
Decide owner's pay	50	30%	2.92	1.296
Decide staff pay	31	19%	2.47	1.299
Marketing/pricing decisions	43	26%	2.77	1.324
Borrowing decisions	52	31%	2.94	1.441
Capital expenditure	49	29%	2.98	1.395
Comparing performance with targets	45	27%	2.92	1.327
Comparing performance with previous periods	48	29%	2.96	1.365
Comparing performance with other businesses	21	13%	2.10	1.296
Comparing management information	38	23%	2.72	1.313
In connection with loans/finance	48	29%	2.80	1.459
Reassuring customers and suppliers	22	13%	2.08	1.310
Cash management	74	44%	3.52	1.378

Table 5.21 details the ratings from respondents on how useful they found their cash budget for decision-making in their business. The survey document asked respondents how useful they found their cash budget for specific business decisions on a five-point Likert scale from 1 "not at all useful" to 5 "extremely useful". Business owners were found to use their cash budgets for cash management purposes and planning decisions in particular. The top three reasons for using the cash budget were cash management (44%), short-term planning (43%) and long-term planning (35%). As cash budgets are designed to tell a business owner the cash incomings and outgoings each month and to provide an accurate picture of cash on hand, the findings indicate that the cash budget enables business owners to manage their cash and to plan for the future.

The next step was to reduce the variables using factor analysis, which will be detailed further in Chapter six. Section 5.13 below describes factor analysis, outlining its origins, reasons for use, limitations, and steps to undertake it.

5.13 Factor analysis

Factor analysis originated in the early 1990s with Charles Spearman's interest in human ability and his development of two factors (Yong and Pearce, 2013). Factor analysis can explore the structure of interrelated variables without putting a preconceived structure on the outcome (Child, 1990). The broad reason for using factor analysis is to summarise data to better understand relationships and patterns, which can then be easily interpreted (Goldberg and Velicer, 2006; Yong and Pearce, 2013).

It operates by examining the patterns of correlations or covariance between measures that have been observed (DeCoster, 1998). It aims to bring order and structure to multivariate data (Tucker and MacCallum, 1997). Factor analysis refers to "analytic techniques designed to identify factors, or dimensions, that underlie the relations among a set of observed variables … the observed variables are the indicators (measured items) presumed to reflect the construct (i.e., the factor)" (Pedhazur and Schmelkin, 1991, p.66). Factor analysis can account for covariance between variables; in other words, it was hypothesised that in the bootstrapping domain there would exist a small number of common factors that influence the variables (Tucker and MacCallum, 1997). Factor analysis is a very useful method for data reduction. It is based on the assumption that a large amount of data can be adequately defined by a small number of factors which are derived from correlations between the variables.

Factor analysis is not without limitations. There is a lack of consensus on its appropriateness (Hair et al., 1998). If the correct step-by-step process for arriving at the factors is not taken, the outcome will be inadequate. The data set to be analysed must be considered in detail to confirm the suitability of factor analysis. Another concern is subjectivity, for example the number of factors to be extracted, the number of rotations to be performed, or the acceptable factor loading level (Hair et al., 1998). There are no definitive rules about this; best practice dictates following previous empirical research in the field of study. External criteria cannot be used to test the value of a solution (Tabachnick and Fidell, 2007), which means it is not possible to independently measure the value of factor scores derived from the data. This can be compensated for by the theoretical basis of the study and the logic of the factors resulting from the analysis. To ensure sufficient rigour, this study adopts

best-practice guidelines that have been followed by the extant literature and prior research.

There are a number of steps to be followed in factor analysis: choosing the factor extraction method (exploratory factor analysis in the case of this research); deciding how many factors to retain, which can be done by only keeping factors with an eigenvalue of 1.0 or more (Osborne and Costello, 2009); and selecting the rotation method to simplify and clarify the data structure (Osborne and Costello, 2009). Varimax rotation minimises the number of variables with high loadings on each factor and tries to make smaller loadings smaller (Yong and Pearce, 2013). Finally, eliminating factor cross-loading, to be left with an appropriate number of factors (Osborne and Costello, 2009). This thesis uses a five-step procedure from Hair, Black, Babin and Anderson (2010) to interpret a factor matrix:

1) The factor matrix loadings will be examined, the correlation coefficients between the variables; 0.4 and above will be considered significant.
2) The significant loadings for each factor will be identified. Cross-loading items above 0.4 will be removed.
3) The commonalities of each of the variables will be examined to ascertain the reliability of the indicator.
4) If a variable has no significant loadings, a low commonality or a cross-loading then each variable will be evaluated to see if it should be deleted.
5) Once the variables have a significant load on each factor, the factors will be given a name that best represents each of the derived factors as accurately as possible.

Exploratory factor analysis can be used to determine both the number of common factors influencing a set of measures and the strength of the relationship between each factor and each measure (DeCoster, 1998; Baglin, 2014). It is suitable when the research is interested in making statements about the factors that are responsible for the observed responses (DeCoster, 1998). Exploratory factor analysis can identify constructs and factor structure. Confirmatory factor analysis verifies the factor structure in a set of observed variables. Because bootstrapping to date does not have one agreed set of factors, exploratory factor analysis was considered more appropriate than confirmatory factor analysis. Once that was decided, factor extraction was necessary.

Rotation methods can reduce ambiguities of the preliminary analysis and improve interpretation of factor loadings (Child, 1990). To help determine the appropriate number of factors, those with an eigenvalue of greater than 1 should be considered (Nunnally, 1967). The measures used must depict the observed construct, and in order to examine this, the degree of reliability must be found. Cronbach's alpha is a tool to do this and is described by Hair et al. (1998, p.618) as a "commonly used measure of reliability for a set of two or more construct indicators". Values of 0.7 or above provide evidence that a construct has been captured (Hair et al., 1998). Prior research in the field also needs to be considered to examine the methods used for factor analysis if it took place. Chapter two has identified that there is no one agreed definition of bootstrapping or agreed bootstrapping factors. Winborg and Landström (2001) identified 32 bootstrapping methods and classified them into clusters. Table 5.22 outlines the factor analyses in prior research on bootstrapping. As research progressed in this area, exploratory factor analysis was undertaken. There was no overall agreed set of factors for bootstrapping. Brush et al. (2006) found five factors: motives, costs, products, close ties capital, and minimise labour. Ebben and Johnson (2006) found three: owner-related and delaying payments bootstrapping, joint utilisation, and customer-related. Ebben (2009) found three: owner-related, customer-related and delaying payments, and sharing resources. Using exploratory factor analysis and varimax rotation, Jones and Jayawarna (2010) found three factors: payments-related, joint utilisation, and owner-related. Grichnik et al. (2014) found four: customer-related, joint utilisation, self-financing, and temporary resources. Of the researchers who identified specific factors, Ebben and Johnson (2006) and Ebben (2009) were the only ones to examine bootstrapping in established businesses. Varimax rotation was used by Ebben and Johnson (2006) and Jones and Jayawarna (2010).

Research on the relationship between financial management and bootstrapping has not taken place to date. This questionnaire has a significant number of measures for financial management using the profit and loss account and balance sheet and also the cash budget. Exploratory factor analysis would be useful to identify a factor structure on observed variables, which could be named and used in regressions once they met the required reliability tests.

Table 5.22 Factor analysis process in bootstrapping research

Study	Method
Brush et al. (2006)	Exploratory factor analysis and varimax rotation
Ebben and Johnson (2006)	Principle component analysis with varimax rotation
Ebben (2009)	Principle component analysis with varimax rotation
Jones and Jayawarna (2010)	Exploratory factor analysis and varimax rotation

5.14 Regressions

SPSS was used to conduct regression analyses to, as detailed in Chapter six. To see if the regressions were an appropriate fit for the data, each regression was examined for significance. This study reports results for the 10 percent level of significance or below ($p < 0.0001$, $p < 0.01$, $p < 0.05$ and $p < 0.10$). By reporting to this level of detail, the results can provide a signpost for future researchers on what variables to include or exclude. The inclusion of results with a p-value below 0.10 addresses the publishing bias that favours positive results and could lead to future research replicating past studies where hypotheses have not been supported (Goodchild van Hilten, 2015).

5.15 Conclusion

This chapter first explored the importance of understanding the research philosophy for conducting the research, by reviewing positivism and its advantages and disadvantages. Positivism is the dominant research paradigm in bootstrapping research. This choice of research paradigm reflects both the prior literature in the field and the research question at hand. The present study adopted a mixed-method approach by incorporating qualitative methods to shape the final quantitative questionnaire. This chapter then described the findings from the interviews and the subsequent pilot test of the questionnaire. It detailed the development of the final questionnaire and described the methods used to measure the variables selected in the model. The process for selecting sample businesses was also outlined, in addition to descriptive analyses for the findings from the survey. The next chapter will discuss further analysis of the data and subsequent results.

Chapter 6 Data Analysis

6.1 Introduction

This chapter seeks to answer the research questions developed in Chapters three and four by testing six hypotheses. The research questions are as follows:

1) Are the factors for bootstrapping as articulated in the entrepreneurship literature related to the components of the cash conversion cycle in the finance and financial management literature?
2) Does the motive for using bootstrapping influence the type of bootstrapping used by MSMEs?
3) Are there differences in bootstrapping across business sizes?
4) How does financial constraint influence bootstrapping?

Table 6.1 outlines the hypotheses for each research question.

Table 6.1 Research hypotheses

Are the factors for bootstrapping as articulated in the entrepreneurship literature related to the components of the cash conversion cycle in the finance and financial management	H1: The factors for bootstrapping include the components of the cash conversion cycle.
Does the motive for using bootstrapping influence the type of bootstrapping used by MSMEs?	H2: The risk motive for bootstrapping will be positively related with using delaying payments and owner-related bootstrapping. H3: The independence motive for bootstrapping will be positively related with using delaying payments and owner-related bootstrapping. H4: The opportunities motive for bootstrapping will be positively related with using customer-related bootstrapping.
Are there differences in bootstrapping across business sizes?	H5: Smaller businesses will have a significantly greater use of owner-related bootstrapping.
Do constrained MSMEs make greater use of bootstrapping?	H6: A constrained business will have a significant positive relationship with using delaying payments and owner-related bootstrapping.

Factor analysis is undertaken in order to determine factors for bootstrapping methods and motives. Exploratory factor analysis has been used in prior bootstrapping research (Brush et al., 2006; Ebben and Johnson, 2006; Ebben, 2009; Jones and

Jayawarna, 2010; Grichnik and Singh, 2010; Grichnik et al., 2014). Kruskal–Wallis tests and cross-tabulations are used to identify differences in both the methods of bootstrapping used and the motives for using bootstrapping across different business sizes. Correlations and regressions are used to identify relationships between bootstrapping motives, bootstrapping methods and financial constraint in businesses.

Section two reports the results of examining whether the factors for bootstrapping include the components of the cash conversion cycle. Section three explores the impact of motives on the use of bootstrapping. Section four examines differences for both the types of bootstrapping used and the motives for using bootstrapping across different business sizes. Section five explores whether constrained MSMEs make greater use of bootstrapping. The chapter then provides a conclusion.

6.2 The factors for bootstrapping and the components of the cash conversion cycle

The first research question this study seeks to answer is: *Are the factors for bootstrapping as articulated in the entrepreneurship literature related to the components of the cash conversion cycle in the finance and financial management literature?* This is addressed by hypothesis one, which proposes that the factors for bootstrapping include the components of the cash conversion cycle. Four agreed factors have been found in bootstrapping research to date: (1) owner-related, (2) customer-related, (3) delaying payments and (4) joint utilisation methods (Ebben and Johnson, 2006). Customer-related bootstrapping involves the management of cash from customers, speeding up the cash inflow. In accounting terminology this factor corresponds to trade receivables management.

Delaying payments in bootstrapping includes delaying payments to suppliers. In accounting terminology this would be classified as trade payables management. Trade receivables management and trade payables management, both components of the cash conversion cycle, have been found in the factors for bootstrapping by prior researchers (Winborg and Landström, 2001; Ebben and Johnson, 2006; Ebben, 2009; Jones and Jayawarna, 2010; Neeley and Van Auken, 2012; Grichnik et al., 2014), though they were not identified as such in the literature. The cash conversion cycle is a measure of the efficiency of working capital management. Customer-related bootstrapping and delaying payments bootstrapping have been found to increase over

time (Ebben and Johnson, 2006). This could be because as the business becomes more established, relationships with customers are strengthened, and because experience teaches the business owner the importance of cash-flow management and working capital management. This research seeks to clarify that the factors for bootstrapping include the components of the cash conversion cycle. The next section will examine factor analysis for bootstrapping undertaken in this study.

6.2.1 Factor analysis for bootstrapping methods

The process of factor analysis has been discussed extensively in Chapter five, and Table 5.22 outlined the methods of analysis undertaken. Ebben and Johnson (2006) identified three factors using principal component analysis with varimax rotation: owner-related and delaying payments, joint utilisation, and customer-related. Ebben (2009) identified a variation of these factors: owner-related, customer-related and delaying payments, and sharing resources.

The probability for extracting factors increases with the number of variables being considered (Podsakoff and Organ, 1986). Past research on bootstrapping shaped the survey items about bootstrapping methods used in the present study, which identified 40 bootstrapping items. As indicated in Chapter five, 15 methods were not normally distributed and were eliminated, leaving 25 bootstrapping methods. The sample size affects the reliability of factor analysis. Theory suggests that fewer than 150 respondents is acceptable as long as loadings on components are high (Tabachnick and Fidell, 2007). The 167 usable survey responses were considered an adequate number. The first step was to examine the correlation matrix to ensure high inter-correlation between the variables. This was found to be the case (see Table 6.5). Bartlett's test of sphericity was performed to test that all variables in the analysis were uncorrelated. Ideally, this test should be significant; to conclude that the hypothesis that all variables in the analysis are uncorrelated is false – indicating an adequate number of significant correlations to make factor analysis meaningful. In this study, the Bartlett's test of sphericity was statistically significant at $p < 0.001$. The Kaiser-Meyer-Olkin (KMO) statistic was used to assess the viability of factor analysis, as this measures the sampling adequacy of the data. Ideally, the KMO should be above 0.7, but above 0.5 is deemed acceptable. The KMO for the bootstrapping methods was 0.72, which falls into the ideal range.

Principal component analysis was used, as it focuses on extracting the minimum number of factors to account for the maximum amount of variance in the original variables. Prior researchers identifying factors for bootstrapping in established businesses used this method of factor extraction (Ebben and Johnson, 2006; Ebben, 2009). SPSS was used for factor analysis, and only factors with eigenvalues over 1 would be identified. If a factor had an eigenvalue under 1, it would mean it has less variance than one of the original variables and thus would have no value. Eigenvalues close to 1 are also considered. Prior bootstrapping literature suggested the factors were independent of each other, making the varimax rotation the most suitable rotation tool. It was also used by prior researchers identifying bootstrapping factors for established businesses (Ebben and Johnson, 2006; Ebben, 2009). Examination of the rotated component matrix for the bootstrapping types indicates that eight factors with eigenvalues over 1 were identified, explaining 64.06 percent of the total variance. This is a very acceptable level, as outlined by Hair et al. (1998): "it is not uncommon for the analyst to consider a solution that accounts for 60 percent of the total variance (and in some instances less) as a satisfactory solution" (p.378). Generally, only variables with a loading of more than 0.4 are meaningful (Pedhazur and Schmelkin, 1991) and significant. Only loadings of 0.4 or more were considered. Cross-loadings at 0.4 were removed, and six factors remained which explained 65.28 percent of the total variance. Values of 0.7 in the bootstrapping methods or above provide evidence that a construct has been captured (Hair et al., 1998). Each factor was tested for reliability using Cronbach's alpha. Table 6.2 outlines the results of the factor analysis for bootstrapping methods.

Table 6.2 Cronbach's alpha for factors for bootstrapping methods

Factor loadings	Number of variables	Cronbach's alpha
Factor 1	5	0.847
Factor 2	4	0.713
Factor 3	2	0.630
Factor 4	3	0.380
Factor 5	2	0.508

More detail can be found in Appendix B. The criteria for keeping the factors included a Cronbach's alpha of above 0.7. While factor 3 was close to a Cronbach's alpha of 0.7, it was below 0.7 and so was removed as a factor. Only two factors, 1

and 2, had a Cronbach's alpha over 0.7. The two reliable bootstrapping factors identified – delaying payments and owner-related, and customer-related – are outlined in Table 6.3.

Table 6.3 Factors for bootstrapping methods

Bootstrapping factors
Factor 1: Delaying payments and owner-related bootstrapping
Business deliberately delays paying other taxes to Revenue
Business deliberately delays paying VAT
Business deliberately delays paying suppliers
Loans from other family members
Owner's salary was withheld
Factor 2: Customer-related bootstrapping
Invoice issued immediately when the order was placed
Offered customer the opportunity to pay online using credit card
Full payment required at point of order
Obtained payment in advance from customer

These findings align with those from prior studies (Winborg and Landström, 2001; Carter and Van Auken, 2005; Brush et al., 2006; Ebben and Johnson, 2006; Jones and Jayawarna, 2010; Grichnik et al., 2014). Joint utilisation was not found as a factor. Table 5.16 shows that very few Irish MSMEs surveyed used joint utilisation bootstrapping methods, with the highest method used (sharing premises with others and borrowing equipment from others) reported by only 27 percent. The factors were named in accordance with prior research and their components, as these names already existed in prior research (Ebben and Johnson, 2006; Jones and Jayawarna, 2010; Grichnik et al., 2014). Factor 1 consists of the management of trade payables (deliberately delaying payments to suppliers) and cash management (delaying paying Revenue, loans from family, and delaying paying the owner's salary).

Although factor 1 is named delaying payments and owner-related bootstrapping methods, and might appear to be two different factors, it is one factor, as the methods of bootstrapping that are part of this factor all loaded on one factor, similar to Ebben and Johnson (2006). If the methods of bootstrapping in this factor are further examined, it is clear they all relate to managing cash when there is a shortage in the business. This can be done using owner-related bootstrapping methods (loans from

family or withholding the owner's salary) or by delaying the outflow of cash (delaying paying suppliers and Revenue). Perhaps a more appropriate name for this factor would be financial resources management. The methods of bootstrapping within this factor fall under categories identified by prior researchers; therefore, it was decided to name the factor in accordance with prior research.

Ebben and Johnson (2006) found that owner-related methods and delaying payments methods loaded on a single factor, while joint utilisation methods and customer-related methods loaded on separate factors. In effect, customer-related bootstrapping was the only method that increased over time as relationships developed and perhaps as business owners became more adept at working capital management, especially cash management. Ebben and Johnson's (2006) businesses had a mean age of 13.99 years. In the current study, businesses had a mean age of 13.41 years (as can be seen in Table 7.2). The findings from the current study, of delaying payments and owner-related bootstrapping methods loading on one factor, confirm Ebben and Johnson's (2006) findings for businesses of a similar age.

Factor 2 has four trade receivables management methods, all ensuring that cash is received as quickly as possible from the customer. This supports the increased importance of customer relationships as the business develops (Ebben and Johnson, 2006). Both factors identified provide evidence of cash conversion cycle components in bootstrapping and provide support for hypothesis one.

6.2.2 Summary of bootstrapping factors

Two factors were found for bootstrapping methods: delaying payments and owner-related bootstrapping, and customer-related bootstrapping. Hypothesis one proposed that the factors for bootstrapping would include the components of the cash conversion cycle. Table 6.3 outlined the two factors found for bootstrapping: delaying payments and owner-related bootstrapping, and customer-related bootstrapping. Delaying payments bootstrapping includes delaying payments to suppliers, which is the management of timing of payments to suppliers, and under the cash conversion cycle is trade payables management. Customer-related bootstrapping methods include means to get payments in early, and are trade receivables management under the cash conversion cycle. Bootstrapping also

includes owner-related methods, which indicates that bootstrapping is more than just the components of the cash conversion cycle: it is cash management. The cash conversion cycle is a measure of working capital management. The aim of working capital management is to ensure the smooth operating cycle of the business by managing the flow of cash. Bootstrapping moves beyond managing trade receivables and payments. It also ensures there is enough cash in the business to operate. Bootstrapping is the cash conversion cycle (working capital management) and owner-related methods. These findings provide support for hypothesis one. The next section will seek to identify the motives for using bootstrapping.

6.3 Bootstrapping motives

The second research question this study seeks to answer is: *Does the motive for using bootstrapping influence the type of bootstrapping used by MSMEs?*

In order to answer this question, three hypotheses have been outlined in Table 6.1, relating the motive for bootstrapping usage to the type of bootstrapping used. There is a paucity of literature on the motives for using bootstrapping, despite the call by several scholars to identify the determinants of bootstrapping behaviour (Winborg and Landström, 2001; Harrison et al., 2004; Van Auken, 2005; Ebben and Johnson, 2006; Grichnik and Singh, 2010). In order to clarify the motives for using bootstrapping in this current research, the first step was to identify the factors for bootstrapping motives.

6.3.1 Factor analysis for bootstrapping motives

Exploratory factor analysis was undertaken for bootstrapping motives. Examination of the rotated component matrix for the bootstrapping motives identified four factors with eigenvalues over 1, explaining 78.27 percent of the total variance. This is an acceptable level. Cross-loadings of 0.4 were removed, and three factors remained which explained 65.28 percent of the total variance. Each factor was tested for reliability using Cronbach's alpha, and all had a result above 0.7. The factors were named in accordance with the variables that loaded onto them, and taking account of prior literature on bootstrapping motives. The factors are outlined in Table 6.4. More details can be found in Appendix B.

The factors found in this research are risk management, financial independence and opportunities, which provide support for prior researchers' findings. Carter and Van Auken (2005) found that the main motive for using bootstrapping in a business was to manage risk.

Table 6.4 Factors for bootstrapping motives

Bootstrapping motives factors
Factor 1: Risk management
I wanted to manage risk in the business
Necessary to survive
Not enough capital in the business
Factor 2: Financial independence
I prefer to share resources with other businesses rather than use outside finance
I prefer to buy second-hand rather than relying on outside finance
I prefer to delay paying suppliers rather than use outside finance
Factor 3: Opportunities
My business contacts opened up new opportunities to bootstrap
I wanted to invest in new investment opportunities

In addition to finding risk management, and not enough capital in the business (both part of the risk management factor in the current research), as motives for using bootstrapping, Winborg (2009) found financial independence to be a motive (to manage without external finance, gaining freedom of action). The next step was to link the motive for bootstrapping usage to the types of bootstrapping used and to test hypotheses two to four. The first step was to examine correlations, followed by examining each hypothesis.

6.3.2 Bootstrapping motives – Correlation analysis

The purpose of the correlation is to investigate relationships between the variables in the study.

Table 6.5 Correlation matrix for bootstrapping factors and business characteristics

		1	2	3	4	5	6	7	8	9
1	Business size									
2	Sector	-0.100								
3	Constrained	**-0.286***	0.007							
4	Business age	0.059	-0.130	-0.228						
5	Delaying payments/owner-related bootstrapping	**-0.225****	**-0.189***	**0.434****	-0.031					
6	Customer-related bootstrapping	0.108	0.035	-0.176	-0.022	0.000				
7	Risk management	**-0.192***	-0.016	**0.410****	-0.068	**0.421****	0.155			
8	Financial independence	-0.028	0.123	0.050	-0.069	0.123	-0.041	0.000		
9	Opportunities	0.025	0.074	0.192	-0.017	-0.130	-0.017	0.000	0.000	
10	Marker variable	0.042	-0.090	0.074	0.082	0.053	**-0.236****	0.008	-0.014	0.015

* Correlation is significant at 0.05 level (2-tailed)
** Correlation is significant at 0.01 level (2-tailed)

The correlation coefficients were initially reviewed for indications of multicollinearity effects, but few were above 0.5 (Papadakis, Lioukas and Chambers, 1998). Table 6.5 provides correlation coefficients between the motives for using bootstrapping and the bootstrapping methods used, along with sector, business size, business age, constrained businesses and the marker variable in the study.

Table 6.5 outlines that if the business is constrained, this is positively correlated with the motive for using bootstrapping being risk management ($r = 0.410$, $p < 0.01$), implying that constrained businesses are concerned with risk management. If the motive for using bootstrapping is risk management, this is positively correlated with using delaying payments and owner-related bootstrapping methods ($r = 0.421$, $p < 0.01$), implying that businesses that want to manage and reduce risk use delaying payments and owner-related bootstrapping methods to manage cash and to fund their businesses. The correlation matrix in Table 6.5 confirms that the marker variable only correlates with one variable being examined: customer-related bootstrapping. This was an expected result, in that if most sales are to one main customer, it is highly unlikely that customer-related bootstrapping would be used. For example, if most business sales came from one customer, it was negatively correlated with customer-related bootstrapping. This would be expected, because if the business is relying mainly on one customer, it is likely to have agreed terms of trade. The next section will examine the regressions for the motives for using bootstrapping and the types of bootstrapping used.

6.3.3 Regressions for bootstrapping motives and the types of bootstrapping used

Chapter four outlined the research framework for this study, which was used to generate the research hypotheses. This section outlines the regression analyses for bootstrapping motives on the use of bootstrapping. The independent variables used were bootstrapping motives. The dependent variables were the two bootstrapping factors: delaying payments and owner-related bootstrapping (regression 1), and customer-related bootstrapping (regression 2). Business size, sector and age were controlled for.

Table 6.6 reports the impact of the motives for using bootstrapping on the types of bootstrapping used. ***, **, * and + denote statistical significance at the 0.1%, 1%,

5% and 10% levels, respectively. As indicated in Table 6.6, the adjusted R^2 value confirms that 22 percent of the variance in the use of delaying payments and owner-related bootstrapping was explained by the independent variables and the control variables. Regression one, delaying payments and owner-related bootstrapping, was deemed a good fit for the data ($F(6,118) = 6.879$, $p < 0.01$). Regression two was not deemed a good fit for the data ($F(6,118) = 0.898$, $p > 0.10$).

There was a significant positive relationship ($B = 0.398$, $p < 0.001$) with the motive for using bootstrapping to be risk management and using delaying payments and owner-related bootstrapping for all businesses combined. There was also a significant positive relationship ($B = 0.148$, $p < 0.10$) with the motive for using bootstrapping to be financial independence and using delaying payments and owner-related bootstrapping for all businesses combined. These provide further support for businesses using internal resources rather than external finance. These findings imply that businesses are using delaying payments and owner-related bootstrapping in place of external finance. Also, businesses have a preference for risk management rather than using external finance, and they will bridge the financing gap by using delaying payments and owner-related bootstrapping.

No relationship was found between the motives for bootstrapping usage and customer-related bootstrapping. This could be because customer-related bootstrapping is not used to manage risk in a business, nor is it used for financial independence or to invest in opportunities in this study. Instead, customer-related bootstrapping is part of the cash conversion cycle and is essential for the effective and efficient use of resources in the business. It increases over time as the business owner becomes more experienced at cash management. Customer-related bootstrapping includes methods to speed up the payment of cash from customers. Business owners deepen their relationships with customers and become more adept at getting payment into the business quickly.

Ebben and Johnson (2006) found customer-related bootstrapping methods to be the only type of bootstrapping that increased over time as businesses gained legitimacy and leveraged relationships over time. Ebben (2009) found support for customer-related bootstrapping increasing over time as the business became more established.

Table 6.6 Regressions for bootstrapping motives and the types of bootstrapping for all businesses

	R1 Delaying payments/ owner-related bs		**R2 Customer-related bs**	
Control Variables	**Beta**	**Sig.**	**Beta**	**Sig.**
Micro and small and medium	-0.085	0.331	0.153	0.123
Sector	-0.161	**0.050***	0.038	0.677
Business age (young, established, middle, old)	-0.101	0.241	-0.006	0.954
Independent				
Risk management	0.398	**0.000*****	0.175	0.059
Financial independence	0.148	**0.067**+	-0.024	0.793
Opportunities	-0.110	0.173	-0.004	0.963
F	**6.879**		**0.898**	
R^2 (adj R^2)	0.259	0.221	0.044	-0.005

+ p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001 n =167

Independent variables: Motives

Dependent Variables: Bootstrapping factors: Delaying payments and owner-related bootstrapping are the dependent variables in regression 1. Customer-related bootstrapping is the dependent variable in regression 2.

Business owners over time implement systems to speed up customer payments (Ebben and Johnson, 2006). In time, as the business's reputation grows, customers become more comfortable with shorter payment terms (Long, Malitz and Ravid, 1993). The findings of this research support the importance of customer-related bootstrapping across all business sizes, as outlined in Figure 6.2 and section 6.4.2. As the mean age for businesses in this study is 13.41 years, they are established and have gained experience in the management of customer payments.

6.3.4 The risk motive for bootstrapping and delaying payments and owner-related bootstrapping

New businesses use bootstrapping to focus on cost reduction (Winborg, 2009), and as business owners become more experienced, their focus moves towards risk reduction in their business (Carter and Van Auken, 2005; Winborg, 2009). Prior researchers have identified that if the environment is perceived as risky,

bootstrapping usage is more prevalent (Carter and Van Auken, 2005; Grichnik et al., 2014). It would be expected that micro business owners express a preference for financing their businesses using bootstrapping as opposed to external finance, and that this preference would be strengthened in a post-financial-crisis period.

Hypothesis two proposed that the risk motive for bootstrapping would be positively related with using delaying payments and owner-related bootstrapping. Managing risk in a business can be facilitated by reducing reliance on external finance and equity, and instead using internal resources and owner-related bootstrapping. As already identified, Table 6.5 outlines that if the motive for using bootstrapping was risk management, this was positively correlated with using delaying payments and owner-related bootstrapping ($r = 0.421$, $p < 0.01$). The correlations summarised in Table 6.5 illustrate the support found for the risk motive being positively correlated with delaying payments and owner-related bootstrapping, which in turn supports hypothesis two.

There was a significant finding in Table 6.6 that business owners, for all businesses, used delaying payments and owner-related bootstrapping if they wanted to manage risk in their business (Beta = 0.398, $p < 0.001$). The findings from the correlations and regressions provide evidence that the risk motive for using bootstrapping is positively related with using delaying payments and owner-related bootstrapping, supporting hypothesis two.

6.3.5 The independence motive for bootstrapping and delaying payments and owner-related bootstrapping

Winborg (2009) identified seven motives for using bootstrapping, five relating to independence and a conscious decision to use bootstrapping in place of external finance and for cost and risk reduction. Hypothesis three proposed that the independence motive for bootstrapping would be positively related with using delaying payments and owner-related bootstrapping. Table 6.6 outlines that if the motive for using bootstrapping was independence, businesses used delaying payments and owner-related bootstrapping (Beta = 0.148, $p < 0.10$), which supports hypothesis three.

6.3.6 The opportunities motive for bootstrapping and customer-related bootstrapping

Hypothesis four questioned whether the opportunities motive for bootstrapping would be positively related with using customer-related bootstrapping. No support was found for this hypothesis. This suggests that customer-related bootstrapping is not used to avail of business opportunities. It could perhaps be used as good working capital management practice, by ensuring that the trade receivables ratio in the cash conversion cycle is as low as possible, by using bootstrapping methods to ensure quick payment from customers.

6.3.7 Summary of bootstrapping motives and the types of bootstrapping used

Hypotheses two and three show that business owners prefer to use delaying payments and owner-related bootstrapping rather than external finance. This could include avoiding the risk that comes with external borrowing, or avoiding giving away ownership. If the business cannot get or does not want bank finance, then delaying payments and owner-related bootstrapping can act as a substitute by providing cash for the business. In addition, if the motive for using bootstrapping is financial independence, then delaying payments and owner-related bootstrapping is used. This could include avoiding the restrictions that come with outside debt (monthly loan and interest repayments) and avoiding the loss of control that comes with outside equity investment. Customer-related bootstrapping is not used for risk management, independence or availing of opportunities, but perhaps instead as an efficient form of trade receivables management, ensuring good working capital management practices. The next section will examine the impact of business size on the use of bootstrapping.

6.4 Business size and the use of delaying payments and owner-related bootstrapping

The third research question this study seeks to answer is: *Are there differences in bootstrapping across business sizes?* This is addressed by hypothesis five, which proposes that smaller businesses will have a significantly greater use of owner-related bootstrapping. Research to date has not distinguished between business sizes in the use of bootstrapping methods or the motives for using bootstrapping. Research

has focused on SMEs (Van Auken and Neeley, 1996; Winborg and Landström, 2001; Carter and Van Auken, 2005; Ebben and Johnson, 2006; Ebben, 2009; Winborg, 2009; Grichnik and Singh, 2010; Neeley and Van Auken, 2012). The benefit of splitting MSMEs into micro businesses and small and medium businesses is that they have different needs. Micro businesses have fewer employees and differ from larger businesses in their risk level and desire for independence (Berger and Udell, 1998). Micro businesses rely heavily on internal funding (Lawless et al., 2015). It is expected that micro businesses would have a high use of delaying payments and owner-related bootstrapping in place of external finance, in order to maintain their independence, reduce their risk and rely on themselves. To test this, Kruskal–Wallis tests were conducted followed by cross-tabulations and finally regressions.

6.4.1 Delaying payments and owner-related bootstrapping in different business sizes

Initially, one-way ANOVA (analysis of variance) tests were performed, as there was one categorical independent variable with three or more distinct categories (business size: micro, small and medium) and one continuous dependent variable (each type of bootstrapping, one at a time). However, the significance level for Levene's test was less than 0.5, which means the assumption of homogeneity of variance was violated, so it was more appropriate to use a non-parametric test such as Kruskal–Wallis. Table 6.7 outlines the significant findings from the Kruskal–Wallis tests for bootstrapping methods among different business sizes.

The Kruskal–Wallis tests showed there was a statistically significant difference between micro businesses and small and medium-sized businesses for delaying payments and owner-related bootstrapping methods ($p < 0.001$). There was a statistically significant difference between micro businesses and small and medium businesses for deliberately delaying paying tax to Revenue ($\chi^2(2) = 3.246$, $p = 0.072$), with a mean rank score of 84.55 for micro businesses and 70.44 for small and medium businesses. This suggests that micro businesses are delaying paying taxes to Revenue, perhaps due to a cash shortage, and are using Revenue in effect as a financier for their business to improve their cash flow. There was also a significant difference between micro businesses and small and medium businesses in relation to

taking loans from family members for the business, $\chi^2(2) = 4.771$, $p = 0.029$, with a mean rank score of 85.03 for micro businesses and 70.93 for small and medium businesses.

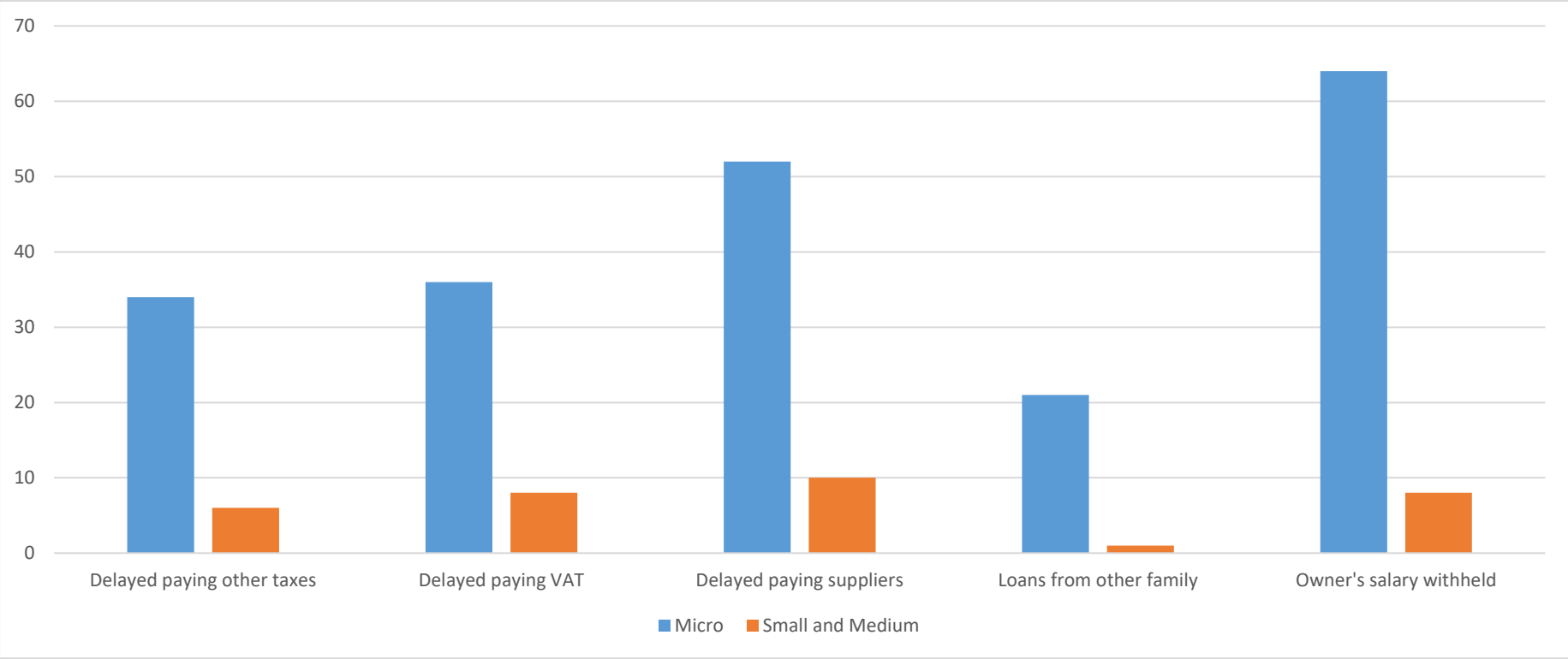
Table 6.7 Kruskal–Wallis tests – bootstrapping methods among business sizes

Bootstrapping sources	Business Number	Mean Rank	Chi-Square	Sig.
Loans from other family members for business use Business			4.771	0.029*
Micro businesses	128	85.03		
Small and medium businesses	35	70.93		
Owner's salary was witheld			15.369	0.000***
Micro businesses	128	89.20		
Small and medium businesses	35	55.69		
Deliberately delaying paying tax to Revenue			3.246	0.072+
Micro businesses	127	84.55		
Small and medium businesses	35	70.44		

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

There was a statistically significant difference between micro businesses and small and medium businesses for withholding the owner's salary, $\chi^2(2) = 15.369$, $p = 0.000$, with a mean rank score of 89.20 for micro businesses and 55.69 for small and medium businesses. These findings suggest the importance of delaying payments and owner-related bootstrapping methods for micro businesses and indicate a need for finance. They suggest that micro businesses are using owner-related bootstrapping methods in place of external finance. This provides support for hypothesis five. Businesses' use of bootstrapping was examined over a 12-month period. This was to ensure that all businesses were reporting on bootstrapping methods they used after the financial crisis when the Irish economy had returned to growth. Figure 6.1 outlines the most frequently used bootstrapping methods under the factor delaying payments and owner-related bootstrapping by business size. From a review of Figure 6.1, delaying payment and owner-related bootstrapping methods were particularly important for micro businesses.

Figure 6.1 Delaying payments and owner-related bootstrapping methods and business size



This graph shows the number of businesses (on the vertical axis) that used these methods of bootstrapping sometimes, often or all the time.

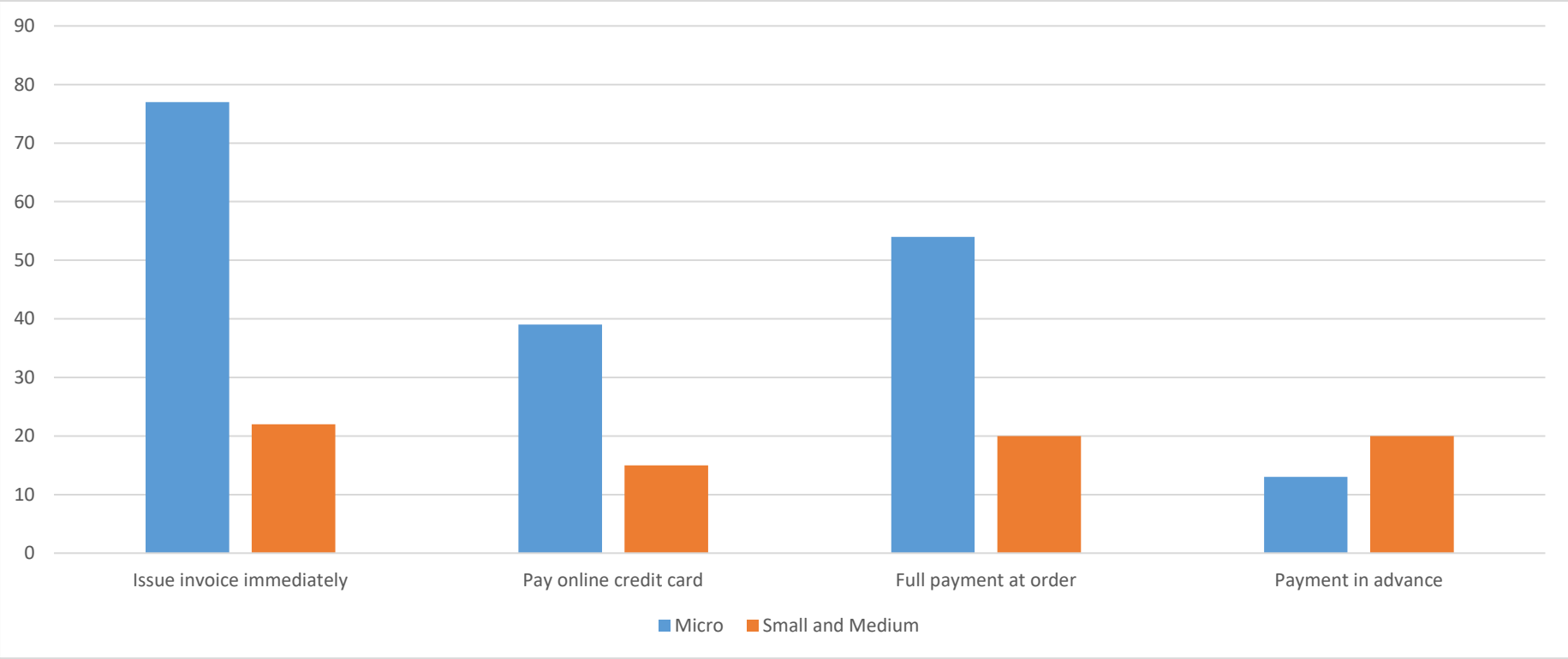
Deliberately delaying paying VAT to Revenue was used by 36 micro businesses (27%) and eight small and medium businesses (23%). Deliberately delaying paying other taxes to Revenue was used by 34 micro businesses (25%) and six small and medium businesses (17%). Deliberately delaying paying suppliers was used by 52 micro businesses (39%) and 10 small and medium businesses (29%). Taking loans from other family members was used by 21 micro businesses (16%) and one small and medium business (3%). Finally, withholding the owner's salary was used by 64 micro businesses (48%) and eight small and medium businesses (23%).

For micro businesses, owner-related bootstrapping was found to be particularly important: withholding the owner's salary, followed closely by deliberately delaying paying suppliers. Both of these methods would seem to indicate a higher level of financial constraint in micro businesses than in small and medium businesses. Micro businesses are managing their cash shortage by reducing cash outflow, by not paying themselves, and by delaying paying suppliers.

6.4.2 Customer-related bootstrapping in different business sizes

Figures 6.2 outlines the most frequently used bootstrapping methods under the factor customer-related bootstrapping by business size. Issuing invoices immediately was used by 77 micro businesses (58%) and 22 small and medium businesses (63%). Offering customers the opportunity to pay online using a credit card was used by 39 micro businesses (29%) and 15 small and medium businesses (41%). Requiring full payment at the point of order was used by 54 micro businesses (41%) and 20 small and medium businesses (57%). Obtaining payments in advance from customers was used by 13 micro businesses (10%) and 20 small and medium businesses (57%). Micro businesses used two other customer-related bootstrapping methods: offering the same conditions to all customers (81 businesses, 61% of all micro businesses), and selecting customers who pay on time (65 businesses, 49%). Small and medium businesses also used an additional customer-related bootstrapping method: selecting customers who pay on time (22 businesses, 63% of all small and medium businesses). These findings indicate that micro and small and medium businesses are aware of the importance of managing the timing of payments from customers, and that business owners are engaging in trade receivables management, a component of the cash conversion cycle.

Figure 6.2 Customer-related bootstrapping methods and business size



This graph shows the number of businesses (on the vertical axis) that used these methods of bootstrapping sometimes, often or all the time.

Customer-related bootstrapping methods were identified as the most important methods by far for small and medium businesses. For micro businesses, customer-related bootstrapping methods were followed closely by owner-related bootstrapping methods as most important. Almost half of all micro businesses reported withholding the owner's salary, compared to less than a quarter of small and medium businesses. Deliberately delaying paying suppliers was reported by almost two-fifths of micro businesses, compared to less than a third of small and medium businesses. These findings indicate that micro businesses are more financially constrained and are relying on owner-related bootstrapping and delaying payments bootstrapping to fund their businesses when cash is needed.

6.4.3 Summary of the use of bootstrapping in different business sizes

Micro businesses are the main business size that is constrained, and they have a significantly positive relationship with being constrained and using delaying payments and owner-related bootstrapping. For micro businesses, one noticeable difference from small and medium businesses is the use of delaying payments and owner-related bootstrapping methods; this appears to indicate that micro businesses have a greater need for cash, and that in the absence of external finance they resort to delaying payments and owner-related bootstrapping. Micro businesses appear to be different from small and medium businesses in their usage of bootstrapping. This provides support for hypothesis five. It is important to see whether the motives for using bootstrapping differ among different business sizes. If micro businesses are more concerned with financial independence and risk management, it is expected they would rely more than small and medium businesses on delaying payments and owner-related bootstrapping to fund their financial requirements. The next section will examine differences in business motives by business sizes.

6.4.4 Bootstrapping motives by business size

Table 6.8 outlines the significant findings from the Kruskal–Wallis tests for the motives for bootstrapping among different business sizes. There was a statistically significant difference between micro businesses and small and medium businesses for bootstrapping being used because it was necessary for survival, $\chi^2(2) = 7.449$, $p =$

0.006, with a mean rank score of 87.17 for micro businesses and 63.10 for small and medium businesses.

Table 6.8 Motives for bootstrapping among business sizes

Bootstrapping motives	Business Number	Mean Rank	Chi-Square	Sig.
Necessary for survival			7.449	0.006*
Micro businesses	128	87.17		
Small and medium businesses	35	63.10		
Wanted to get money without			5.100	0.024*
Micro businesses	111	74.92		
Small and medium businesses	30	56.48		

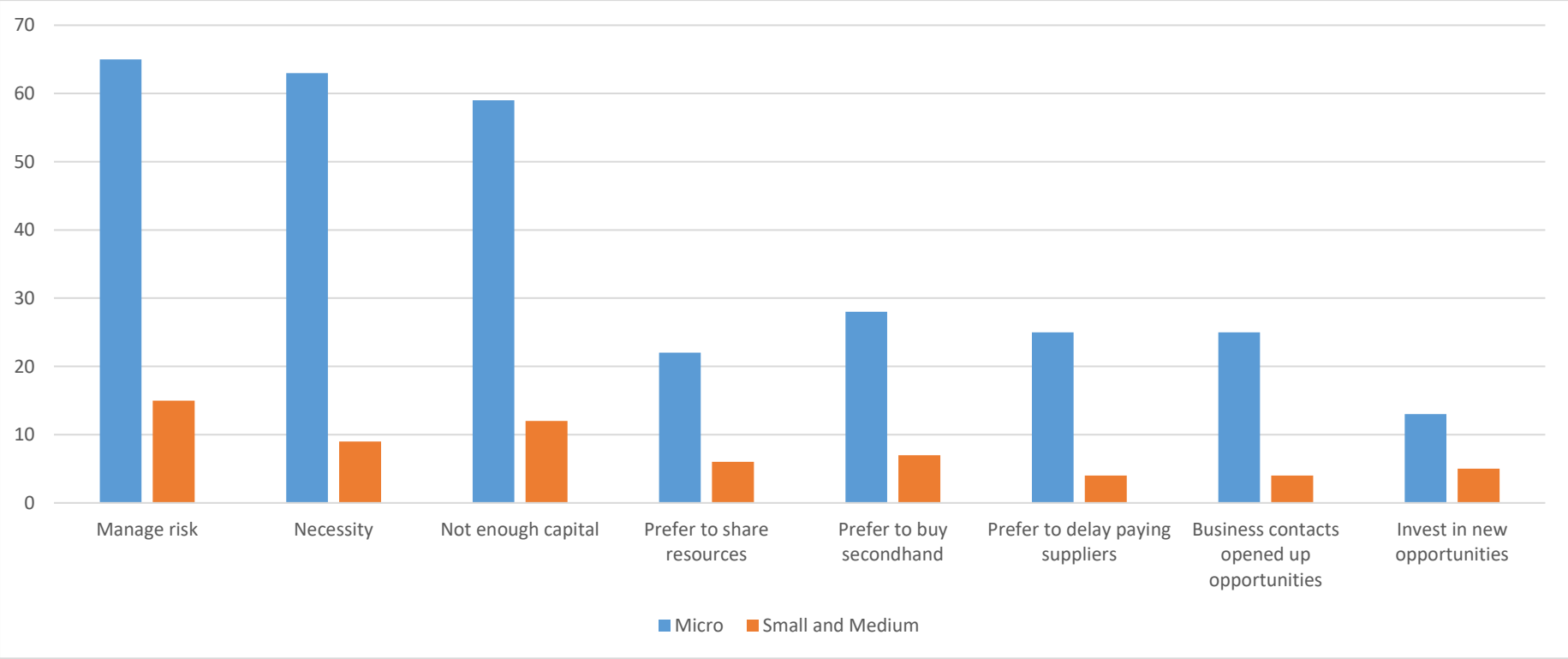
+ p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001

There was a statistically significant difference between micro businesses and small and medium businesses for using bootstrapping because the business wanted to manage without taking in outsiders, $\chi^2(2) = 5.100$, $p = 0.024$, with a mean rank score of 74.92 for micro businesses and 56.48 for small and medium businesses.

Figure 6.3 show the results of cross-tabulation of bootstrapping motives by business size using the bootstrapping methods that were found in the factors for motives. Under the factor risk management, the three motives were examined across the two business size classes. Managing risk in the business was very important for almost half of all micro businesses (65 micro businesses, 49%) and for 15 small and medium businesses (43%). Necessity was almost equally important for micro businesses (63 micro businesses, 47%) and for nine small and medium businesses (26%). Not enough capital was reported as a motive for using bootstrapping by 59 micro businesses (44%) and 12 small and medium businesses (34%).

Under the factor financial independence, the three motives were examined across the two business size classes. Preferring to share resources rather than use outside finance was reported as a motive for 22 micro businesses (17%) and six small and medium businesses (17%). Preferring to buy second-hand rather than use outside finance was reported as a motive for 28 micro businesses (21%) and seven small and medium businesses (20%).

Figure 6.3 Bootstrapping motives by business size



This graph shows the number of businesses that agree or strongly agree that this is their motive for using bootstrapping.

Preferring to delay paying suppliers rather than use outside finance was reported as a motive for 25 micro businesses (19%) and four small and medium businesses (11%). Under the factor opportunities, the two motives were examined across the two business sizes. Business contacts opening up new opportunities to bootstrap was reported as a motive for 25 micro businesses (19%) and four small and medium businesses (11%).

Investing in new opportunities was reported as a motive for using bootstrapping by 13 micro businesses (10%) and five small and medium businesses (14%). These findings highlight the importance of risk management and necessity as a motive for micro businesses using bootstrapping. This indicates that micro businesses are more cash-constrained than small and medium businesses and rely more on bootstrapping because of this.

6.4.5 Business size and bootstrapping motives: regression analysis

Micro businesses have already been found to be different in their motives for using bootstrapping, in the Kruskal–Wallis tests and the cross-tabulations. This section presents the results of the regressions, splitting the groups by business size – micro, and small and medium – in order to identify any differences between the groups. The independent variables were bootstrapping motives. The dependent variables were the two bootstrapping factors: delaying payments and owner-related bootstrapping (regression 1), and customer-related bootstrapping (regression 2). Sector and business age were controlled for.

Table 6.9 reports the impact of the motives for using bootstrapping on the types of bootstrapping used, split between micro and small and medium businesses. ***, **, * and + denote statistical significance at the 0.1%, 1%, 5% and 10% levels, respectively. As indicated in Table 6.9, the adjusted R^2 value confirms that 18 percent of the variance in the use of delaying payments and owner-related bootstrapping in micro businesses is explained by the independent variables and the control variables. Regression one for micro businesses was deemed a good fit for the data ($F(9,93) = 5.233$, $p < 0.001$). Regression two for micro businesses was not deemed a good fit for the data ($F(9,93) = 1.319$, $p > 0.10$). The adjusted R^2 value confirmed that 22 percent of the variance in the use of delaying payments and

owner-related bootstrapping in small and medium businesses could be explained by the independent variables and the control variables.

Table 6.9 Regressions – Business size and bootstrapping motives

Model Summary – Delaying payments and owner-related bootstrapping				
	R Square	**Adj. R Square**	**F**	**Sig.**
Micro Businesses	0.220	0.178	5.233	**0.000*** **
Small and Medium Businesses	0.377	0.221	2.422	**0.072+**
Model Summary – Customer-related bootstrapping				
	R Square	**Adj. R Square**	**F**	**Sig.**
Micro Businesses	0.066	0.016	1.319	0.263
Small and Medium Businesses	0.065	-0.169	0.277	0.920
	R1 Delaying payments/ owner-related bs		**R2 Customer-related bs**	
	Beta	**Sig.**	**Beta**	**Sig.**
Micro Businesses				
Risk management	0.347	**0.000*** **	0.260	0.013
Financial independence	0.111	0.231	0.000	1.000
Opportunities	-0.155	**0.098+**	0.039	0.701
Sector	-0.166	**0.080+**	0.041	0.691
Business age (young and established)	-0.116	0.219	0.006	0.954
Small and Medium Businesses				
Risk management	0.512	**0.015***	-0.178	0.460
Financial independence	0.312	0.101	-0.064	0.777
Opportunities	0.037	0.844	-0.092	0.693
Sector	-0.205	0.286	0.188	0.423
Business age (young and established)	-0.057	0.755	0.092	0.683

+ p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001 n = 167

Independent variables: Motives.

Dependent variables: Bootstrapping factors: Delaying payments and owner-related bootstrapping are the dependent variables in regression 1. Customer-related bootstrapping is the dependent variable in regression 2.

Regression one for small and medium businesses was deemed a good fit for the data ($F(5,20) = 2.422$, $p < 0.10$). Regression two for small and medium businesses was not deemed a good fit for the data ($F(5,20) = 0.277$, $p > 0.10$). When the businesses were split by business size, for micro businesses there was a significant positive relationship ($B = 0.347$, $p < 0.001$) for the motive for bootstrapping usage being risk management and using delaying payments and owner-related bootstrapping. If small and medium businesses wanted to manage risk in their business, they used delaying payments and owner-related bootstrapping (Beta = 0.512, $p < 0.05$). When all businesses combined were looked at in Table 6.6, there was a significant relationship with the motive for bootstrapping usage being risk management and using delaying payments and owner-related bootstrapping ($B = 0.398$, $p < 0.001$).

The findings in Tables 6.6 and 6.9 indicate that risk management is a motivating factor for all business sizes for using delaying payments and owner-related bootstrapping but is particularly important for micro businesses.

Micro businesses expressed a preference for using delaying payments and owner-related bootstrapping, in particular delaying paying suppliers as an alternative to external finance. This provides further support for the fact that micro businesses rely on their internal resources rather than bank finance. These findings indicate that delaying payments and owner-related bootstrapping in micro businesses are being used in place of external finance for survival rather than to avail of new opportunities.

There was also a significant negative relationship for micro businesses having the motive for using bootstrapping as opportunities and using delaying payments and owner-related bootstrapping ($B = -0.155$, $p < 0.1$). No such relationship was found for small and medium businesses. When all businesses combined were examined in Table 6.6, there was a significant positive relationship with the financial independence motive for using bootstrapping and delaying payments and owner-related bootstrapping ($B = 0.148$, $p < 0.10$), but this was not found for micro or small and medium businesses when examined on their own.

6.4.6 Summary of the motive for using bootstrapping in different business sizes

The most-reported motive for using bootstrapping by both business sizes was managing risk in the business, with almost half of all micro businesses and 43 percent of small and medium businesses reporting this. Necessity was next, with almost half of all micro businesses and a quarter of small and medium businesses reporting it as the motive. These findings provide support for risk management being the main motive across all business sizes and playing an even greater role in micro businesses. Financial independence was the next most important motive across all business sizes, again being of greater importance for micro businesses. These findings support the idea that micro-business owners want to reduce risk in their business and have financial independence, and that these can be motivating forces for using bootstrapping and managing internal resources rather than relying on outsiders for finance.

Hypothesis five proposed that smaller businesses would have a significantly greater use of delaying payments and owner-related bootstrapping than their larger counterparts. In percentage terms, twice as many micro businesses as small and medium businesses reported withholding the owner's salary, and 88 percent of the constrained businesses were micro businesses. This provides support for the importance of delaying payments and owner-related bootstrapping in micro businesses and thus supports hypothesis five. The findings for the Kruskal–Wallis tests provide evidence that micro businesses were cash-constrained and were relying on delaying payments and owner-related bootstrapping methods to reduce cash outflow in the business – much more so than small and medium businesses were. Micro businesses are using bootstrapping for risk management, out of necessity, and to manage without taking finance from outsiders. These findings provide support for bootstrapping usage and motives differing between micro businesses and SMEs. It seems that micro businesses find it harder to get external finance, and resort to using delaying payments and owner-related bootstrapping. This is a new contribution to the bootstrapping literature, demonstrating that business size influences the use of bootstrapping. The next section will explore the impact of constraint on the use of bootstrapping in businesses.

6.5 Constrained businesses and bootstrapping

The fourth research question this study seeks to answer is: *Do constrained MSMEs make greater use of bootstrapping?* This is addressed by hypothesis six, which proposes that a constrained business will have a significantly positive relationship with using delaying payments and owner-related bootstrapping.

There is a dearth of literature examining the impact of liquidity on the use of bootstrapping. Ebben (2009) found that regardless of the age of the business, less-liquid businesses relied more on delaying payments and owner-related bootstrapping. Delaying payments and owner-related bootstrapping methods are about finding ways to manage cash in a business, by delaying its outflow and by providing cash injections from the owner. Therefore, if a business was constrained, it is expected this would lead to greater use of delaying payments and owner-related bootstrapping.

The correlations in Table 6.5 provide support for constrained businesses using delaying payments and owner-related bootstrapping. They indicate a number of statistically significant and noteworthy relationships. If the owner–manager perceived the business to be constrained, this was positively correlated with delaying payments and owner-related bootstrapping ($r = 0.434$, $p < 0.01$). There was a significant finding that if the business was constrained, this was positively correlated with risk management ($r = 0.410$, $p < 0.01$). Table 6.10 outlines the results of the regression analyses, initially just for constrained businesses and bootstrapping.

The independent variable was "constraint". Constrained businesses are defined as the combination of businesses that did not apply for finance for fear of rejection, plus the businesses that did apply for bank funding and were rejected. The dependent variables were the two bootstrapping factors: delaying payments and owner-related bootstrapping (regression 1), and customer-related bootstrapping (regression 2). Business size, sector and age were controlled for.

Table 6.10 reports the impact of constraint on the types of bootstrapping used. ***, **, * and + denote statistical significance at the 0.1%, 1%, 5% and 10% levels, respectively. As the table indicates, the adjusted R^2 value confirms that 24.3 percent of the variance in the use of delaying payments and owner-related bootstrapping is explained by the independent variables and the control variables.

Table 6.10 Regressions for constrained businesses

	R1 Delaying payments/ owner-related bs		**R2 Customer-related bs**	
Control Variables	**Beta**	**Sig.**	**Beta**	**Sig.**
Micro and small and medium	-0.171	0.157	0.041	0.763
Sector	-0.270	**0.020***	0.144	0.273
Business age (young, established, middle, old)	-0.087	0.471	-0.071	0.607
Independent				
Constrained	0.379	**0.003****	-0.211	0.132
F Ratio	**5.892**		**0.985**	
R^2 (adj R^2)	0.293	0.243	0.065	-0.001

+ p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001 n = 34

Independent variables: Constrained businesses are defined as the combination of businesses that did not apply for finance for fear of rejection, plus the businesses that did apply for bank funding and were rejected.

Dependent Variables: Bootstrapping factors: Delaying payments and owner-related bootstrapping are the dependent variables in regression 1. Customer-related bootstrapping is the dependent variable in regression 2.

Regression one was deemed a good fit for the data ($F(4,57) = 5.892$, $p < 0.001$). Regression two was not deemed a good fit for the data ($F(4,57) = 0.985$, $p > 0.10$). There was a significant positive relationship for all businesses (micro, small and medium together) being constrained and using delaying payments and owner-related bootstrapping ($B = 0.379$, $p < 0.01$). A total of 34 businesses (19%) were constrained (either rejected or did not apply for a bank loan as they thought they would be rejected). Of these, 30 were micro (88%).

6.5.1 Financial constraint in different business sizes

Table 6.11 outlines the differences between the business sizes for constraint. The independent variable was constraint. The dependent variables were the two bootstrapping factors: delaying payments and owner-related bootstrapping (regression 1), and customer-related bootstrapping (regression 2). Sector and business age were controlled for. Table 6.11 reports the impact of constraint on the types of bootstrapping used, split between micro and small and medium businesses.

***, **, * and + denote statistical significance at the 0.1%, 1%, 5% and 10% levels, respectively. As indicated in Table 6.11, the adjusted R^2 value confirms that 16.7 percent of the variance in micro businesses in the use of delaying payments and owner-related bootstrapping is explained by the independent variables and the control variables.

Regression one for micro businesses was deemed a good fit for the data ($F(3,46) = 4.263$, $p < 0.05$). Regression two for micro businesses was not deemed a good fit for the data ($F(3,46) = 0.981$, $p > 0.10$). Micro businesses have a significant positive relationship with being constrained and using delaying payments and owner-related bootstrapping ($B = 0.379$, $p < 0.01$), indicating that micro businesses are the main business size that are constrained. Micro businesses are doing the best they can to reduce risk in their business by limiting external finance and outsider owners and by using delaying payments and owner-related bootstrapping in place of external funding. For micro businesses, constraint was the biggest driver of using delaying payments and owner-related bootstrapping, implying that when businesses are constrained and cannot attain or do not want external finance, they rely on their own financial resources.

Table 6.10 presented the regressions for business sizes, leaving out constraint, since it had been established that micro businesses were the main constrained business size class and because there were so few constrained businesses. Of the 34 constrained businesses, 30 were micro, so it is not surprising that the findings in Table 6.10 and 6.11 are almost identical for constrained businesses using delaying payments and owner-related bootstrapping, as the majority of constrained businesses are micro businesses.

Table 6.11 Regressions for constrained businesses – split by business size

Model Summary – Delaying payments and owner-related bootstrapping				
	R Square	**Adj. R Square**	**F**	**Sig.**
Micro Businesses	0.218	0.167	4.263	**0.01****
Small and Medium Businesses	0.269	-0.005	0.981	0.449
Model Summary – Customer-related bootstrapping				
	R Square	**Adj. R Square**	**F**	**Sig.**
Micro Businesses	0.055	-0.007	0.891	0.453
Small and Medium Businesses	0.132	-0.194	0.405	0.754
	R1 Delaying payments/ owner-related bs		**R2 Customer-related bs**	
	Beta	**Sig.**	**Beta**	**Sig.**
Micro Businesses				
Constrained	0.379	**0.007****	-0.212	0.159
Sector	-0.244	**0.080**+	0.086	0.567
Business age (young and established)	-0.083	0.558	-0.076	0.622
Small and Medium Businesses				
Constrained	0.405	0.313	-0.271	0.528
Sector	-0.484	0.234	0.450	0.303
Business age (young and established)	-0.090	0.802	-0.179	0.647

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ n =34

Independent variables: Constrained businesses are defined as the combination of businesses that did not apply for finance for fear of rejection, plus the businesses that did apply for bank funding and were rejected.

Dependent Variables: Bootstrapping factors: Delaying payments and owner-related bootstrapping are the dependent variables in regression 1. Customer-related bootstrapping is the dependent variable in regression 2.

In the regressions in Table 6.11, there was a significant finding that if the business was constrained, business owners would use delaying payments and owner-related bootstrapping ($r = 0.379$, $p < 0.01$) for micro businesses. Businesses that do not want to apply for bank finance or have been rejected for bank funding rely on delaying payments and owner-related bootstrapping to bridge that funding gap. Delaying

payments eases cash flow by managing the timing of the outflow of cash. Owner-related methods include improving cash flow in the business by the owner not taking a salary and in addition increasing the cash inflow by taking loans from family. This suggests that delaying payments and owner-related bootstrapping is a substitute for external finance for micro businesses. This provides support for hypothesis six.

6.6 Conclusion

The main objective of this chapter was to present how the hypotheses were tested by processing and analysing the raw data step by step. First, the factors were found for bootstrapping methods and motives. Cross-tabulations and Kruskal–Wallis tests were then undertaken between groups. The correlations presented an overview of the relationships between variables. The proposed research questions in this study were tested using regression analyses. Overall, the results supported hypotheses H1, H2, H3, H5 and H6. Table 6.12 summarises the research hypotheses discussed and proposed in Chapters three and four.

Table 6.12 Results for hypotheses

Hyp	Hypothesis description	Status
H1	The factors for bootstrapping include the components of the cash conversion cycle.	Supported
H2	The risk motive for bootstrapping will be positively related with using delaying payments and owner-related bootstrapping.	Supported
H3	The independence motive for bootstrapping will be positively related with using delaying payments and owner-related bootstrapping.	Supported
H4	The opportunities motive for bootstrapping will be positively related with using customer-related bootstrapping.	No support
H5	Smaller businesses will have a significantly greater use of owner-related bootstrapping.	Supported
H6	A constrained business will have a significant positive relationship with using delaying payments and owner-related bootstrapping.	Supported

The evidence presented confirms that the factors for bootstrapping include the components of the cash conversion cycle, and owner-related methods. The

correlations and regression analyses provided support for, respectively, the use of delaying payments and owner-related bootstrapping if the motive of the business owner was to manage risk in the business. If the business owner desired independence, the regressions provided support for the use of delaying payments and owner-related bootstrapping for all businesses combined. These provide support for delaying payments and owner-related bootstrapping being used in place of external finance. Micro businesses used more delaying payments and owner-related bootstrapping than small and medium-sized businesses. Constrained businesses, in particular micro businesses, used delaying payments and owner-related bootstrapping. The findings confirm that the bootstrapping methods include trade payables, trade receivables and inventory management and owner-related methods. Managing risk in the business was considered very important by business owners. Interpretation and implications of these findings are discussed in Chapter seven.

Chapter 7 Discussion

7.1 Introduction

Strong empirical evidence was found in this study for the use of bootstrapping as an alternative to external finance and debt. Bootstrapping has been identified in the literature as a deliberate choice of finance (Carter and Van Auken, 2005; Winborg, 2009; Grichnik and Singh, 2010). The factors for bootstrapping as articulated in the entrepreneurship literature have not been related to the components of the cash conversion cycle. To gain a clearer understanding of bootstrapping in micro and small and medium businesses, motives need to be linked to the type of bootstrapping used. This thesis uses a survey to 167 MSMEs in order to address these gaps. The current research explains the different sources of bootstrapping used and the differences in the usage of this finance choice between business sizes.

Section two of this chapter discusses the key research findings. Section three discusses how bootstrapping factors include the components of the cash conversion cycle. Section four discusses how the motives for bootstrapping relate to particular sources of bootstrapping. Section five discusses the research findings and the differences in the usage of bootstrapping across micro and small and medium businesses. Section six examines the impact of financial constraint on bootstrapping. Section seven concludes the chapter.

7.2 Research findings

Table 7.1 outlines the key findings in this study from the testing of the research hypotheses. Differences in the usage of bootstrapping among micro and small and medium businesses were addressed in Chapter six. The factors for bootstrapping were found to include the components of the cash conversion cycle. In addition, bootstrapping includes owner-related methods. The findings link the motives for using bootstrapping to the sources of bootstrapping used.

Constrained businesses were found to use delaying payments and owner-related bootstrapping in place of external finance. The next section will examine how the components of bootstrapping relate to working capital management.

Table 7.1 Key findings

Hypotheses	Key Findings
H1	The factors for bootstrapping include the components of the cash conversion cycle and in addition include owner-related bootstrapping.
H2	If the motive for using bootstrapping is that the owner wants to reduce risk, the business owner uses owner-related and delaying payments bootstrapping.
H3	If the motive for using bootstrapping is that the owner desires financial independence, the business owner uses owner-related and delaying payments bootstrapping.
H4	No support was found for the motive for using bootstrapping being opportunities and the use of customer-related bootstrapping.
H5	Micro businesses have greater use of delaying payments and owner-related bootstrapping than small and medium businesses.
H6	Support was found for a constrained business using delaying payments and owner-related bootstrapping.

7.3 Bootstrapping and working capital management

As previously discussed, the cash conversion cycle is a measure of trade receivable days, trade payable days and inventory days. If all three components of the cash conversion cycle are improved, the working capital management will improve, becoming more efficient. Research to date has not linked bootstrapping to working capital management, in part because bootstrapping has been studied from an entrepreneurial lens and working capital management has been studied from an accounting and financial lens. Many scholars with a background in entrepreneurship have researched bootstrapping (e.g., Jay J. Ebben, Richard Harrison, Dilani Jayawarna, Ossie Jones, Lynn Neeley, Joakim Winborg). Some have a background in business administration (Hans Landström, Howard Van Auken). The researcher for this thesis is an accountant and former small-business owner, which brings a unique perspective. McMahon and Holmes (1991) identified that working capital management practices in US businesses lag behind the recommendations of formal training and textbooks. Winborg (2000) classified methods of bootstrapping that minimise the outflow of financial means (joint utilisation methods, relatives working at below market rate) and methods that delay the outflow of financial means (negotiate favourable conditions with suppliers, withhold the owner's salary,

delaying payments to suppliers). Finally, Winborg (2000) referred to bootstrapping methods that speed up the inflow of "financial means" such as receiving payments in advance from customers and offering them discounts if they pay cash. Though not directly identified as such by Winborg (2000), altering the flow of financial means is financial management. The initial steps of examining financial flows (Winborg, 2000) and the use of financial budgets were outlined, but the linkage between the two was not made. The first research question in this study asked whether the factors of bootstrapping as articulated in the entrepreneurship literature related to the components of the cash conversion cycle in the finance literature.

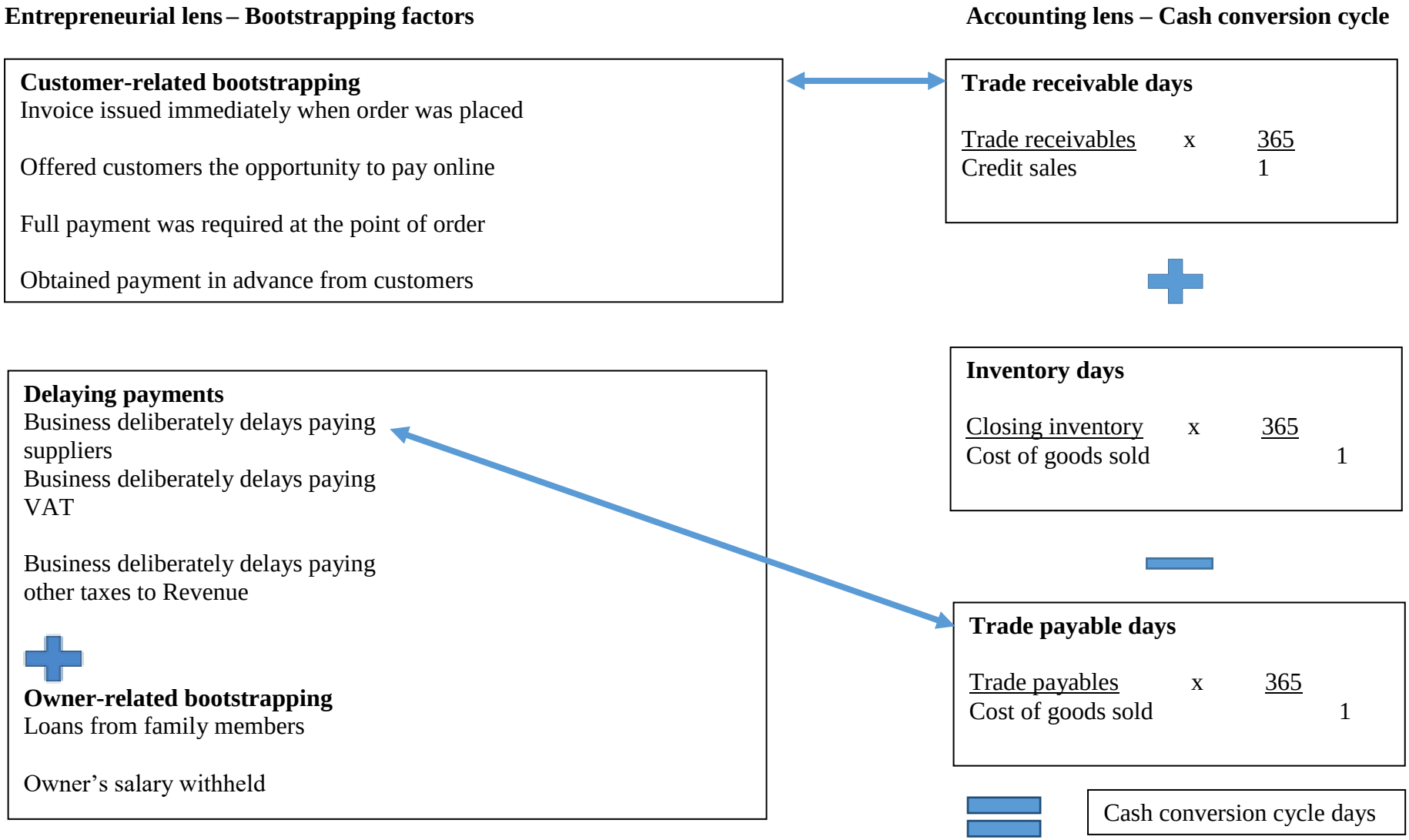
Research to date has not agreed on either a set of factors for bootstrapping or a definition for the practice. As this study's findings suggest, there are two reliable bootstrapping factors for examining MSMEs going forward: delaying payments and owner-related, and customer-related. Figure 7.1 outlines the two bootstrapping factors identified, and indicates that they match the trade payables and trade receivables components of the cash conversion cycle, and that they include owner-related methods. The use of bootstrapping signifies good cash-management practices and demonstrates financial management capabilities. This means business owners are using their internal resources to manage day-to-day operations and are demonstrating financial management skills, in particular cash management. These findings are significant in that they provide evidence that bootstrapping is working capital management and owner funding. Three of these focus on customer-related methods and ensuring that the steps taken maximise the speed at which cash is received. The final method of seeking the best conditions with suppliers reiterates this aim. This suggests that Irish businesses are very conscious of the importance of cash management.

The findings from this study, with the two key factors owner-related and delayed payments and customer-related, align with some of the findings from prior studies (Winborg and Landström, 2001; Carter and Van Auken, 2005; Brush et al., 2006; Ebben and Johnson, 2006; Jones and Jayawarna, 2010; Grichnik et al., 2014). Joint utilisation was not found as a factor in this study, whereas Ebben and Johnson (2006) found sharing resources with other businesses to exist. Anecdotal evidence suggests that Irish businesses do not engage in sharing resources with other businesses as a matter of common practice, which might explain this result. In the current study,

similarly to Ebben and Johnson (2006), owner-related and delaying payments loaded on one factor and customer-related bootstrapping on a separate factor. This may be explained by the relationship between owner-related bootstrapping and delayed-payment bootstrapping: both relate to managing the impact of money on the cash outflow, whereas customer-related methods involve speeding up the cash inflow into the business. In this study, the owner-related and delaying payments factor concentrated on three categories, one involving deliberately delaying payments and two owner-related (loans from family, and owner's salary withheld). This was in contrast to Ebben and Johnson (2006), who also included methods such as bartering, leasing, buying second-hand and getting capital from the founder from another business. This may be due to 45 percent of respondents being in consulting/service businesses, with no opportunities for bartering and no need for leasing or buying second-hand equipment, whereas Ebben and Johnson (2006) examined retail and services businesses. These all indicate strong, deliberate cash management. Customer-related methods all focused on improving cash flow and getting money in quickly.

Hypothesis one proposed that the factors for bootstrapping would include the components of the cash conversion cycle. The factors comprised trade payables bootstrapping (delaying payment to suppliers) and trade receivables bootstrapping (issuing invoices immediately when the order was placed, offering customers the opportunity to pay online, getting full payment at the point of order, and obtaining payment in advance from customers). The trade receivable days in the cash conversion cycle match the customer-related bootstrapping methods. The trade payable days in the cash conversion cycle match the delaying paying suppliers in the bootstrapping methods. Although inventory days was not specifically listed as a bootstrapping factor, 46 percent of businesses did minimise capital invested in inventory, which replicates managing the inventory days in the cash conversion cycle. Taken together, trade receivable days plus inventory days minus trade payable days give a number which is the cash conversion cycle for the business.

Figure 7.1 Bootstrapping in MSMEs



The lower the number, the more efficient the business is at managing its working capital, because the cash conversion cycle is a measure of working capital. Likewise, managing payments from customers to ensure the money is received quickly, delaying paying suppliers to manage the outflows of money, and minimising capital invested in inventory are all managing working capital. The addition of owner-related bootstrapping methods is cash management, using the owner-related bootstrapping as a source of funding when necessary.

This study found evidence of cash management (delaying paying taxes, taking loans from family, withholding the owner's salary). Trade payables, trade receivables and cash management are components of working capital management. These findings provide evidence that bootstrapping is working capital management and owner funding. Prior research supports trade payables and trade receivables management in Table 3.5 (Winborg and Landström, 2001; Ebben and Johnson, 2006; Jones et al., 2010; Grichnik et al., 2014), but this is the first time that bootstrapping has been defined as working capital management and owner-related methods. There is evidence that the factors of bootstrapping include the components of the cash conversion cycle. Bootstrapping is therefore working capital management – and more, in that it is also owner-related bootstrapping methods that are used for cash generation for the survival of the business.

Table 7.2 compares the results from the six key studies of bootstrapping factors. It shows that Winborg and Landström (2001) examined Swedish businesses in 1994 to 1996, Carter and Van Auken (2005) examined 91 US businesses with a mean age of 20.2 years in 2001, three studies examined new businesses (Brush et al., 2006; Jones and Jayawarna, 2010; Grichnik et al., 2014), while three examined established businesses (Winborg and Landström, 2001; Carter and Van Auken, 2005; Ebben and Johnson, 2006). Brush et al. (2006) ran their own factor analysis and used interviews to determine bootstrapping usage, which was in contrast to the surveys used by prior researchers (Winborg and Landström, 2001; Carter and Van Auken, 2005; Ebben and Johnson, 2006; Jones and Jayawarna, 2010; Grichnik et al., 2014). Four common bootstrapping factors emerged: owner-related, customer-related, delaying payments and joint utilisation (Winborg and Landström, 2001; Carter and Van Auken, 2005; Ebben and Johnson, 2006); these methods all signify cash management tendencies in

a business. Business size, age and sector were controlled for, similarly to prior researchers (Jones and Jayawarna, 2010).

Table 7.2 identifies more similarities than differences in the factors for bootstrapping. Owner-related bootstrapping appeared in all six studies. Brush et al. (2006) classify owner-related as own motives. Joint utilisation appeared in five of the six studies, but not in Brush et al. (2006). Delaying payments appeared in all six, which indicates this is a key component of bootstrapping and implies that business owners are engaging in trade payables management. Brush et al. (2006) classified delaying payments as minimising operational costs. Grichnik et al. (2014) found internal self-financing to comprise five items that from previous studies are split between owner-related and payments-related bootstrapping, but they classified them differently. Customer-related bootstrapping methods appear in all six studies. Jones and Jayawarna (2010) included customer-related methods such as obtaining payments in advance from customers and offering upfront payments as falling under the payments-related factor. Brush et al. (2006) included customer-related bootstrapping in developing products. While prior research has failed to identify a link between bootstrapping and working capital management, it has found evidence of the components of the cash conversion cycle, as outlined in the literature review. The literature review found evidence of customer-related bootstrapping and delaying payments bootstrapping for both new (Jones and Jayawarna, 2010; Grichnik et al., 2014) and established businesses (Winborg and Landström, 2001; Ebben and Johnson, 2006). Prior research also identified components of working capital management (Winborg and Landström, 2001; Ebben and Johnson, 2006; Jayawarna et al., 2011; Grichnik et al., 2014).

The current study found working capital management practices in MSMEs. The factors for bootstrapping delaying payments and owner-related and customer-related bootstrapping include the components of the cash conversion cycle. The notable difference in this study is the recognition that bootstrapping is working capital management and owner funding, a connection not previously identified. This is a key contribution. With the extensive literature by accountants on working capital management, and by entrepreneurship scholars on bootstrapping, there is an opportunity to take elements from both fields to strengthen the overall understanding of bootstrapping.

Table 7.2 Bootstrapping factors

Studies	Winborg & Landström (2001)	Carter &Van Auken (2005)	Brush et al. (2006)	Ebben and Johnson (2006)	Jones and Jayawarna (2010)	Grichnik et al. (2014)	This study
Factor	Owner-related Accounts receivable Joint utilisation Delaying payments Minimisers Subsidies	Used Winborg and Landström (2001)	Own motives Minimise operational costs Develop products Close capital ties Minimise labour	Owner-related and delaying payments Joint utilisation Customer-related	Owner-related Joint utilisation Payments-related	Customer-related Joint utilisation Temporary resource utilisation Internal self-financing	Owner-related and delaying payments Customer-related
Year data collected	1994–96	2001	2000	Not stated	2004 and 2006	Not stated	2014 relating to 2013
Country	Sweden	US	US	US	UK	Germany and Austria	Ireland
Business Age	Mature	Mean age 20.2 years	Mean age 2 years	Mean age 13.99 years	New	New	Mean age 13.41 years

Many studies to date have examined bootstrapping from the resource dependency theory (as previously outlined in Table 4.1), assuming that bootstrapping fills a resource dependency gap and is used in place of more traditional finance (Neeley and Van Auken, 2012; Rutherford et al., 2012; Malmstrom, 2014; Jayawarna et al., 2015; Winborg, 2015). Three studies identify bootstrapping as more in line with resource management (Grichnik and Singh, 2010; Patel et al., 2011; Mac An Bhaird and Lynn., 2015), but they still examine bootstrapping using the resource dependency theoretical framework. Ebben and Johnson (2011) found that businesses with more efficient cash conversion cycles were more liquid, required less debt and equity financing, and had higher returns.

The findings of the present study indicate that businesses do not want external finance, and that micro businesses are using delaying payments and owner-related bootstrapping as a substitute for external finance. This provides support for the pecking order in MSMEs, insofar as it relates to an aversion to loss of control. The underlying assumption of prior bootstrapping research – that it filled a financing gap and was investigated using resource dependency, as identified in the literature review – may need to be reassessed. Owner-related bootstrapping would appear to be a substitute for external finance. Delaying payments and customer-related bootstrapping indicate working capital management. Business owners appear to be using bootstrapping in place of external finance and are following the pecking order as suggested by Ou and Haynes. (2006). The findings of this research provide support for bootstrapping methods but also identify that owner-related bootstrapping is used more by micro businesses. The next section will examine how the motives for bootstrapping influence the type of bootstrapping used.

7.4 Motives for using bootstrapping

This study directly heeds the call of several scholars in the field of entrepreneurship for more coherent research identifying the determinants of bootstrapping (Winborg and Landström, 2001; Harrison et al., 2004; Van Auken, 2005; Ebben and Johnson, 2006). The paucity of research in this area has been highlighted. Winborg (2009) examined new businesses and asked them if they had ever "dealt with the need for resources in their business at relatively low or no cost" (p.75). The experience of the founder was the variable that most influenced the motive for using bootstrapping in

new businesses (Winborg, 2009). Winborg (2009) did not attempt to link the motive to the type of bootstrapping used. Grichnik and Singh (2010) did not attempt to identify the motives for bootstrapping used, but rather to identify if the use of bootstrapping by new business owners was a forced reaction or a choice. They found that the use of bootstrapping by new businesses was driven by the individual. Table 7.3 compares prior research on bootstrapping motives (Carter and Van Auken, 2005; Winborg, 2009) with the current study. The desire to manage risk was a common motivator for the use of bootstrapping in the three studies. Carter and Van Auken (2005) conducted a factor analysis to examine the motives for the use of bootstrapping by asking questions about owners' perceptions of constraints and the opportunities businesses faced. In this research, three factors were found: risk, ability and effort. Regression analysis was undertaken, with motives as the independent variable and the bootstrapping clusters as the dependent variable (Carter and Van Auken, 2005). The second research question asked: Does the motive for using bootstrapping influence the type of bootstrapping used by MSMEs?

Table 7.3 outlines the three factors for bootstrapping motives found in the current study: risk management, financial independence, and opportunities. In order of most cited, these motives have been identified as: a desire to manage without external finance; a desire to grow the business; risk management; and, joint fourthly, necessity, and not enough capital in the business (see Table 5.17). This contrasts with the motives of new businesses, which are: lower costs, lack of capital, and fun helping others and getting help from others (Winborg, 2009). This study predicted that by drawing on motivational factors for bootstrapping use, the type of bootstrapping could be related to the motives for its use. Hypothesis two proposed that if the business owner wanted to reduce risk in their business, they would pursue more delaying payments and owner-related bootstrapping methods. Support was found for this hypothesis in micro and small and medium businesses, but was more significant for micro businesses; see Table 6.9. This provides further evidence that micro business are different from small and medium businesses, managing risk by reducing their reliance on external finance and by generating cash themselves by using delaying payments and owner-related bootstrapping. This indicates that business owners understand that external finance comes with risk from rising interest rates and cash-flow commitment. By managing cash-flow, control can be retained.

Table 7.3 Components of bootstrapping motives factors

Carter and Van Auken (2005)	Winborg (2009)	This study
Risk	**Motives**	**Risk Management**
Difficulty raising capital Undercapitalisation Personal preference for company growth Growth strategy given capital availability	Lower costs Manage without external finance Lack of capital Reduce risk Freedom of action Save time Fun helping others/getting help from others Other motive No explicit motive	I wanted to manage risk in the business Not enough capital in the business Necessary to survive
Ability		**Financial Independence**
Personal expertise in determining financial needs Capability in advocating capital acquisition		I prefer to share resources with other businesses rather than use outside finance. I prefer to buy second-hand rather than relying on outside finance. I prefer to delay paying suppliers rather than use outside finance.
Effort		
Number of contracts annually Hours devoted to capital acquisition		**Opportunities**
		My business contacts opened up new opportunities to bootstrap I wanted to invest in new investment opportunities
Data collected: 2001	**Data collected:** 2006	**Data collected:** 2014 relating to 2013
Country: US	**Country:** Sweden	**Country:** Ireland
Business age: Mean age 20.2 years	**Business age:** New	**Business age:** Mean age 13.41 years

This was an expected finding, as supported by prior literature which argues that when environmental risk levels are high, delaying-payment bootstrapping is used (Carter and Van Auken, 2005). Carter and Van Auken's (2005) findings indicate that people will adopt private owner finance if they perceive themselves to have less ability, whereas minimising accounts receivable occurs only if opportunities are found to exist in the external environment. However, the main motive for using bootstrapping is to reduce risk in the business. The findings in this thesis build on Carter and Van Auken's (2005) findings by identifying both the size of the business that this relates to and the types of bootstrapping used by business owners who see risk as an important motivator. Combined with the fact that Irish MSMEs were reported as deleveraging in Chapter two at -22 percent in 2013 (SAFE, 2014) and increasing their usage of trade credit from 24 percent in 2013 to 35 percent in 2015 (SAFE, 2013, 2015), this means micro businesses were choosing to finance without external funding and by using delaying payments and owner-related bootstrapping. Support can also be seen in Section six below that constrained micro businesses were relying on delaying payments and owner-related bootstrapping.

Hypothesis three proposed that if the business owner desired independence, this would lead to delaying payments and owner-related bootstrapping methods. The finding is that if all business owners want to have financial independence, this is positively related to using delaying payments and owner-related bootstrapping. This indicates that by using delaying payments and owner-related bootstrapping, external finance is avoided and therefore financial independence can be maintained. Control is not relinquished by selling equity, nor is cash flow weakened by monthly loan repayments. This provides support for all business sizes wishing to remain independent and avoiding taking on external debt. Business owners are using bootstrapping to generate cash and become self-reliant financially. This provides support for businesses using internal resources in preference to external financing.

Hypothesis four proposed that if the business owner perceived opportunities available to them, they would use customer-related bootstrapping. No support was found for this hypothesis. This indicated that delaying payments and owner-related bootstrapping and customer-related bootstrapping would not be used for availing of business opportunities. This makes sense, because using owner-related methods would involve using personal money to avail of business opportunities, and the

individual may avail of these opportunities outside of the business, using personal funding. Also, delaying payments to suppliers and to Revenue would tend to be used to manage cash flow, not to avail of other opportunities. It would not make business sense to delay paying suppliers in order to risk money in an investment that may or may not produce dividends. In the worst case scenario, the invested money could be lost, and how would suppliers then be paid? Even if the investment proved fruitful, it would be unlikely to succeed in the very short time frame needed to pay suppliers. If relationships were damaged with suppliers, they may stop providing goods or services to the business, which would have a detrimental impact on its operation.

Overall, this research suggests that if risk is a motivation for using bootstrapping, then businesses are inclined to use methods that enable cash management and cash outflow reduction (i.e., delaying payments, withholding owner's salary, and family loans). The next section will address the practice of bootstrapping across business sizes.

7.5 Bootstrapping and business sizes

Bootstrapping was measured in this study in Ireland for MSMEs. The businesses were all members of business networks and represent a variety of sectors. Two factors found for bootstrapping – delaying payments and owner-related bootstrapping, and customer-related bootstrapping – may indicate that these are the bootstrapping methods that MSMEs rely on in a post-financial-crisis period. Combined with the findings that micro business use more owner-related bootstrapping methods than small and medium businesses and are the main business size that are constrained, these findings indicate that micro businesses use less external finance than small and medium businesses and are more self-reliant for cash generation.

Hypothesis five proposed that smaller businesses would make significantly greater use of owner-related bootstrapping. Notable differences were found in the usage of bootstrapping in different business sizes. Delaying payments and owner-related bootstrapping methods, such as loans from family and friends, withholding the owner's salary, and the owner working elsewhere for cash for the business, were all found to be very much in use in micro businesses. These findings indicate the

shortage of cash in micro businesses. Combined with the fact that micro businesses were reported as the main business size that was constrained, and the fact that they rely on delaying payments and owner-related bootstrapping, these findings indicate that micro businesses are relying on themselves to generate the cash they need for survival. Micro businesses use delaying payments and owner-related bootstrapping more than small and medium businesses to continue operating their businesses. Micro businesses by their nature are smaller, and this group were found to run their businesses from home more frequently than small and medium-sized businesses. Micro businesses were also found to engage more in the black economy. This was supported by the interviews held with accountants and micro business owners in 2012. Perhaps this was due to necessity, but as the numbers were small in the reporting of businesses that engage in the black economy, too much emphasis should not be placed on this finding. Micro businesses were cost-cutting. They were careful where they operated their business from: some reported working from home, and others moved their business to a lower-rent location.

These findings provide further evidence of micro businesses being very aware of their cash-flow needs in their business. Micro businesses were using delaying payments and owner-related bootstrapping as a substitute for external finance. Small and medium businesses negotiated better conditions with suppliers and purchased more with other businesses than micro businesses. This could be because small and medium businesses have built up relationships with suppliers and by their size purchase more and thus are in a better position to negotiate more favourable terms. Small and medium businesses bought goods in bulk from suppliers; this could be made possible by business size. Small and medium businesses let staff go and rehired them at a lower rate; this would be a cost-saving measure.

Table 7.4 outlines the different bootstrapping methods used by micro businesses and small and medium businesses. Customer-related bootstrapping methods are the top methods used by micro and small and medium businesses. This study found that the three most common bootstrapping methods used by MSMEs were: offering the same conditions to all customers (74%), using routines to speed up invoices (72%), and seeking out the best conditions with suppliers (63%). Four methods of bootstrapping were used by over 60 percent of Irish businesses: offering the same conditions to all customers (74%), using routines to speed up invoicing (72%), seeking out the best

conditions with suppliers (63%), and selecting customers who pay on time (61%). This indicates cash management.

Table 7.4 Bootstrapping methods by business size

Bootstrapping methods	Number of micro businesses using this method	Percentage of micro businesses using this method	Number of small and medium businesses using this method	Percentage of small and medium businesses using this method
Offer the same conditions to all customers	81	61%	18	51%
Issue invoice immediately	77	58%	22	63%
Select customers who pay on time	65	49%	22	63%
Withhold the owner's salary	64	48%	8	23%
Delay paying suppliers	52	39%	10	29%
Use personal credit card for business expenses	46	35%	10	29%

For micro businesses, owner-related bootstrapping methods and delaying payments methods followed closely. Almost half of all micro businesses reported withholding the owner's salary, indicating that they are most likely having cash-flow problems in their business and are trying to manage by not paying themselves. This only applied to one quarter of small and medium businesses. Just over one third of micro businesses and almost one third of small and medium businesses reported using their personal credit card for business expenses, again signifying a cash shortage. The cash shortage in the business resulted in business owners being resourceful and relying on owner-related bootstrapping methods. These findings explain why owner-related bootstrapping methods feature in the factors in this research. Across both the business sizes explored, the main methods of bootstrapping used were customer-related methods. For micro businesses, however, this was followed very closely by delaying payments and owner-related bootstrapping – which is not as important for small and medium businesses. The top motive for using bootstrapping was the same across all business sizes: the desire to manage without external finance. It seems that micro businesses managing without external finance in some cases leads to a situation where delaying payments and owner-related bootstrapping is used to

generate cash. For all business sizes, the importance of customer-related bootstrapping to improve the movement of cash in the business was recognised.

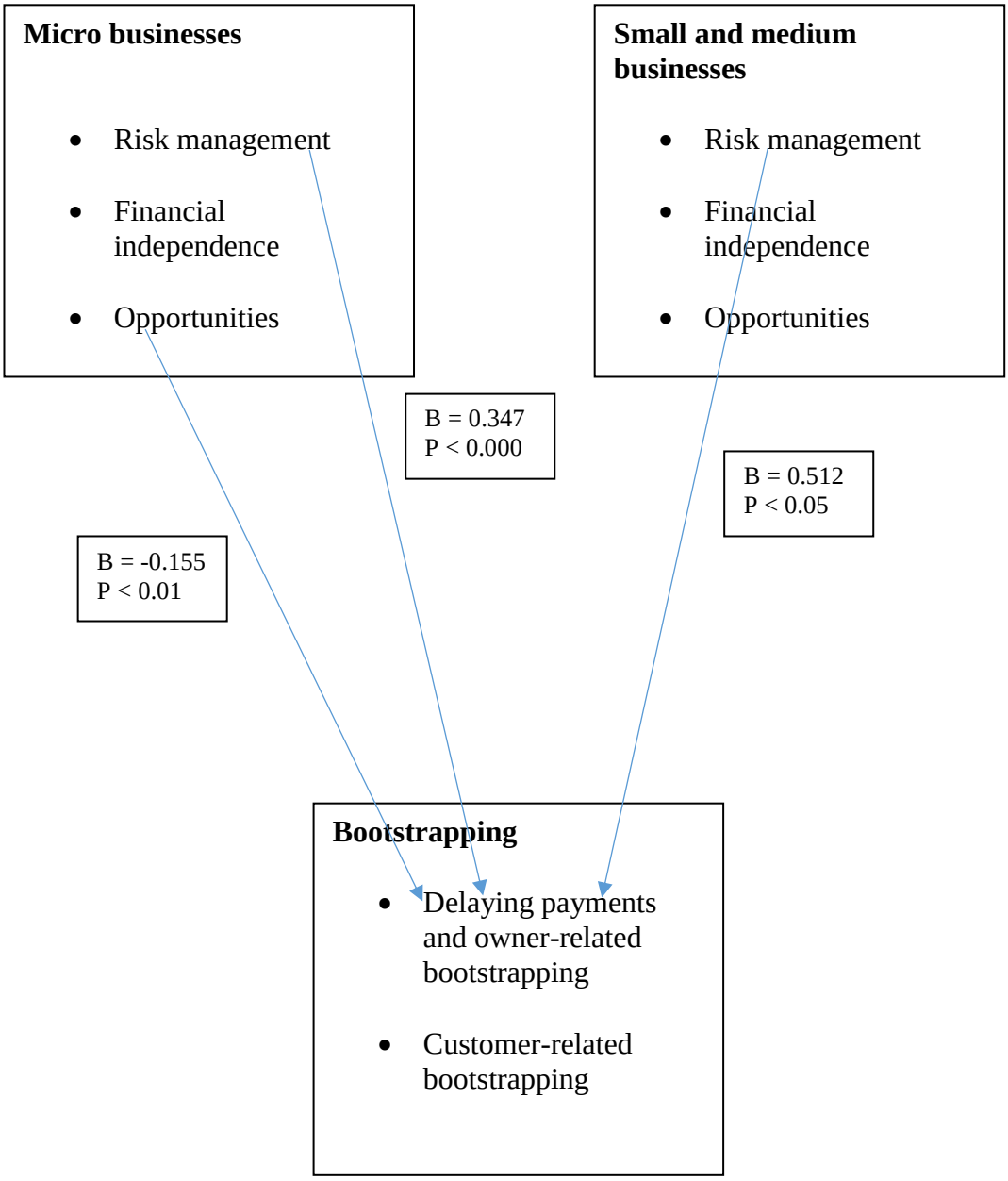
If risk management was the motive for using bootstrapping in micro businesses, this was negatively related to using customer-related bootstrapping. Customer-related bootstrapping was not a substitute for external finance but a resource management strategy. Table 7.5 outlines the differences found in the motives for using bootstrapping in micro businesses and small and medium businesses.

Table 7.5 Motives for using bootstrapping

Bootstrapping Motives	**Number of micro businesses using this method**	**Percentage of micro businesses using this method**	**Number of small and medium businesses using this method**	**Percentage of small and medium businesses using this method**
Manage without external finance	72	53%	18	51%
Grow the business	67	51%	15	43%
Reduce risk in the business	65	49%	15	43%

Over half of all businesses, micro, small and medium, reported using bootstrapping in order to manage without external finance. This provides strong evidence of the desire to manage resources internally and provides support for the research findings of Ou and Haynes (2006), who confirmed the importance of internal resources as a financing source for small businesses. Ou and Haynes (2006) said that initially funds would come from the business owners, and this is confirmed by the findings of owner-related bootstrapping use being so evident in micro businesses. In addition, the management of customer payments and supplier payments demonstrates that business owners are also engaging in working capital management. Figure 7.2 outlines the significant regression findings regarding motives for using bootstrapping in micro and small and medium businesses.

Figure 7.2 Significant regressions for bootstrapping motives for micro and small and medium businesses



When the motive was risk management, delaying payments and owner-related bootstrapping was used across all business sizes. When the motive was opportunities, in micro business there was a significant negative relationship with using delaying payments and owner-related bootstrapping. This indicates that micro businesses did not use these forms of bootstrapping to invest in opportunities but more likely for survival. To the author's best knowledge, no other study to date has highlighted the differences between business sizes in terms of their usage of bootstrapping. The findings discussed here indicate that micro businesses are different. They need cash, but they do not want external finance and often cannot secure it. Therefore, they turn to delaying payments and owner-related bootstrapping for survival. They are aware of the importance of customer-related bootstrapping to improve cash flow in their business. However, owner-related bootstrapping is used as a last resort and cannot be a sustainable method of financing a business, as it relies on the owner not paying themselves or even working elsewhere to fund the business. This cannot continue long-term, as the owner will need a wage to survive and it could suggest burnout if they work two jobs. These findings indicate that micro businesses need more supports to survive and prosper. In terms of support, one possibility could be Enterprise Boards providing more financial support for micro businesses and not just for larger export businesses. This will be discussed in more detail in Chapter eight. The next section will examine the impact of constraint on the use of bootstrapping.

7.6 Business constraint and bootstrapping usage

The fourth research question asked: How does financial constraint influence bootstrapping? Hypothesis six proposed that a financially constrained business would use delaying payments and owner-related bootstrapping. Support was found for this hypothesis. Table 6.10 outlined if businesses identified as financially constrained, there was a positive relationship with using delaying payments and owner-related bootstrapping. Table 6.11 outlined that micro businesses were the main driver of this finding. If micro businesses could not secure finance from banks, they would use delaying payments and owner-related bootstrapping as a substitute. At the 10 percent level of significance, micro businesses had a strong motive of necessity for using bootstrapping. These findings provide support for micro

businesses being financially constrained and indicate that they are using bootstrapping as a substitute for external finance. Further evidence is that being constrained was positively correlated with using delaying payments and owner-related bootstrapping ($r = 0.434$, $P < 0.01$).

Irish MSMEs were constrained, and in 2013 16 percent of Irish business owners did not apply for a bank loan for fear of rejection, compared to 7 percent of their EU counterparts (Lawless et al., 2014). The percentage of micro businesses seeking bank finance was 30 percent in 2012, 36 percent in 2013, and dropped to 15 percent in 2017 (McShane and Reaper, 2017). For the same time period, small businesses used 43 percent, 43 percent and 22 percent. Micro businesses, the main business size in this research, do not want bank financing and must therefore fund their business another way. After the global financial crisis, Irish MSMEs moved away from bank borrowings to fund working capital management and used more trade credit and equity, perhaps owner-related (Lawless et al., 2013). Investment financing by SMEs was likewise funded by trade credit, equity and internal resources and less so by external debt (Lawless et al., 2013). This provides further support for bootstrapping being a substitute for external finance – but not all bootstrapping, just delaying payments and owner-related bootstrapping. This builds on existing research in this area by highlighting the differences with micro businesses when compared to small and medium businesses. It also highlights the importance of delaying payments and owner-related bootstrapping in filling a financial deficit in businesses. The next section summarises.

7.7 Conclusion

The objective of this study was to examine the practice of bootstrapping in Irish MSMEs in a post-financial-crisis environment. Findings show that factors for bootstrapping include the components of the cash conversion cycle. However, bootstrapping is more than the components of the cash conversion cycle: it is also owner-related methods, cash management. Bootstrapping can be considered to be working capital management for the smooth operation of the business, and also owner-related cash management. Since working capital management can enable businesses to improve and manage their cash, reducing reliance on external debt, this is an important finding. It also knits together the factors found for bootstrapping by

prior researchers. The finding that if business owners want to manage risk, there is a positive relationship with delaying payments and owner-related bootstrapping provides evidence that bootstrapping is a deliberate choice by business owners in preference to external finance.

There is a significant finding that micro businesses are different. They are more conscious of risk management, are more constrained and rely more on delaying payments and owner-related bootstrapping than small and medium businesses. Financial constraint leads to delaying payments and owner-related bootstrapping. This thesis lends a contextual contribution, as it examines bootstrapping use in businesses in Ireland, and also a theoretical contribution, as it explains why different types of bootstrapping are used in businesses while considering bootstrapping is working capital management. In summary, there is a strong link between the desire to manage without external finance, risk management, financial independence and the use of bootstrapping. This may reflect the fact that business owners became more aware of the impact of high debt levels. Traditional lending sources in Ireland were reduced, and the impact of debt on cash-flow, combined with reduced availability of funding, led to reluctance among business owners to look for external funding.

A major strength of this study is that, for the first time, factor analysis was performed to establish motivational factors for bootstrapping. Future researchers will benefit from this new insight. These findings are important because they add to extant literature and suggest for the first time that bootstrapping has a place not just in entrepreneurship literature but also in finance literature. By combining the skill sets of accountants and entrepreneurship academics, future research could add new insights to the practice of bootstrapping.

Chapter 8 Conclusions

8.1 Introduction

This chapter draws together the conclusions of the thesis. It outlines the findings of the study in relation to the research objectives (Sections two and three) and the contributions to the field of bootstrapping (Section four). It discusses the limitations of the study (Section five) and suggests avenues for future research (Section six). Finally, it discusses the implications of this study for practice and policy (Section seven).

8.2 Research objective

The objective of this study was to examine the practice of bootstrapping in Irish MSMEs in a post-financial-crisis environment. It sought to establish that bootstrapping factors include the components of the cash conversion cycle. The questions posed examined how the motives for bootstrapping in MSMEs may be linked to the type of bootstrapping used. In addition, this thesis sought to identify differences in the use of bootstrapping between micro and small and medium businesses.

8.3 Findings

Bootstrapping was found to be a deliberate practice. The factors for bootstrapping identified encompassed several components of the cash conversion cycle, namely trade receivables and trade payables. Bootstrapping practices identified also included loans from family members, withholding the owner's salary and deliberately delaying paying VAT and other taxes to Revenue. These four methods were all undertaken to manage cash. Bootstrapping is more than the cash conversion cycle components. It is more than working capital management. It is working capital management and owner-related methods. This provides clarity on bootstrapping being financial flows in a business (Winborg, 2000). Bootstrapping is about ensuring that cash is flowing efficiently, using the components of the cash conversion cycle. It is also about ensuring there is sufficient cash in the business by managing internal resources and supporting cash deficits with owner-related funds.

When the business owner's motive for using bootstrapping was risk management, this was found to be positively related to delaying payments and owner-related bootstrapping. This was significant at the $p < 0.001$ level for micro businesses and at $p > 0.05$ level for small and medium businesses, indicating that it is more important for micro businesses. This is further supported by the fact that micro businesses use more owner-related bootstrapping methods in order to avoid external debt and equity, thereby managing risk of loss of control and ownership. For all businesses combined in the study, when the motive for bootstrapping was financial independence, this was significant at the $p < 0.10$ level for using delaying payments and owner-related bootstrapping. These findings provide further support for businesses preferring to rely on internal resources, namely delaying payments and owner-related bootstrapping, to generate cash rather than the risk associated with external finance consistent with pecking order theory. Micro businesses were found to be constrained and to rely on delaying payments and owner-related bootstrapping. This finding provides further support for the notion that micro businesses prefer internal resources and use them to generate much-needed cash. It also provides support for the constrained pecking order theory and suggests this might be the most appropriate theoretical lens to explore bootstrapping going forward.

8.4 Contributions

This thesis began with the primary aim of examining the practice of bootstrapping in MSMEs in Ireland in a post-financial-crisis period. It sought to match the bootstrapping motive to the bootstrapping method and to explore differences in bootstrapping among business sizes.

It was evident from the review of the literature that bootstrapping was primarily viewed as filling a resource dependency gap. Nineteen studies viewed bootstrapping as an alternative to traditional financing (Freear and Wetzel Jr., 1990; Bhide, 1992; Van Auken and Neeley, 1996; Winborg and Landström, 2001; Harrison et al., 2004; Carter and Van Auken, 2005; Lahm and Little, 2005; Ebben, 2009; Winborg, 2009; Jones and Jayawarna, 2010; Jayawarna et al., 2011; Vanacker et al., 2011; Atherton, 2012; Neeley and Van Auken, 2012; Rutherford et al., 2012; Grichnik et al., 2014; Malmstrom, 2014; Jayawarna et al., 2015; Winborg, 2015). The major contributions of this study arise from a critical re-examination of this assumption.

8.4.1 Bootstrapping and working capital management

Prior research has neglected to examine the link between bootstrapping and the cash conversion cycle. In the absence of accounting researchers studying bootstrapping, this connection has not been apparent. This research began by questioning this gap, specifically in the context of Irish MSMEs. It found that external finance was not desired by MSMEs. The second observation from the review of literature in the field was that the bootstrapping methods fell mainly into the categories of customer-related, owner-related and delaying payments, and supplier-related. Prior research categorised the methods under factors but failed to identify a link with the cash conversion cycle and its components. Three studies related bootstrapping to resource management (Grichnik and Singh, 2010; Patel et al., 2011; Mac An Bhaird et al., 2015), but again the theoretical framework employed was resource dependency. As pointed out by Grichnik and Singh (2010) and Rutherford et al. (2012), a concise definition of bootstrapping is required.

As this study's findings suggest, there are two reliable bootstrapping factors for established MSMEs: delaying payments and owner-related bootstrapping, and customer-related bootstrapping. The focus on these bootstrapping factors indicates that business owners are engaging in working capital management and owner-related funding. This is a significant contribution of this thesis, because it has implications not just for researching bootstrapping but also for embedding it in finance and financial management literature. If bootstrapping is considered resource management and owner funding, namely working capital management, then the importance of its components will need to be explained to business owners and perhaps to providers of finance to businesses. They will need to be taught the steps to take to ensure that customers pay quickly, and the benefits of getting cash into the business earlier as opposed to later. Business owners will need a plan to ensure speedy payment by customers. They will need to be told the benefit of holding onto cash and of taking their time to pay suppliers. Holding inventory is costly, so the management of inventory is important. Finally, steps to manage cash will need to be explained along with the importance of the cash conversion cycle.

8.4.2 Bootstrapping motives contribution

In previous studies, no attempt was made to link the motives for bootstrapping use to the type of bootstrapping used. Three prior studies (Carter and Van Auken, 2005; Grichnik and Singh, 2010; Winborg, 2009) examining the motives for bootstrapping were discussed; two studies (Winborg, 2009; Grichnik and Singh, 2010) focused on new businesses. All three were based on the assumption that bootstrapping was used as an alternative to external finance. The present study did not make this assumption.

While the predictions of the two predominant motives for the usage of bootstrapping, per the literature – not enough capital, and managing without external finance – were supported by the empirical evidence in this study, risk reduction was also found to be very important, and when combined with the two main motives could suggest that businesses owners are reluctant to relinquish control. The findings indicate that if risk is a motivation for using bootstrapping, business owners will use owner-related and delaying payments bootstrapping. This signifies a strong desire to manage operations internally. If the main motive for using bootstrapping is financial independence, business owners use delaying payments and owner-related bootstrapping. This indicates a desire to have more efficient resource management. These findings bridge a knowledge gap in the literature in terms of identifying the motives for using bootstrapping in Irish MSMEs. The findings of this research provide evidence that bootstrapping is working capital management and owner funding and is used to manage risk in the business by managing cash. Improving cash flow can ensure a business's financial health and its survival.

8.4.3 Micro businesses are different

Prior research has examined bootstrapping in SMEs but did not explicitly state the findings from different business sizes. (Carter and Van Auken, 2005; Ebben and Johnson, 2006; Ebben, 2009; Winborg, 2009; Grichnik and Singh, 2010; Jayawarna and Jones, 2011; Neeley and Van Auken, 2012; Mac An Bhaird and Lynn, 2015). Only one study of bootstrapping examined micro businesses (Grichnik et al., 2014), and this examined what causes nascent entrepreneurs to engage in bootstrapping. The current research examined micro and small and medium business in Ireland in a post-financial-crisis environment. The findings that micro businesses were constrained and relied on delaying payments and owner-related bootstrapping

provide support for using the pecking order as the most appropriate theoretical lens to explore bootstrapping. This provides additional support for the findings of Ou and Haynes (2006) that the two most important sources of funding for small businesses are internal resources and owner's loans. Ou and Haynes (2006) found that internal equity is often a last resort to relieve financial stress facing small businesses. Mac An Bhaird and Lucey (2010a) found that SMEs have a preference for internal funding.

This thesis adds to the literature by suggesting that it is mostly micro businesses that are constrained and use delaying payments and owner-related bootstrapping methods, owner resources, to fund this shortfall. By putting the focus on bootstrapping in micro businesses, this clarifies an area in which there has been a dearth of research to date. Irish micro businesses seek less bank finance than small and medium businesses, and in 2017 only 15 percent of all Irish micro businesses sought bank finance (McShane and Reaper, 2017). This provides additional evidence of the importance of owner-related bootstrapping as a substitute for external finance. This supports the findings of Lawless et al. (2013) that bank finance for working capital management and investments by Irish MSMEs fell dramatically between 2005 and 2012 and that the use of internal resources and trade credit rose. After the financial crisis, Irish MSMEs deleveraged and began to make greater use of internal funds (SAFE, 2014). Micro businesses relied much more on owner-related bootstrapping methods than small and medium businesses. Owner-related bootstrapping methods are limited, thus potentially limiting the growth prospects of micro businesses. While not all micro businesses may want to grow into small or medium businesses, a significant number do. In order to support this transition, consideration will need to be given to how best to achieve and support this.

8.4.4 Bootstrapping and constraint

For the first time in studies of bootstrapping, this research examined if businesses were constrained. It did this is in part because of the time period examined: a post-financial-crisis environment. The finding that micro businesses were the most constrained businesses, combined with the finding that this leads to the use of delaying payments and owner-related bootstrapping, is significant because it indicates that micro businesses are different from small and medium businesses.

Owner-related bootstrapping is limited, and in the long term a better support mechanism must be found for businesses that either cannot get or do not want bank funding. As business owners are engaging in trade receivables and trade payables management, more training on the overall cash conversion cycle would be beneficial.

8.4.5 Summary of contributions

This research represents a significant advance in the knowledge and literature on bootstrapping use in MSMEs. To the author's knowledge, this is the first study to demonstrate that bootstrapping is in effect working capital management and owner-related funding. It is also the first study to examine micro and small and medium businesses in a post-financial-crisis environment, and it suggests that bootstrapping needs to be explored as part of finance and financial management literature going forward. This thesis is novel in its suggestion that the pecking order theory is the most suitable theoretical lens for exploring bootstrapping. Furthermore, it robustly defines the factors for bootstrapping and presents clear evidence to demonstrate that the components of bootstrapping used are part of working capital management. This is significant, as it allows for research in bootstrapping to be extended beyond the entrepreneurship literature to include finance and financial management literature.

From a contextual point of view, the contribution of this work is evident in the time period examined, combined with the fact that Ireland, the setting in which the businesses operate, had received emergency funding from the IMF. No other bootstrapping studies have examined bootstrapping in businesses in a post-financial-crisis environment. Methodologically, the process of visiting the business groups and explaining the purpose of the research and the person behind it before sending the online anonymous link enabled the response rate to be 36 percent (Table 5.13). More generally, this research posits a new approach to examining bootstrapping practices in MSMEs. It seeks to change the way we view and examine bootstrapping, moving from a capital constraint perspective to one of working capital management. Further research is required to test bootstrapping using a working capital management frame.

Overall, this research reinforces the view that bootstrapping is a conscious choice (Winborg, 2009; Grichnik et al., 2014) and is not just used out of necessity. It

highlights that micro businesses differ from their larger counterparts and thus need to be supported. Finally, this research makes a number of practical contributions for academics and policymakers, which will be outlined in section seven.

8.5 Limitations of the research

There were a number of limitations to the current study that provide avenues for future research. The first limitation relates to the geographical context of the MSME sample, MSMEs in Ireland, as this is a small area. The time period examined was the post-financial-crisis period in Ireland. In 2013, Ireland had 39 percent credit-constrained businesses, compared with the EU average of 27 percent (SAFE, 2014). In 2015 this gap reduced, with Ireland at 26 percent and the EU average at 20 percent (SAFE, 2015). New bank lending to MSMEs declined globally, varying between 45 percent in Italy and the Netherlands to 82 percent in Ireland (Tran and Ott, 2013). However, Ireland exited the financial bailout programme in December 2013, and in August 2014 Bank of Ireland returned to profit (Connor et al., 2015). The SBCI began to lend to Irish MSMEs and in 2015 lent them €172 million, representing 9 percent of all new MSME lending in 2015 (SBCI, 2016).

Ireland is not unique. All countries were impacted by the collapse of Lehman Brothers in 2008 and the international bank intergroup lending markets freezing (Connor et al., 2015). Ireland took a little longer to recover than some countries due to its property market collapse, but it did return to growth in 2013. There is no reason to think the findings of this thesis are unique to Irish MSMEs, but rather they reflect a change in the global economy and the fact that the majority of businesses examined are micro businesses. Future research could determine the applicability of the results in a wider geographical context – particularly countries in Europe, as a lot of research takes places in the US. This study used interviews to shape the design of the questionnaire, and one problem with surveys is that they cannot explore in depth the experience of the business owner using working capital management, which future qualitative studies could address.

Another limitation relates to data collection. The analysis is based on cross-sectional data, and the examination of temporal effects is limited. A longitudinal study would have been preferable, but time and cost constraints did not permit this. In the

aftermath of the global financial crisis, it is apparent that business owners have adopted a more cautious approach to external financing from banks. It would be important to resurvey the group to establish whether or not this pattern will persist as the banking environment improves. Inclusion of a control group (with no connection to business networks) would provide for further examination of the findings.

A third limitation was that this study included a convenience sample of businesses selected from visiting networking groups to which the researcher had access. These businesses may differ from the general population of small businesses. Additionally, as with all surveys, there is potential for self-selection bias. This can arise when business owners who completed the online surveys differ from those who did not. While there are no indications of common method variance during testing, a danger of single-respondent bias remains. "Common method variance is often a problem and researchers need to do whatever they can to control for it" (Podsakoff, MacKenzie, Jeong-Yeon and Podsakoff, 2003, p.900). Respondents' engagement is evidenced by their welcoming approach to visits at their weekly meetings, the open invitation to return any time, the request to receive a copy of the findings, and the 87 respondents who waived anonymity by providing their email addresses; all these elements increase confidence in the apparent validity of the responses. The majority of bootstrapping surveys to date have used single respondents (Winborg and Landström, 2001; Harrison et al., 2004; Carter and Van Auken, 2005; Brush et al., 2006; Ebben and Johnson, 2006; Ebben, 2009; Winborg, 2009; Jones and Jayawarna, 2010; Vanacker et al., 2011); nevertheless, data from other members of the businesses would increase the validity of the results. Another option would be to seek accounting information to corroborate the results.

This study was undertaken to examine Irish MSMEs, and may not be generalisable to a wider population, due to cultural and institutional differences. The geographical extension of this research will determine the extent to which the methods and motives for bootstrapping were culturally and institutionally bounded. The next section outlines suggestions for future research.

8.6 Suggestions for future research

The findings from this research add to existing literature on bootstrapping and make a significant contribution to a previously under-researched area.

Table 8.1 Contributions of the current research

	Supported	Developed	New
Theory	Suggestion that business owners using bootstrapping follow the pecking order of financing.	Bootstrapping is a choice made by businesses to use internal resources to finance themselves and not just because of resource dependency.	New theorising on the relationship between bootstrapping and the pecking order theory. A suggestion that the pecking order may be the more appropriate lens for examining bootstrapping in future research as opposed to resource dependency theory.
Empirical Evidence	Supports bootstrapping motives.	Introduces the viewpoint that financial management practices are related to bootstrapping, which creates the classification of financial bootstrapping according to how such practices influence the financial flows in a business (Winborg, 2000). Development of existing research on the motives for the use of bootstrapping in established businesses beyond the perspective of business capitalisation (Carter and Van Auken, 2009).	1. Bootstrapping factors include the components of the cash conversion cycle, trade receivables management and trade payables management. Customer-related bootstrapping is trade receivables management and delaying paying suppliers is trade payables management. Bootstrapping is more: it is also cash management. Bootstrapping is working capital management and owner funding. 2. New empirical evidence identifying three main motives for using bootstrapping in a post-financial-crisis environment, risk management, independence and opportunities. The risk management motive is linked to using delaying payments and owner-related bootstrapping. 3. Micro businesses are different. They are more constrained and rely heavily on delaying payments and owner-related bootstrapping as opposed to customer-related bootstrapping.
Method	Supports research using surveys examining Winborg and Landström's (2001) bootstrapping types.	Interviews followed by a comprehensive survey. A face-to-face approach was adopted in order to meet business owners and explain the purpose of the research before sending the online survey.	The researcher met the business owners in advance of sending out the anonymous survey link and spent 60 seconds explaining the purpose of the research.
Context	Supports previous studies that have examined bootstrapping in MSMEs.	Bootstrapping has, in the main, been applied to new ventures. Bootstrapping has been applied to SMEs without distinguishing by business size. This study applies the practice to Irish MSMEs.	This study was conducted with Irish MSMEs, which represents a new context for exploring bootstrapping and the motives for its use; the differences for business sizes were explored.
Practice	Reaffirms bootstrapping use in businesses.	Highlights the added value of teaching bootstrapping as a method of finance.	The study indicates that training within business networking groups, including working capital management, would help develop financial management skills for business owners.

Source: Format adapted from Farndale (2004)

As this study finds bootstrapping is working capital management and owner funding, it proposes that bootstrapping research should take place in the interdisciplinary context incorporating accounting, finance and financial management, and the field of entrepreneurship. Future research from the finance and financial management fields would be beneficial to research bootstrapping from a multidisciplinary perspective.

Future studies would benefit from a longitudinal research design and the inclusion of a control group of business owners who were not part of a networking group. The findings in relation to working capital management may help extend the scope of bootstrapping research by attracting academics from the field of accounting to the domain, which has previously been dominated by management and entrepreneurship researchers. Information from two other sources would complement the evidence provided in this study. Firstly, access to the financial accounts of respondents would allow for ratio analysis. Secondly, it is clear that further research on both the financial management practices and skill sets of the owners of MSMEs is required, given the lack of accounting and finance researchers studying bootstrapping.

The main motive for using bootstrapping was found to be managing without external finance, followed closely by growth and risk management. However, it is uncertain how much of this was driven by the context. It would be useful to expand the research to look at motives for bootstrapping use in MSMEs in other countries and during other time periods. Clarity is needed on whether business owners realise that bootstrapping is working capital management and owner funding, and how they are learning this practice. Future studies could include interviews to provide qualitative insights into this newly researched area of bootstrapping as working capital management. If future research is open to examining bootstrapping from a working capital management perspective, a financial management perception may open the field to new areas of research, such as business owners' skill sets, education and training; the impact of professional advisers; and profit predictability.

8.7 Implications for practice, policy and teaching

Several implications for business owners and their advisers can be drawn from this study. The finding that bootstrapping is working capital management and owner

funding indicates that business owners would benefit from more training in financial management.

8.7.1 Practice implications

Bootstrapping is working capital management, the management of trade receivables, trade payables, inventories and owner funding. Business owners need to understand how best to manage each of these components to improve the cash flow in their business. This understanding in turn would enable them to reduce the risk attached to outside borrowings (rising interest rates and monthly repayments) and loss of control with the sale of equity. Business owners need to understand that while they are waiting for customers to pay them, business continues and they need to pay their suppliers. The gap in the timing of cash can lead to businesses having to rely on overdrafts or owner-related bootstrapping. These have a cost, both a drain on cash and a personal cost. Business owners need to be taught that strategies such as offering a discount to customers to pay early can be beneficial, if the cost of the discount is less than the cost of financing the shortfall while waiting to get paid. The cash conversion cycle and the benefits of improving it need to be explained to them. Business owners need to understand the importance of knowing how much cash is in their business at any point in time and how to improve this cash position. Figure 8.1 suggests a step-by-step guide that could be used to teach business owners the importance and benefit of working capital management and methods to improve it.

Joint utilisation bootstrapping, which involves sharing resources and employees, was not found to be a bootstrapping factor in this research. This was in contrast with Ebben and Johnson (2006), who studied US businesses. In Ireland, it is not common practice to share equipment, premises or employees with other businesses. Perhaps there is an opportunity to explore the benefits of joint utilisation in the Irish context. The business owners surveyed were, in the main, part of networking groups or at the very least in contact with networking members. This would put them in an ideal position to consider sharing resources with a complementary rather than a competing business. This could have dual benefit, saving money and opening opportunities for new contacts and potential customers. The main motives for using bootstrapping are to manage without external finance and to reduce risk. Business owners are reluctant to give up control, and have an innate desire to rely on themselves. They are being

resourceful and are managing cash to ensure maximum cash flow in their businesses. These findings have important relevance for policy, which is addressed below.

8.7.2 Policymaker implications

In addition to the implications for businesses, as outlined, several implications for policymakers can be drawn from this study. Firstly, business owners are choosing to use bootstrapping in preference to external finance. The secondary data from SAFE revealed a reduction in demand for bank financing in the wake of the global financial crisis. Numerous initiatives have been implemented in Ireland in recent years to increase the funding available to MSMEs. In October 2012, the Irish government established Microfinance Ireland for the purpose of providing unsecured loans of €2,000–€25,000 to micro businesses in the Republic of Ireland. Microfinance Ireland targets business owners with poor credit histories who have made an effort to reach a settlement with their bank. Microfinance Ireland takes such efforts into account and lends more often than banks. The interest rate with Microfinance Ireland is about 2 percent higher. Most borrowers are start-ups, and the rest are generally financing for cash-flow purposes.

Peer-to-peer lending has also become more prominent in Ireland, with the establishment of Linked Finance in 2013. This matches potential investors with business owners who have funding needs. Since May 2016, over 12,000 lenders bid over €20m to support over 400 Irish businesses (Linked Finance, 2016). Traditionally, invoice financing in Ireland was for large businesses, but new players have emerged, such as Interface Finance and Bibby Financial Services, that allow small businesses to access cash from unpaid customer invoices. The business owners send a copy of the outstanding invoice to the invoice financier, together they agree a charge, and the invoice financier pays a percentage of the outstanding invoice to the business owner within 24 hours.

Furthermore, there are 31 Local Enterprise Offices (LEOs) in Ireland to assist nascent owners in starting a business and established owners to expand. LEOs offer training courses and mentoring to business owners for a small fee. However, only internationally traded service businesses qualify for financial support. These initiatives to provide finance to MSMEs seek to address a perceived gap in the

availability of traditional funding. As this study reveals, established business owners engage in bootstrapping in preference to external finance. Government now recognises the importance of networking for business owners, and County Enterprise Boards have been tasked with facilitating fortnightly networking meetings. These emulate BNI meetings but are less rigid about attendance. With BNI, if business owners miss more than two meetings a year, they are asked to leave. In the County Enterprise Board, attendance at meetings is voluntary.

In terms of membership, the main difference is that each BNI chapter allows only one member per trade or profession, to ensure that relationships are strengthened and business is passed more frequently. Only a few County Enterprise Board groups were found in South Dublin, but there are BNI chapters. Customer-related bootstrapping helps a business to grow. External finance acquisition might enhance these opportunities. Cosh, Cumming and Hughes (2009) suggested local-based lending. There has been a move in Ireland towards a centralised bank lending system, where the process can be entirely online, or online combined with a central office. The decision to lend has become increasingly automated. If the borrower has a bad credit rating, borrowing will not be possible. Moving towards local community lending by trained bank officials could ensure that local knowledge and reputation inform the decision. This would reduce the information asymmetry problems often associated with small business lending.

Innovative and fast-growing businesses are more optimistic about the future, and policy changes must support them (Cosh, Hughes, Bullock and Milner, 2009). Bank finance is important for business growth (Casey and O'Toole, 2014). Policy changes must help all MSMEs to be innovative, perhaps by increasing engagement in networking groups and technology. The focus of all these groups (BNIs and County Enterprise Boards groups) is increased sales for businesses, but this research suggests that training should be considered too.

More resources could be invested in setting up networking groups with a fixed structure, to include monthly training from specific business owners such as accountants, marketers, solicitors, and information technology specialists, in order to improve training of business owners in a setting where they all are comfortable. The training could include working capital management and cash budget preparation.

Figure 8.1 Step-by-step guide to improving cash flows in a business

Computer spreadsheet use, such as training in Excel skills and profit projections, would also be beneficial. Rather than the exclusive focus on business generation, training and skill enhancement could make a significant difference and would be very cost-effective. The government could support this initiative by paying for the locations of these meetings, as the typical cost to BNI members is €50 per month to include room hire and breakfast. BNI members also pay approximately €900 a year to BNI to receive training on networking, and this is a service that County Enterprise Boards could provide.

Bootstrapping has been found to be working capital management. Owner/managers therefore need to be trained in understanding how to use these accounts for decision-making purposes. Micro businesses have been found to be more constrained and to rely more heavily on owner-related bootstrapping methods than small and medium-sized businesses. In the long term, micro business owners need to move to more sustainable solutions than owner-related bootstrapping methods. The government could consider funding shared office spaces with resources that could be shared among micro business owners. These could be run by Enterprise Offices, with tenants vetted for suitability. As part of the rent, a secretary could be provided in addition to photocopying and meeting facilities for micro businesses. The rent could be subsidised by the Enterprise Boards. This initiative would give business owners the chance to meet other businesses and to network. As part of the conditions for the lease, the micro business owners would have to agree to take part in training courses run by the Enterprise Offices. This could include a follow-on course to the Start Your Own Business Course that the Enterprise Offices already provide.

As well as the training, business owners could be automatically enrolled as members of the networking groups that meet monthly, set up by the Enterprise Offices. The course could include some of the items in Table 8.2. Evidence from research on SME training programmes shows that peer mentoring is highly valued by owner/managers (Enterprise Ireland, 2005). The mentoring would help support the micro business to reach the next stage of development to become small businesses. Some countries now offer financial education training for MSMEs to encourage entrepreneurship and to reduce demand-side barriers for finance, in other words to provide stability (Atkinson, 2017).

Table 8.2 Course offered to micro business owners

Number	Topic
1	Cash budgets – importance and how to prepare
2	Key ratios for analysis purposes
3	The cash conversion cycle and working capital management
4	Financial management and accounts
5	Dealing with banks and investors
6	Tax compliance and rules
7	Tax planning for business growth
8	Networking skills 1
9	Networking skills 2
10	Web development and social media marketing
11	Patents and trade marks
12	Designing your business for growth
13	Guest speakers from businesses
14	Dragons Den preparation

8.7.3 Pedagogical implications

Several pedagogical implications emerge from the findings of this study. The study strongly recommends that bootstrapping be taught to entrepreneurs and third-level students as a source of finance, and it also needs to be related to working capital management. The fact that business owners prefer to use retained profits must be highlighted to students, and the skill set to improve retained profit and cash flow must be taught. Research findings need to be disseminated into easily understood conclusions. Teaching theory is one thing, but experiential learning can help knit the classroom skills to real-life skills, and students can benefit hugely (Fitzsimons, 2014). Business owners would benefit from practice-led seminars that highlight the academic research findings in business-owner terminology. Since bootstrapping is working capital management and owner funding, the practice of working capital management needs to be taught. Potential business owners need to know how to manage cash. They need to be trained in all areas of working capital management: management of receivables, management of payables, management of inventories and management of cash. For example, they should be taught about issuing invoices early, selecting customers who pay on time, and the implications for the cost of finance if credit is given to customers. Learning to manage payables and taking longer to pay suppliers, for example, can mean that less short-term finance is needed and that cash can be used elsewhere while the business is delaying payment.

Managing inventories is very important because inventory ties up cash, and too much inventory has associated storage costs and a risk of becoming obsolete.

Currently, working capital management is taught mainly as part of managing finance in third-level finance classes, along with the implications of changing payment terms. Sources of finance are taught, and finance books tend to exclude bootstrapping. Working capital management does not tend to be taught to entrepreneurs, because it comes more from an accounting and financial management focus. But future teachers should consider combining working capital management, types of finance and bootstrapping in order to give future entrepreneurs useful resource-management practices from the start of their business.

8.8 Concluding remark

This study of bootstrapping from the lens of both a chartered accountant and an experienced small-business adviser presented a unique opportunity to investigate potential links between bootstrapping and working capital management. Bootstrapping is a vital resource-management practice for the survival of a business, encompassing working capital management and owner funding. For decades, research has examined bootstrapping in response to capital constraints or as an alternative to external finance and equity, but the link between the practice of bootstrapping and working capital management needed reinforcing. This research makes a significant contribution to the field of bootstrapping by mapping bootstrapping practices onto working capital management. Empirically, this research demonstrates the resourcefulness of business owners in cash management practices in their businesses and in their use of internal resources, conforming to the pecking order theory. For the first time, the motives for bootstrapping usage are tied to the types of bootstrapping used. This enhances our understanding of the role that bootstrapping plays in micro and small and medium businesses.

The impact of size on bootstrapping has also been highlighted. Micro businesses are more constrained than small and medium businesses and rely more on owner-related bootstrapping methods. As micro businesses are the most common business size in MSMEs, accounting for 93 percent of all businesses (European Commission, 2017b) and in Ireland contributing to 29.4 percent of all MSMEs employment, illuminating

their uniqueness can help shape policy to provide supports for their survival and growth. Micro businesses are different and require specific supports that merit further exploration. Future research in bootstrapping can be viewed from a resource management lens rather than a resource dependency lens.

The compelling theme to emerge from this investigation is that reconceptualising bootstrapping as primarily working capital management deepens our understanding of financing practices in small businesses. It introduces a new direction for investigating bootstrapping and is the first study to demonstrate that bootstrapping would benefit from being positioned in the finance and financial management literature as well as the entrepreneurship literature.

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Appendices

Appendix A: Final PhD Survey

Block 6

Understanding the Financial Management Practices of Small Businesses

This study examines the financial management practices of small businesses and the findings will lead to an increased understanding of their financial needs. In addition, based on an analysis of the survey results, I will provide you with recommendations on how to improve the financial management of your business.

Participation in this survey is voluntary and you free to withdraw from the study at any point. I recognise that your time is valuable and to show my appreciation of your participation a €1 donation will be given to Our Lady's Children's Hospital for each completed questionnaire. The survey takes the form of an online questionnaire and will take about 20 minutes to complete. This survey is being completed as part of my PhD at Dublin City University. Information will be kept confidential within the limits of the law. Results will only be produced in aggregate form. In compliance with data protection all results will be kept securely.

I would appreciate if you would complete this online survey by 20th February 2015.

If you have any queries please contact Margaret Fitzsimons on 01 402 7070 or email margaret.fitzsimons@dit.ie

Many thanks for your time and cooperation.

Margaret Fitzsimons

Meet the researcher

Margaret Fitzsimons is a Small Business Advisor, a Chartered Accountant and a lecturer at Dublin Institute of Technology (DIT). Before joining DIT she ran her own business for four years and founded the BNI Mengola Chapter in Wexford. She has a passion for understanding and supporting entrepreneurs and small businesses and maintains her strong links with businesses today.

If participants have concerns about this study and wish to contact an independent person, please contact: The Secretary, Dublin City University Research Ethics Committee, c/o Research and Innovation Support, Dublin City University, Dublin 9. Tel 01-7008000

By completing the online survey, I agree that I have read and understood the above and consent to take part. I understand that my answers will be kept confidential subject to the legal limits.

Yes No

Section D: Owners Background

Section A: Owners' Background

Q1 Please indicate if you are?

Male Female

Q2 Please indicate your age category?

- 24 years or younger
- 25 - 34 years
- 35 - 44 years
- 45 - 54 years
- 55 - 64 years
- 65 years or older

Q3 Please indicate all levels of education attained *(please tick all levels of education you have attained)*

- Leaving Certificate
- Diploma
- Degree
- Masters
- Professional Qualification
- PhD

Q4 Please indicate the field of study for each qualification below.

Diploma

Degree

Masters

Professional Qualification

PhD

Q5 Have you ever completed any of the following?

	Yes	No
1. A "Start Your Own Business Course" (SYOB with Enterprise Office)		
2. An online business course		
3. Other part time business/finance course (please name)		

Q6 Did you have experience working in the industry in which your business currently operates prior to setting up in business?

Yes No

Q7 How many years experience did you have in the industry in which your business currently operates prior to setting up in business?

1 year or less	2 - 4 years	5 - 7 years	8 - 10 years	10 years +

Q8 How many years were you a manager in the industry in which your business currently operates prior to setting up in business?

None	1 year or less	2 - 4 years	5 - 7 years	8 - 10 years	10 years +

Q9 How many businesses have you started prior to this business?

Q10 In the last 12 months, did you belong to any of the following organisations?

	Yes	No
1. Trade organisation		
2. Community group		
3. Political organisation		
4. College alumni		
5. Business Network International (BNI)		
6. Referrals Institute		
7. Chamber of Commerce		
8. Small Firms Association		
9. IBEC		
10. Former employment network		
11. Craft group		
12. Professional group		
13. Religious group		
14. Other (Please name)		

Q11 How often did you seek advice from the organisations below for your business in the last 12 months?

	Weekly	Fortnightly	Monthly	Quarterly	Yearly
Trade organisation					
Community group					
Political organisation					
College alumni					
Business Network International (BNI)					
Referrals Institute					
Chamber of Commerce					
Small Firms Association					
IBEC					
Former employment network					
Craft group					
Professional group					
Religious group					
Other (Please name)					

Q12 In the last 12 months, did you consult with any of the advisers below for your business?

	Yes	No
1. External accountant		
2. Solicitor		
3. Financial consultant		
4. General business consultant		
5. Banker		
6. Another business owner		
7. Informal mentors		
8. Academic adviser		
9. Friends		
10. Family		
11. Government Support agency (Please name)		
12. Non Government Support Agency (please name)		
13. Other (Please name)		

Q13 How often did you consult with the advisers below for your business in the last 12 months?

	Weekly	Fortnightly	Monthly	Quarterly	Yearly
Solicitor					
External accountant					
Financial consultant					
General business consultant					
Banker					
Another business owner					
Informal mentors					
Government Support Agency					
Academic adviser					
Friends					
Family					
Other (Please name)					
Non Government Support Agency					

Section B: Business Background

Section B: Business Background

Q1 What is the legal form of your business?

Sole Trader Partnership Limited Company Other (please name)

Q2 I am the majority owner of my business

Yes No

Q3 When did your business register as a legal entity?(please indicate both month and year)

Q4 When did your business open its first business bank account? (please indicate both month and year)

Q5 Indicate the sector that most closely describes the area that your business operates in.

Manufacturing Construction Agriculture Trade Hotel/Restaurant Transport Consulting/Other Service (Please Describe) Other (Please describe)

Q6 What percentage of your sales from the last 12 months was in each of the following markets?

Local community

Regional

National

International

Q7 Please indicate the number of full time and part time employees in your business in the last 12 months (excluding yourself)

Full Time

Part Time

Q8 Did you employ any of the following in your business in the last 12 months (excluding yourself):

	Yes	No
Qualified accountant		
Credit controller		
Bookkeeper		
Other employee responsible for accounts		
Used external accountant		

Q9 What were your sales (net of VAT) for 2013 in euros?

Q10 What was the change in sales from 2012 to 2013?

> 50% down	26% - 50% down	11% -25% down	1% - 10% down	Flat	1% - 10% up	11% - 25% up	26% - 50% up	> 50% up

Q11 What was the change in profit margin from 2012 to 2013?

> 50% down	26% - 50% down	11% -25% down	1% - 10% down	Flat	1% - 10% up	11% - 25% up	26% - 50% up	> 50% up

Section B: Finance

Section C: Finance and Financial Management

Q1 In the last 12 months, did your business use external financing, bank loans, overdrafts, credit cards, loans from other lenders, factoring, leasing?

Yes	No

Q2 Do you use any of the following specific sources of information for managing your business? If so, please indicate approximately how frequently you use them.

	Never	Annually	Quarterly	Monthly	Weekly
1. Actual Profit and loss account					
2. Budgeted profit and loss account					
3. Balance sheet					
4. Cash flow statement					
5. Cash flow forecast (budget)					
6. Bank statements					
7. Bank reconciliation statements					
8. VAT records					
9. Order books					
10. Ratio analysis					
11. Inter-firm comparisons					
12. Industry trends					
13. Break-even analysis					
14. Comparison of budget with actual					
15. Business plan					
16. Other (please state)					

Q3 In your business do you?

	Yes	No
1. Manually keep accounting records		
2. Use a spreadsheet to keep accounting records		
3. Use a computerised accounting package		

Q4 In your business how frequently do you

	Never	Annually	Quarterly	Monthly	Weekly
1. Update your business plan					
2. Calculate gross profit margin for every product you sell					
3. Use online bank account information to monitor your cashflow					
4. Revise your cash budget					

Q5 In your business in the last 12 months what percentage of your

1. Sales came from one main customer	
2. Purchases came from one main supplier	

Q6 For your business, do you use the business annual accounts (profit and loss account and balance sheet) for any of the following purposes? If so, please indicate how useful you find them.

	Not at all useful	Slightly useful	Moderately useful	Very useful	Extremely useful
1. Short-term planning					
2. Long-term planning					
3. Deciding owners pay					
4. Deciding staff pay					
5. Marketing/pricing decisions					
6. Borrowing decisions					
7. Capital expenditure					
8. Comparing performance with targets					
9. Comparing performance with previous periods					
10.Comparing performance with other businesses					
11.Confirming management information					
12. In connection with loans/finance					
13. Reassuring customers and suppliers					
14. Cash management					
15. Other (please state)					

Q7 For your business, do you use the cash budget for any of the following purposes? If so, please indicate how useful you find it.

	Not at all useful	Slightly useful	Moderately useful	Very useful	Extremely useful
1. Short-term planning					
2. Long-term planning					
3. Deciding owners pay					
4. Deciding staff pay					
5. Marketing/pricing decisions					
6. Borrowing decisions					
7. Capital expenditure					
8. Comparing performance with targets					
9. Comparing performance with previous periods					
10.Comparing performance with other businesses					
11.Confirming management information					
12. In connection with loans/finance					
13. Reassuring customers and suppliers					
14. Cash management					
15. Other (please state)					

Q8 Did you apply for bank loan for your business in the last 12 months?

- Yes, applied for in the last 12 months
- Did not apply because you thought application would be rejected
- Did not apply because business had sufficient internal funds
- Did not apply for other reasons (Please specify reason for not applying)

Q9 If your business applied and tried to negotiate a bank loan in the last 12 months did you

- Receive all of the finance you required
- Receive less than 25% of the finance you required
- Receive 25% - 50% of the finance you required
- Receive 51% - 75% of the finance you required
- Receive 76% - 99% of the finance you required
- Refuse to proceed because of unacceptable terms and conditions
- Apply but you were rejected

Q10 Would you be prepared to give away some ownership in your business in order to secure finance?

Yes No

Section C: Bootstrapping

Section D: Bootstrapping: Securing resources for your business at little or no cost

Q1 Please indicate to what extent your business used the following in the last 12 months

	Never used	Rarely	Sometimes	Often	All the time
1. Owner's personal credit card used for business expenses					
2. Loans were taken from life partner/spouse					
3. Loans were taken from other family members					
4. Loans were taken from friends					
5. Owner's salary was withheld					
6. Owner worked elsewhere to fund this business					
7. Business deliberately delayed paying suppliers					
8. Business deliberately delayed paying value added tax					
9. Business deliberately delayed paying other taxes to the Revenue					
10. Better conditions were negotiated with suppliers					
11. Goods were bought on consignment from suppliers					
12. Assets were leased instead of bought					
13. Capital was raised from a factoring company					
14. Purchases were coordinated with other business in order to obtain the best conditions from suppliers					
15. Invoice financing was used					
16. Bartered instead of buying/selling goods or services					
17. Business acquired goods/services for cash knowing income would not be declared for tax					
18. Business provided goods/services for cash knowing income would not be declared for tax					

Q2 To what extent has your business used the following in the last 12 months?

	Never used	Rarely	Sometimes	Often	All the time
1. Employed relatives and/or friends at below market rate					
2. Offered customers opportunity to pay on website or using credit card					
3. Invoice was issued immediately when order was placed					
4. Full payment was required at point of order					
5. Charged customers interest on overdue accounts					
6. Ceased relationship with late paying customers					
7. Offered the same conditions to all customers					
8. Selected customers who paid on time					
9. Offered customers discounts if they paid cash in order to get payments earlier					
10. Obtained payments in advance from customers (before delivery of product/service)					
11. Minimised capital invested in stock					
12. Shared equipment with other business					
13. Bought used equipment instead of new					
14. Bought equipment with others					
15. Borrowed equipment from other business					
16. Shared premises with other business					
17. Shared employees with other business					
18. Cashed in personal pension and used money in business					
19. Hired temporary personnel instead of employing permanently					
20. Let staff go and rehired staff at lower rate with a new job description					
21. Ran business completely out of the home					
22. Moved office out of office premises to home or a lower rental location					

Q3 Please rank the following methods of finance you used for your business in the last 12 months in order of financial importance for your business (with 1 being the most important)

Employed relatives and/or friends at below market rate

Offered customers opportunity to pay on website or using credit card

Charged customers interest on overdue accounts

Ceased relationship with late paying customers

Offered the same conditions to all customers

Selected customers who paid on time

Minimised capital invested in stock

Bought used equipment instead of new

Bought equipment with others

Shared premises with other business

Shared employees with other business

Cashed in personal pension and used money in business

Hired temporary personnel instead of employing permanently

Let staff go and rehired staff at lower rate with a new job description

Moved office out of office premises to home or a lower rental location

Owner's personal credit card used for business expenses

Loans were taken from life partner/spouse

Loans were taken from other family members

Loans were taken from friends

Owner's salary was withheld

Owner worked elsewhere to fund this business

Business deliberately delayed paying suppliers

Business deliberately delayed paying value added taxes

Business deliberately delayed paying other taxes to the Revenue

Assets were leased instead of bought

Raised capital from a factoring company

Purchases were coordinated with other business in order to obtain the best conditions from suppliers

Invoice financing was used

Bartered instead of buying/selling goods or services

Business acquired goods / services for cash knowing income would not be declared for tax

Business provided goods/services for cash knowing income would not be declared for tax

Better conditions were negotiated with suppliers

Shared equipment with other business

Borrowed equipment from other business

Offered customers discounts if they paid cash in order to get payments earlier

Obtained payments in advance from customers (before delivery of product/service)

Goods were bought on consignment from suppliers

Ran business completely out of the home

Invoice was issued immediately when order was placed

Full payment was required at point of order

Q4 In your business the reasons for using bootstrapping (securing resources including finance at little or no cost) in the last 12 months were:

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
1. It was necessary in order for the business to survive					
2. There was not enough capital in the business					
3. I wanted to manage without external finance					
4. I wanted to reduce risk in the business					
5. I used bootstrapping methods to save time					
6. The margins had decreased in the business					
7. The fixed costs could not be reduced in the business					
8. I wanted to grow the business					
9. I wanted to get money for my business without taking in outside owners					
10. I wanted to get money for my business without dealing with banks					
11. I wanted to get money for my business but the bank turned me down					
12. I wanted to get money for my business but knew there was no point going to the bank					
13. I wanted to invest in new investment opportunities					
14. My business contacts opened up new opportunities to bootstrap					
15. I prefer to delay paying suppliers rather than use outside finance.					
16. I prefer to share resources with other businesses rather than use outside finance.					
17. I prefer to buy secondhand rather than relying on external finance.					
18. I was reacting to circumstances					
19. Other					

Q5 Please indicate your level of agreement with the following statements for your business.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
1. I am satisfied with the level of profits					
2. The business's cash flows are buoyant					
3. I receive a satisfactory return from the business					
4. The bank do not put me under pressure					
5. I am not under pressure paying PAYE/VAT on time					
6. I receive money from customers on time					
7. I feel confident of the business's long term viability					
8. I am comfortable using accounting information					

A summary of the findings will be available and if you wish to receive a copy please enter your business name and/or email below.

Thank you for taking the time to complete this survey. I appreciate it.


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Appendix B: Statistics from Chapter Six

Table B.1. Descriptive Statistics for Control Variables

	N	Mean	Std. Deviation
Sector	167	5.41	2.210
No Employees	167	-230.05	1535.090
Business Age	167	13.41	10.991

Table B.2. Descriptive Statistics for bootstrapping factors

	N
Delaying payments owner-related (Bootstrapping method)	157
Customer-related (Bootstrapping method)	157
Risk management (Motive for use of bootstrapping)	134
Financial Independence (Motive for use of bootstrapping)	134
Opportunities (Motive for use of bootstrapping)	134

Table B.3. Bootstrapping Measures

Label	**Question: To what extent did the business use the following in the last 12 months?**
BBC4A	Owner's personal credit card for business
BBC4B	Loans from life partner/spouse
BBC4C	Loans from other family members
BBC4D	Loans from friends
BBC4E	Owner's salary was withheld
BBC4F	Owner worked elsewhere to fund business
BBC1A	Business deliberately delayed paying suppliers
BBC1B	Business deliberately delayed paying VAT
BBC1C	Business deliberately delayed paying other taxes to Revenue
BBC1D	Assets were leased instead of bought
BBC6F	Capital was raised from a factoring company
BBC2G	Purchases were coordinated with other businesses
BBC6G	Invoice financing was used
BBC1F	Bartered instead of buying/selling goods or services
BBC6A	Business acquired goods/services for cash knowing income would not be declared for tax
BBC6B	Business provided goods or services for cash knowing income would not be declared for tax
BBC1E	Better conditions were negotiated with suppliers
BBC3C	Goods were bought on consignment from suppliers
BBC4G	Employed relatives/friends at below market rate
BBC5A	Offered customers opportunity to pay online using credit card
BBC5B	Invoice issued immediately when order was placed
BBC5C	Full payment required at point of order
BBC5D	Charged customers interest on overdue accounts
BBC5E	Ceased relationships with late-paying customers

Label	Question: To what extent did the business use the following in the last 12 months?
BBC5F	Offered same conditions to all customers
BBC5G	Selected customers who paid on time
BBC5H	Offered customers discounts if they paid cash
BBC5I	Obtained payments in advance from customers
BBC3A	Minimised capital invested in stock
BBC2A	Shared equipment with other businesses
BBC1G	Bought used equipment instead of new
BBC2C	Bought equipment with others
BBC2D	Borrowed equipment from other businesses
BBC2E	Shared premises with other businesses
BBC2F	Shared employees with other businesses
BBC4H	Cashed in personal pension and used money in business
BBC2B	Hired temporary personnel instead of employing permanently
BBC6D	Let staff go and rehired at lower rate
BBC4I	Ran business completely out of home
BBC6E	Moved office out of premises to home or a lower-rental location

Table B.4. Skewness and Kurtosis Bootstrapping

Label	Skewness	Std. Error of Skewness	Kurtosis	Std. Error of Kurtosis	Number never used this method	Number rarely used this method
BBC4A	0.895	0.188	-0.446	0.374		
BBC4B	2.155	0.190	**3.945**	0.378	130	11
BBC4C	1.949	0.190	2.424	0.378		
BBC4D	**5.492**	0.191	**35.541**	0.379	152	8
BBC4E	0.480	0.188	-0.963	0.375		
BBC4F	2.158	0.191	**4.090**	0.379	124	11
BBC1A	0.607	0.190	-0.716	0.377		
BBC1B	1.229	0.189	0.414	0.376		
BBC1C	1.286	0.190	0.628	0.377		
BBC1D	1.399	0.190	0.919	0.377		
BBC6F	**6.399**	0.192	**42.567**	0.383	154	3
BBC2G	2.444	0.191	**5.464**	0.380		
BBC6G	**4.145**	0.192	**16.520**	0.383	147	3
BBC1F	1.427	0.191	1.389	0.380		
BBC6A	**3.255**	0.192	**11.163**	0.381	140	14
BBC6B	**3.252**	0.192	**10.737**	0.383	140	12
BBC1E	0.246	0.190	-1.067	0.377		
BBC3C	1.719	0.191	1.829	0.380		
BBC4G	2.236	0.190	**4.780**	0.378	123	19
BBC5A	0.982	0.189	-0.6331	0.376		
BBC5B	-0.001	0.188	-1.342	0.375		

Label	Skewness	Std. Error of Skewness	Kurtosis	Std. Error of Kurtosis	Number never used this method	Number rarely used this method
BBC5C	0.515	0.188	-0.742	0.375		
BBC5D	**4.068**	0.190	**17.669**	0.378	146	10
BBC5E	0.962	0.189	0.481	0.376		
BBC5F	-0.099	0.190	-1.340	0.378		
BBC5G	0.061	0.192	-1.411	0.383		
BBC5H	1.521	0.191	1.487	0.380		
BBC5I	0.420	0.192	-0.826	0.381		
BBC3A	0.618	0.192	-1.162	0.383		
BBC2A	2.324	0.192	**5.015**	0.383	121	21
BBC1G	0.977	0.191	-0.136	0.379		
BBC2C	**3.239**	0.193	**10.644**	0.384	139	12
BBC2D	1.699	0.194	2.014	0.385		
BBC2E	1.624	0.192	1.183	0.381		
BBC2F	2.961	0.192	**8.466**	0.381	120	22
BBC4H	2.973	0.191	**8.544**	0.380	137	7
BBC2B	0.979	0.191	-0.181	0.380		
BBC6D	**5.895**	0.192	**36.426**	0.381	154	4
BBC4I	1.034	0.192	-0.673	0.383		
BBC6E	**3.311**	0.194	**10.274**	0.386	139	3

Table B.5. Bootstrapping Motives

Label	Question: Reasons for using bootstrapping
BB1A	It was necessary in order for the business to survive
BB1B	There was not enough capital in the business
BB1C	I wanted to manage without external finance
BB1D	I wanted to manage risk in the business
BB1E	I used bootstrapping methods in order to save time
BB1F	The margins had decreased in the business
BB1G	The fixed costs could not be reduced in the business
BB1H	I wanted to grow the business
BB1I	I wanted to get money into the business without taking in outsiders
BB1J	I wanted to get money for my business without dealing with banks
BB1K	I wanted to get money for my business but the banks turned me down
BB1L	I wanted to get money for my business but knew there was no point in going to the bank
BB1M	I wanted to invest in new opportunities
BB1N	My business contacts opened up new opportunities to bootstrap
BB1O	I prefer to delay paying suppliers rather than use outside finance
BB1P	I prefer to share resources rather than use outside finance

Label	Question: Reasons for using bootstrapping
BB1Q	I prefer to buy second-hand rather than relying on outside finance
BB1R	I was reacting to circumstances
BB1S	Other

Table B.6. Skewness and Kurtosis Bootstrapping Motives

Label	Skewness	Std. Error of Skewness	Kurtosis	Std. Error of Kurtosis
BB1A	-0.352	0.197	-1.092	0.391
BB1B	-0.355	0.199	-1.138	0.396
BB1C	-0.779	0.201	-0.209	0.400
BB1D	-0.774	0.203	0.034	0.403
BB1E	-0.131	0.203	-0.737	0.404
BB1F	-0.187	0.205	-0.784	0.407
BB1G	-0.302	0.203	-0.724	0.404
BB1H	-0.801	0.202	0.201	0.401
BB1I	-0.374	0.202	-0.874	0.401
BB1J	-0.293	0.203	-0.869	0.404
BB1K	0.484	0.204	-0.492	0.406
BB1L	0.117	0.203	-1.098	0.403
BB1M	0.103	0.205	-0.782	0.407
BB1N	-0.015	0.204	-0.904	0.406
BB1O	0.073	0.203	-1.149	0.404
BB1P	-0.072	0.203	-0.765	0.404
BB1Q	-0.059	0.203	-0.963	0.404
BB1R	-0.401	0.204	-0.611	0.406
BB1S	0.206	0.306	-0.507	0.604

Table B.7 Kaiser-Meyer Olin (KMO) and Bartlett's Test of Sphericity

Test Results by Variable Group	Bootstrapping Types	Bootstrapping Motives
KMO Measure	0.72	0.83
Acceptable of Multicollinearity Test		
Bartlett Test		
Chi Square	1102.94	1041.43
Degrees of Freedom	276	171
Significance Level	$P < 0.001$	$P < 0.001$

Table B.8: Bootstrapping Types Initial Rotation

Rotated Component Matrix[a]

	Component							
	1	2	3	4	5	6	7	8
BBC1C	0.884							
BBC1B	0.845							
BBC1A	0.784							
BBC4C	0.662							
BBC4E	0.624							
BBC5B		0.806						
BBC5C		0.768						
BBC5A		0.592					0.381	
BBC5I		0.575			0.332			
BBC5H			0.726					
BBC2D			0.724					
BBC1G			0.513					0.321
BBC3A		0.452	0.452			-0.363		
BBC3C				0.820				
BBC1E		0.337		0.616			-0.370	
BBC1D				0.536			0.327	
BBC2B			0.355	0.454			0.359	0.326
BBC5E					0.809			
BBC5G					0.770			
BBC4I						0.773		
BBC4A	0.383					0.485		
BBC1F	0.389					0.428		
BBC5F							0.765	
BBC2E								0.798

In order to determine which factors successfully loaded onto each other without cross-loading, the individual items were removed one by one and factor analysis was re-run. The order of the items removed was as follows: BBC3A, BBC4A, BBC1F, BBC1E, BBC2B, BBC4I, BBC5H.

Table B.9. Bootstrapping Types Rotation post-cross-loading

Rotated Component Matrix[a]

	Component					
	1	2	3	4	5	6
BBC1C	0.895					
BBC1B	0.846					
BBC1A	0.795					
BBC4C	0.659					
BBC4E	0.626					
BBC5B		0.747				
BBC5A		0.739				
BBC5C		0.711				
BBC5I		0.597				
BBC5E			0.815			
BBC5G			0.756			
BBC2D				0.798		
BBC1G				0.685		
BBC2E				0.472		
BBC3C					0.796	
BBC1D					0.730	
BBC5F						0.882

Table B.10. Cronbach's Alpha for Bootstrapping Types

Factor	Cronbach's Alpha
1	0.847
2	0.713
3	0.630
4	0.380
5	0.508
6	0.412

Table B.11. Bootstrapping Types Final Factors

Rotated Component Matrix[a]

	Component	
	1	2
BBC1C	0.902	
BBC1B	0.853	
BBC1A	0.797	
BBC4C	0.665	
BBC4E	0.615	
BBC5C		0.811
BBC5B		0.797
BBC5I		0.683
BBC5A		0.622

Table B.12. Bootstrapping Motives Initial Rotation

Rotated Component Matrix[a]

	Component			
	1	2	3	4
BB1N	0.837			
BB1M	0.770		0.304	
BB1R	0.768	0.333		
BB1G	0.656	0.440		
BB1E	0.568	0.362	0.549	
BB1S	0.554		0.444	
BB1F	0.504		0.440	
BB1C		0.814	0.409	
BB1D	0.380	0.792		
BB1I	0.402	0.745		0.351
BB1J		0.724		
BB1H	0.581	0.671		
BB1O			0.821	
BB1Q			0.780	
BB1P	0.319	0.337	0.724	
BB1A		0.450		0.831
BB1B		0.355		0.808
BB1K	0.391		0.498	0.687
BB1L	0.432		0.382	0.643

The components were deleted individually in the following order: BB1E, BB1L, BB1K, BB1F, BB1C, BB1I, BB1J, BB1S, BB1H.

Table B.13 Bootstrapping Motives Rotation post cross loading

Rotated Component Matrix[a]

	Component		
	1	2	3
BB1B	0.922		
BB1A	0.904		
BB1D	0.705		
BB1P		0.795	
BB1Q		0.783	
BB1O		0.766	
BB1N			0.905
BB1M			0.893

Table B.14. Cronbach's Alpha for Bootstrapping Motives

Factor	Cronbach's Alpha
1	0.828
2	0.738
3	0.841

Table B.15. Regression constraint (delaying payments and owner-related bootstrapping dependent variable)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate					
1	0.541[a]	0.293	0.243	0.98259753					

a. Predictors: (Constant), Constrained, BC5sec, Micro and Other, Young and established

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	22.755	4	5.689	5.892	.000[b]
	Residual	55.033	57	0.965		
	Total	77.789	61			

a. Dependent Variable: Delaying payments owner-related

b. Predictors: (Constant), Constrained, BC5sec, Micro and Other, Young and established

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.893	0.914		0.977	0.333
	BC5sec	-0.134	0.056	-0.270	-2.391	0.020
	Young and established	-0.199	0.274	-0.087	-0.726	0.471
	Micro and Other	-0.484	0.337	-0.171	-1.435	0.157
	Constrained	0.850	0.270	0.379	3.150	0.003
	(Constant)	0.893	0.914		0.977	0.333

a. Dependent Variable: Delaying payments owner-related

Table B.16. Regression constraint (customer-related bootstrapping dependent variable)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate					
1	.254[a]	0.065	-0.001	0.99515350					

a. Predictors: (Constant), Constrained, BC5sec, Micro and Other, Young and established

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.901	4	0.975	0.985	.423[b]
	Residual	56.449	57	0.990		
	Total	60.349	61			

a. Dependent Variable: Customer related

b. Predictors: (Constant), Constrained, BC5sec, Micro and Other, Young and established

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.690	0.926		0.746	0.459
	BC5sec	0.063	0.057	0.144	1.106	0.273
	Young and established	-0.143	0.277	-0.071	-0.517	0.607
	Micro and Other	0.103	0.341	0.041	0.302	0.763
	Constrained	-0.417	0.273	-0.211	-1.526	0.132
	(Constant)	0.690	0.926		0.746	0.459

a. Dependent Variable: Customer-related

Table B.17. Regression (constraint split by business size, delaying payments and owner-related)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.466[a]	0.218	0.167	1.02480395
2	0.519[b]	0.269	-0.005	0.91538004

a. Predictors: (Constant), Constrained, BC5sec, Young and established

b. Predictors: (Constant), Constrained, Young and established, BC5sec

ANOVA

Model		Sum of Squares	df	Mean Square	F	**Sig.**
1	Regression	13.431	3	4.477	4.263	0.010
	Residual	48.310	46	1.050		
	Total	61.741	49			
2	Regression	2.465	3	0.822	0.981	.449
	Residual	6.703	8	0.838		
	Total	9.168	11			

a. Dependent Variable: Delaying payments owner-related
b. Predictors: (Constant), Constrained, BC5Sec, Young and established
c. Predictors: (Constant), Constrained, Young and established, BC5Sec

Coefficients

Micro and Other		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1 Micro	(Constant)	0.379	1.038		0.365	0.717
	BC5sec	-0.130	0.073	-0.244	-1.791	0.080
	Young and established	-0.190	0.322	-0.083	-0.590	0.558
	Constrained	0.846	0.300	0.379	2.815	0.007
2 Small and Medium	(Constant)	-0.163	1.973		-0.083	0.936
	BC5sec	-0.147	0.114	-0.484	-1.288	0.234
	Young and established	-0.181	0.699	-0.090	-0.259	0.802
	Constrained	0.951	0.882	0.405	1.077	0.313

a. Dependent Variable: Delaying payments owner-related

Table B.18. Regression (constraint split by business size, customer-related)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.234[a]	0.055	-0.007	1.04622664
2	.363[b]	0.132	-0.194	0.85168208

a. Predictors: (Constant), Constrained, BC5sec, Young and established

b. Predictors: (Constant), Constrained, Young and established, BC5sec

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.926	3	0.975	0.891	0.453
	Residual	50.351	46	1.095		
	Total	53.277	49			
2	Regression	0.880	3	0.293	0.405	0.754
	Residual	5.803	8	0.725		
	Total	6.683	11			

a. Dependent Variable: Customer-related
b. Predictors: (Constant), Constrained, BC5Sec, Young and established
c. Predictors: (Constant), Constrained, Young and established , BC5Sec

Coefficients

Micro and Other		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1 Micro	(Constant)	0.970	1.059		0.915	0.365
	BC5sec	0.043	0.074	0.086	0.577	0.567
	Young and established	-0.163	0.329	-0.076	-0.496	0.622
	Constrained	-0.439	0.307	-0.212	-1.430	0.159
2 Small and Medium	(Constant)	1.140	1.836		0.621	0.552
	BC5sec	0.117	0.106	0.450	1.100	0.303
	Young and established	-0.309	0.650	-0.179	-0.476	0.647
	Constrained	-0.542	0.821	-0.271	-0.660	0.528

a. Dependent Variable: Customer-related

Table B.19. Regression motives (delaying payments and owner-related bootstrapping dependent variable)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate					
1	0.509[a]	0.259	0.221	0.90715500					

a. Predictors: (Constant), Opportunities, risk management, financial independence, BC5sec, Micro and Other, Young and established

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	33.967	6	5.661	6.879	.000[b]
	Residual	97.106	118	0.931		
	Total	131.073	124			

a. Dependent Variable: Delaying payments owner-related

b. Predictors: (Constant), Opportunities, risk management, financial independence, BC5sec, Micro and Other, Young and established

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.169	0.450		2.596	0.011
	BC5sec	-0.076	0.038	-0.161	-1.984	0.050
	Young and established	-0.214	0.182	-0.101	-1.177	0.241
	Micro and Other	-0.214	0.219	-0.085	-0.976	0.331
	Risk management	0.406	0.083	0.398	4.908	0.000
	Financial independence	0.154	0.083	0.148	1.849	0.067
	Opportunities	-0.114	0.083	-0.110	-1.372	0.173

a. Dependent Variable: Delaying payments owner-related

Table B.20. Regression motives (customer-related bootstrapping dependent variable)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate					
1	.209[a]	0.044	-0.005	1.01196636					

a. Predictors: (Constant), Opportunities, risk management, financial independence, BC5sec, Micro and Other, Young and established

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.521	6	0.920	0.898	.499[b]
	Residual	120.841	118	1.024		
	Total	126.362	124			

a. Dependent Variable: Customer related

b. Predictors: (Constant), Opportunities, risk management, financial independence, BC5sec, Micro and Other, Young and established

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-0.515	0.502		-1.025	0.307
	BC5sec	0.018	0.042	0.038	0.418	0.677
	Young and established	-0.012	0.203	-0.006	-0.058	0.954
	Micro and Other	0.380	0.244	0.153	1.553	0.123
	Risk management	0.175	0.092	0.175	1.903	0.059
	Financial independence	-0.024	0.093	-0.024	-0.263	0.793
	Opportunities	-0.004	0.093	-0.004	-0.046	0.963

a. Dependent Variable: Customer-related

Table B.21. Regression (constraint split by business size, delaying payments and owner-related)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.469[a]	0.220	0.178	0.95055496
2	.614[b]	0.377	0.221	0.75347585

a. Predictors: (Constant), Opportunities, Financial Independence, Risk management, Young and established, BC5sec
b. Predictors: (Constant), Opportunities, Young and established, BC5sec, Financial Independence, Risk management

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	23.644	5	4.729	5.233	0.000
	Residual	84.031	93	0.904		
	Total	107.674	98			
2	Regression	6.876	5	1.375	2.422	0.72
	Residual	11.355	20	0.568		
	Total	18.230	25			

Dependent Variable: Delaying payments owner related
Predictors: (Constant), Opportunities, Young and established, BC5sec, Financial Independence, Risk management

Coefficients

Micro and Other		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1 Micro	(Constant)	1.127	0.527		2.140	0.035
	Young and established	-0.271	0.219	-0.116	-1.238	0.219
	BC5Sec	-0.087	0.049	-0.166	-1.768	0.080
	Risk Management	0.374	0.100	0.347	3.723	0.000
	Opportunities	-0.164	0.098	-0.155	-1.672	0.098
	Financial Independence	0.118	0.098	0.111	1.207	0.231
2 Small and Medium	(Constant)	0.427	0.878		0.486	0.632
	Young and established	-0.104	0.330	-0.057	-0.316	0.755
	BC5Sec	-0.064	0.058	-0.205	-1.096	0.286
	Risk Management	0.416	0.157	0.512	2.652	0.015
	Opportunities	0.033	0.163	0.037	0.199	0.844
	Financial Independence	0.266	0.155	0.312	1.719	0.101

a. Dependent Variable: Delaying payments owner-related

Table B.22. Regression (constraint split by business size, customer-related)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.257[a]	0.066	0.016	1.01348489
2	.255[b]	0.065	-0.169	1.02453607

a. Predictors: (Constant), Opportunities, Financial Independence, Risk management, Young and established, BC5sec
b. Predictors: (Constant), Opportunities, Young and established, BC5sec, Financial Independence, Risk management

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6.772	5	1.354	1.319	0.263
	Residual	95.525	93	1.027		
	Total	102.297	98			
2	Regression	1.455	5	0.291	0.277	0.920
	Residual	20.993	20	1.050		
	Total	22.448	25			

Dependent Variable: Customer-related
Predictors: (Constant), Opportunities, Young and established, BC5sec, Financial Independence, Risk management

Coefficients

Micro and Other		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1 Micro	(Constant)	-0.209	0.562		-0.372	0.711
	Young and established BC5Sec	0.014	0.233	0.006	0.058	0.954
	Risk Management	0.021	0.052	0.014	-0.399	0.691
	Opportunities	0.272	0.107	0.260	2.542	0.013
	Financial Independence	-0.164	0.098	-0.155	-1.672	0.098
2 Small and Medium	(Constant)	-6.137	0.105	0.000	-0.001	1.000
	Young and established BC5Sec	-0.574	0.193		-0.481	0.636
	Risk Management	0.186	0.449	0.092	0.414	0.683
	Opportunities	-0.064	0.079	0.188	-0.819	0.423
	Financial Independence	-0.161	0.213	-0.178	-0.754	0.460
		-0.089	0.222	-0.092	-0.401	0.693
		-0.060	0.210	-0.064	-0.287	0.777

a. Dependent Variable: Customer-related