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Firm-level determinants and impacts of finance-seeking behaviour and outcomes for small and medium-sized enterprises (SMEs) in Australia

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Abstract

This paper uses firm-level data from the Business Longitudinal Database compiled by the Australian Bureau of Statistics to examine finance-seeking behaviour and outcomes by Australian small and medium-sized enterprises (SMEs). By modelling the determinants of SME financing behaviour and outcomes using discrete choice techniques and more than two thousand firm cases, we throw useful light on the firm-level factors involved in both debt and equity financing decisions, the availability or lack of availability of finance, and the impact of these outcomes on future firm behaviour. Our findings indicate that a large number of SME characteristics, including firm age, size, industry and sales and the declared strategies for operations, profits, growth and exports, significantly affect both finance-seeking behaviour and outcomes. Putting aside any supply-side circumstances, we conclude that Australian SMEs suffer from severe financial constraints and this significantly affects their strategizing and decision-making across a number of areas.

JEL codes: C25, G32, L21.

Keywords: Small and medium-sized enterprises, financing decisions, debt and equity, discouraged borrowers.

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1. Introduction

Small and medium-sized enterprises (SMEs) are generally considered to lack appropriate finance and therefore require special attention because of their inherent informational opaqueness and the limited finance sources commensurately available (e.g. Beck et al., 2008; Beck et al., 2005; Guiso and Minetti, 2010). However, this has not stopped many existing studies from erroneously exploiting apparent similarities in operations between SMEs and larger firms (Psillaki and Daskalakis, 2009; Hamelin, 2011) when modelling SME decision making and outcomes. The blind application of conventional financing theory to SME financing behaviour has thus yielded many findings of dubious veracity and value (Matthews et al., 1994; Romano et al., 2000). As just one example, Vos et al. (2007) argue that because growth is not a significant stated objective for US and UK SMEs, the smaller number of SMEs that require external finance to support growth can easily gain access to funds through their social relations!

The purpose of this paper is to model the firm-level determinants and impacts of finance-seeking behaviour and outcomes for SMEs in Australia. In doing so, we address three major deficiencies in the extant literature. First, there is very little work in the Australian context concerning the financial behaviour and decision making of SMEs, and almost none about the impact of financial outcomes on future behaviour and circumstances. Second, putting this aside, the willingness of SMEs to seek finance has not been widely considered in the literature. This is especially noteworthy given the gulf that exists between the operations and governance of small and large businesses. Third, the apparent consensus in past research has been that SMEs that do not seek finance do so because they do not need external finance and thus choose to rely on internal funds. A less frequently explored important alternative hypothesis is that a SME can be discouraged in seeking finance because it perceives the financing granted as costly or has received a negative result in the past (Kon and Storey, 2003). Thus, a SME in need of financing that is discouraged from applying for finance could be mistaken for a SME that does not need finance (Voordeckers and Steijvers, 2006).

To achieve this purpose, we employ a three-step analysis. In the first step, we model the demand-side determinants of finance seeking by Australian SMEs. In the second step, we consider the factors affecting the unavailability of finance. In the final step, we analyse both the phenomenon of discouraged SME borrowers and its effects on future SME strategising and financial decision-making.

The remainder of the paper is organized as follows. Section 2 briefly discusses the relevant literature. Section 3 details the hypotheses, Section 4 presents the model specifications, and Section 5 describes the data. Section 6 discusses the results. Section 5 provides some concluding remarks.

2. Review of the literature

A sizeable literature focuses on the restricted capability of SMEs to obtain finance because of their inherent informational opacity (e.g. Beck et al., 2005; Berger and Udell, 2006; Beck et al., 2008; Guiso and Minetti, 2010; Dietrich, 2010; Guiso and Minetti, 2010). All of these studies have two broad dimensions; that is, the supply side and the demand side of SME financing. On the supply side, numerous studies have discussed that SMEs are less likely to have access to formal finance, such as security and equity markets. Thus, SMEs rely heavily on internal finance with banks and other financial institutions being the main source (Iturralde, et al., 2010). However, banks may wish to have less exposure to SMEs or desire to charge SMEs higher fees and interest rates as compared with larger firms (Beck, et al., 2009). In addition to high levels of operational costs, SMEs have a severe lack of negotiation power (Dietrich, 2010), because the alternatives bank finance are even more costly (Roberts and Sufi, 2009). Therefore, financial obstacles consistently adversely affect SMEs borrowing externally (Beck, et al. 2005) and thus they frequently rely on internal finance (Beck, et al., 2008). However, that SMEs depend heavily on internal finance may also result from the unwillingness of SME owners to seek external finance. For example, Berger et al. (1998) find that some SME principals may use retained earnings to obtain a larger equity share by buying out joint-owners and insider debt. Thus, the equity share of the principal owner increases as SMEs age. These factors affecting the demand for finance in SMEs cannot be neglected (Hutchinson, 1995).

On the demand side of SME financing, a number of studies apply the conventional large-firm theories of capital structure, that is, the pecking order, trade-off, and agency costs theory, to investigate the financing decisions of SMEs. For example, Lopez-Gracia and Sogorb-Mira (2008) demonstrate that both trade-off and pecking order theory help to explain SME capital structure. They also find that Spanish SMEs are more likely to aim to reach a target or optimal degree of leverage according to trade-off theory. Similarly, using the US Survey of Small Business Finance, Cole (2011) finds mixed support for both the pecking order and trade-off theories. As an alternative, using a Belgian dataset Caneghem and Campenhout (2010) show that both information quality and quantity positively relate to SME leverage. In their study, the negative relationship between profitability and leverage is consistent with the pecking order theory, whereas the significant positive coefficient for median industry leverage provides support for the trade-off theory. Furthermore, they observe a positive relationship between asset tangibility and leverage, which is

consistent with the agency cost of Jensen and Meckling (1976). However, accounting for the limited capacity to get access to external finance and informational opaqueness of SMEs, tax rates may not significantly influence the level of debt in SMEs (Bartholdy and Mateus, 2008; Michaelas, et al., 1999), and asymmetric information can be a key factor that affects the finance decision-making of a SME. Thus, the pecking order theory may be more prevalent among SMEs (e.g. Bhaird and Lucey, 2010; Johnsen and McMahon, 2005; Ou and Haynes, 2006).

However, the need to obtain external funds is equally likely to drive changes in the capital structure of SMEs as an attempt to achieve an optimal capital structure (Psillaki and Daskalakis, 2009). Two sorts of phenomena, namely, a willingness phenomenon and the discouraged borrower's phenomenon, then heavily influence the SME's need for external funds. The willingness phenomenon is closely associated with SMEs characteristics, as well as the SME owner's characteristics. A number of studies investigate the influences of owner characteristics, including gender, education, age, ethnicity, wealth, and so on on SME financing decisions (e.g. Bellucci, et al., 2010; Berger 1998; Carter and Posa, 1998; Coleman and Cohn, 2000; Fairlie, 1999; Fraser 2009; Roper and Scott, 2009; Scherr, et al., 1993). Unfortunately, quality data about SME owners is normally difficult to acquire because of privacy concerns (Bhaird, 2010).

By comparison, the effects of SME characteristics on financial decision-making may be relatively more important in explaining SME financing (Jordan, et al., 1998; Norton, 1990). We can divide these firm characteristics into three categories of potentially influential factors: organizational factors, operational factors and market factors, as related to the firm's organization, operating, and marketing, respectively. Characteristics such as ownership, firm size, firm age, employment, registration, are included in the organizational category. The operational category includes business goals, financial objectives, operating assessment, planning, innovation or growth opportunities, and profitability, etc. The final category describes the state of the market, including primary markets for the firm's output, imports, exports, and the like. A few studies investigate the effects of some of the factors in the first category on financial decision making in SMEs, such as firm size, firm age, and ownership. For example, Beck et al. (2006) report the significant effect of size, age, and ownership on financial obstacles in SMEs. Another group of studies focuses on the relationship between profitability and/or size and/or debt, thus yielding deductive evidence as to whether SMEs follow capital structure theory and theories on the relationship between growth opportunities and financing (e.g. Bhaird and Lucey, 2010; Caneghem and Campenhout, 2010).

However, propositions related to profit maximization can limit the validity of any attempt to investigate the factors involved in SME financing decisions. For example, Hamelin (2011) concludes

that SMEs tend to promote profit stability rather than profit maximization. Further, very few SMEs appear not to be managed in such a way as to minimize intrusion in their business; thus, debt is often preferred to equity because of the low risk of losing control and decision-making power (Psillaki and Daskalakis, 2009). Moreover, SMEs sometimes appear to be unaware of which particular type of financing is more appropriate and when (Berger and Schaeck, 2011). Surprisingly, there is little existing work on determinants related to the second category of factors, such as business objectives, planning, and factors related to the market state. There are some exceptions. For example, Matthews et al. (1994) argue that managerial goals whatever they may be primarily affect SME capital structure. Excluding factors such as the owner's objectives and business planning is also problematic in SME studies (Romano et al., 2000). Lastly, Vos et al. (2007) argue that growth is not a significant objective for SMEs. As a result, SMEs that require external finance to support growth can obtain access to external sources of funds through social relations.

Another phenomenon that may affect SME's financing decisions is termed the "discouraged borrowers" phenomenon. Due to informational opaqueness, SMEs have important adverse selection problems and bear high information costs, and thus suffer credit rationing (Stiglitz and Weiss, 1981). Therefore, a good SME borrower may not apply for a loan to a bank because they believe they will be rejected (Kon and Storey, 2003). In evidence, Levenson and Willard (2000) estimate that 4.22% of US SMEs have been discouraged from applying because of expected denial. Therefore, perceived financing constraints in the SME also affect the demand for finance by SMEs (Voordeckers and Steijvers, 2006). Drawing on these perspectives, this paper aims to investigate the financing decisions making allowance for SME's specific factors, such as business objectives, as well as the phenomenon of the discouraged borrowers by employing a three-step analysis using data on Australian SMEs.

3. Hypotheses

The focus of this paper is on the effects of operational factors and the discouraged borrower's phenomenon on SME finance while the organizational and market factors are under control. For this purpose, we seek to obtain empirical verification of the following hypotheses.

Business objectives

As discussed, business objectives may closely relate to the SMEs' need for external finance. Given SMEs appear to be very different from large firms in terms of business operations (Ang, 1991), not all SMEs aim to seek significant growth. For example, mom-and-dad SMEs do not typically pursue a high-growth strategy (Berger et al., 1998). Instead, the owners of SMEs like these may merely enjoy

operating the SME itself (Vos et al., 2007). It is therefore likely that desires for independence and control are key reasons for differences in SME financial behaviour (Curran, 1986). Therefore, we set the following hypothesis.

H1 A SME focus on growth and/or profit maximization positively relates to finance seeking.

Business planning

We distinguish between two forms of business planning, the planning process and the written business plan, both of which influence SME's performance positively when measured as profitability and sales growth (see Brinckmann et al., 2010; Gibson and Cassar, 2005). In addition, a start-up or early-stage SME may need a formal business plan that is used as a sales document to obtain angel finance (Berger et al., 1998). For instance, Romano et al. (2000) suggest that planning is positively associated with debt in Australian family businesses. Formal and/or informal planning can also act as soft information for the SMEs in that soft information can help alleviate the opaqueness issue in SMEs, thus giving easier access to financial resources.

H2A Business planning is a positive factor in SMEs seeking finance.

H2B SMEs with business plans are more likely to be successful when applying for finance.

Innovation and growth opportunities

Innovation—defined as the process of the adoption of internally or externally generated devices, systems, policies, programs, processes, products or services that are new to the adopting organization—can be treated as a proxy for growth opportunities (Rosenbusch et al., 2010). The influence of innovation or growth opportunities on a firm's finance decision-making has been widely discussed. This reveals that by reducing debt, firms with growth opportunities may avoid the shareholder–creditor conflict in which the benefits can be transferred from shareholders to creditors (Myers, 1977; Jensen and Meckling, 1976). Moreover, debt can act as a mechanism to alleviate agency cost by disciplining managers (Jensen, 1986). Therefore, a firm with growth opportunities may need less debt (Fama and French, 2002). However, given the assumption that SMEs face financing constraints, those with growth opportunities are more likely to exhaust internal funds and require additional funds. In combination with the traditional concern of SMEs with control and independence, SMEs with growth opportunities may seek external debt instead of external equity. As a result, the influence of growth opportunities on SMEs finance seeking can be either negative (e.g., Heyman et al., 2008; Lopez-Gracia and Sogorb-Mira, 2008), positive (e.g., Degryse et al., 2010; Riding et al., 2010), or insignificant (see Psillaki and Daskakis, 2009).

H3A Growth opportunities have a negative effect on SME debt seeking.

H3B SMEs with growth opportunities seek external debt more rather than equity.

H3C Creditors are more likely to reject SMEs with growth opportunities.

Profitability

Pecking order theory suggests that a firm will tap into internal funding first, whereas trade-off theory supposes that a profitable firm gives more ground to the use of tax shields. Profitability is then a key benchmark for a firm's performance, thus helping in improved acceptance of finance applications.

H4A SME profitability is negatively associated with debt seeking.

H4B SME profitability is positively associated with debt seeking.

H4C SME profitability is positively associated with finance availability.

Size

Firm size can also influence access to finance by SMEs. First, the informational asymmetry between insiders and outsiders can be more severe in small firms because there is less information in the market about smaller firms (Psillaki and Daskalakis, 2009). Therefore, smaller firms seek proportionately less debt. Second, profitability positively relates to firm size (Serrasqueiro and Nunes 2008). Therefore, trade-off theory predicts that larger firms should seek more debt to benefit from the tax shields, though pecking order theory would predict that larger firms use more debt. Third, tax considerations could be of less concern for SMEs because they are less likely to generate large profits and therefore less likely to use debt for tax shield purposes (Pettit and Singer, 1995). If this is the case, size can be negatively associated with debt. In addition, given there is a positive relationship between size and age, start-up or early stage SMEs are more likely to seek equity. Thus, we propose the following hypotheses (Berger, 1993).

H5A SME size is negatively associated with debt seeking.

H5B SME size is positively associated with debt seeking.

H5C SME size is negatively associated with equity seeking.

H5D Smaller SME firms are more likely rejected when applying for finance.

Age

Firm age largely corresponds to the business cycle of SMEs. Start-up and early-stage SMEs may then resort to external equity, particularly private investors and business angels (Berger and Udell, 1998). One reason is the restrictions in internal equity. At the starting stage of a SME, retained profits are scarce, and the personal sources of the owner and firm-connections are very limited. A second reason is associated with a combination of information asymmetries and potential agency problems related to the lack of a trading history. The lack of collateralisable assets can exacerbate the problem of restricted access to finance (Bhaired and Lucey, 2010). From this perspective, firm age positively relates to external finance seeking. However, as SMEs move from the start-up or early-stage to the middle-stage, they can source more finance from retained profits. SMEs can then replace external equity with internal equity. Consequently, firm age should negatively relate to external equity seeking. The following hypotheses reflect these competing effects:

H6A SME age is negatively related to external equity seeking.

H6B SME age and external debt seeking can be mixed.

H6C SME age is negatively associated with finance rejection rates.

Ownership

Ownership mainly relates to a SME owner's desire for control and the impact of the agency problem. For instance, owner-manager or family-controlled SMEs may have a desire for control and so exhibit greater aversion to the use of external equity (Mishra and McConaughy, 1999). Therefore, external equity seeking is less likely to be a consideration for older family business owners and owners that have a strong preference for retaining family control (Romano et al., 2000). Furthermore, and as argued above, debt may help alleviate agency costs by disciplining managers. Owing to the agency problem, owner-manager family firms could then seek relatively more debt when compared with non-family firms. However, a number of studies suggest that the problem of agency costs may only be strictly appropriate for large firms (e.g. Hamelin, 2010; Niskanen and Niskanen, 2010; Serrasqueiro and Nunes, 2008), thus potentially improving on the likelihood of acquiring debt finance. However, Fleming et al. (2005) report a positive relationship between equity agency costs and the separation of ownership and control in Australian SMEs.

H7A Agency costs exist in SMEs.

H7B The separation of ownership and management as related to agency costs has a negative effect on SME debt seeking.

Industry

Several studies suggest the important influence of industry on firm financing patterns (e.g., Caneghem and Campenhout, 2010; Degryse et al., 2010). For example, Ballakishnan and Fox (1993) find that firm effects explain 52% of capital structure variation and inter-industry differences another 11%, while Degryse et al. (2010) find that industries display diverse average debt levels. The trade-off theory also implies that there could be an optimal leverage ratio in an industry at which SMEs are targeted. Alternatively, one explanation given by Myers' (1984) "modified pecking order" theory is that we can consider industry as a proxy for several influential factors, including asset structure, asset risk, and operating characteristics. For example, Degryse et al. (2010) find that SMEs in the retail trade non-food and food industries display higher debt ratios. In addition, Degryse et al. (2010) suggest that the pecking order theory dominates the wholesale trade, retail trade food and non-food, and transport sectors, whereas, the trade-off theory dominates the catering and leisure sectors. Van der Wijst (1989) likewise concludes that the manufacturing industry is capital intensive and requires large investments in fixed assets derived from both debt and equity while the retail sector needs relatively less short-term debt. In Australian work, Romano et al. (2000) find that firms in the service industry are less likely to use family loans, and family businesses in the manufacturing industry are less likely to use capital and retained profits. However, for the most part, most studies suggest that firm-specific characteristics are more important than industrial effects in the firm's financing decisions (e.g. Balakrishnan and Fox, 1993).

H8 The effects of SME industry on finance seeking vary by industry.

Imports and exports

Exporting can be associated with growth ambition (Zahra et al., 2000). Therefore, we expect exporter SMEs to seek more funds compared with non-exporter SMEs. However, exporter SMEs bear more risk because of more rapid growth and market uncertainty. Therefore, exporter SMEs are found to be more likely to have loan applications turned down compared with their non-exporter counterparts (see Riding et al., 2010). We can use the same assumptions to apply to importer SMEs, though to the authors' best knowledge, no previous study investigates the impact of imports in relation to finance seeking.

H9 Export and/or importing by SMEs and debt seeking are positively related.

The final hypothesis relates to the discouraged borrowers phenomenon, which we consider as the interaction between the factors in finance unavailability in the second step of this analysis and those in the applying for finance in the first step. In this sense, we hypothesise that because of adverse

selection problems and credit rationing a good SME borrower may not apply for debt because they believe they will be rejected (Kon and Storey, 2003). Thus,

H10 There is the “discouraged borrower” phenomenon in Australian SMEs.

4. Model specification

In this paper, we seek insights into both the factors underlying a SME’s decision to seek additional finance, including debt and equity, and the demand-side factors influencing the outcomes of finance applications. For these purposes, we employ the following empirical model to examine the factors involved in each of these decisions:

$$APPLY = f(\text{operational factor, organizational factor, market factor}) \quad (1)$$

where *APPLY* represents six dependent variables in six separate models used to test the effects of firm-specific factors on the finance-seeking decision and its outcomes. These six dependent variables are whether a SME applies for additional finance (both debt and equity) (*FINA*), debt (*DEBT*), equity (*EQUI*), and whether finance is correspondingly available (*AFINA*, *ADEBT* and *AEQUI*, respectively).

Ten variables of interest are included in this paper. The operational factor includes nine variables. The first six variables (*FOCUF*, *FOCUC*, *FOCUO*, *FOCUQ*, *FOCUI*, and *FOCUH*) are dummy variables that proxy for the stated business focus of SME when assessing overall business performance (namely, financial, cost, operational, quality, innovation, and human measures) as determined by survey, where the value of the dummy is one for firms in the category and zero otherwise. The next variable, *PLAN*, equals one if the business has the following business activities: written strategic and business plans, budget forecasts, formal networking with other businesses, comparison of performance with other businesses, or export market plans, otherwise zero. *GROW* also takes a value of one if the business has introduced any new or significantly improved operational or organizational processes, otherwise zero. As a proxy for the profitability of the SME, *PROF* is set at one if the firm has higher profitability compared to its major competitors and zero otherwise. In the organization factor category, ownership is a variable of interest where *OWNF* is a dummy variable taking a value of one for a family business and zero otherwise.

In this paper, most variables in the organization factor category and the two variables in the market factor category serve as controls. *SIZE* is the logarithm of sales. The age dummy variables are *AGE01*, *AGE02*, and *AGE03*, which are respectively set to equal one for firms that are aged less than 5 years, 10 years to less than 20 years, and 20 years or more, zero otherwise. *IND01*, *IND02*, *IND03*, *IND04*, *IND05*, *IND06*, *IND07*, *IND08*, *IND09*, *IND10*, *IND11* are a series of dummy variables respectively

based on the two-digit Australian and New Zealand Standard Industry Classification (ANZSIC) subdivisions of agriculture, mining, manufacturing, construction, wholesale trade, retail trade, accommodation, transport, communication services, property and business services, cultural and recreation services, and personal services. *ASSI* is a proxy for whether the business has received any financial assistance from Australian government organizations, with a value of one if yes, zero otherwise. Lastly, *EXP* is the percentage of export sales to total sales, while *IMP* is a dummy variable with a value of one if the firm has imported goods/services into Australia and zero otherwise.

Given agency costs can affect SME financing decisions through diverse factors including ownership, growth opportunities, asset structure and asset tangibility (Degryse et al., 2010; Riding et al., 2010; Heyman et al., 2008), we also specify an agency cost model to investigate the agency cost problem in Australian SMEs.

$$COST = f(OWNF, operational\ factor, organizational\ factor, market\ factor)$$

(2)

where *COST* is the ratio of personnel costs to total sales and *OWNF* is a dummy variable with the value of one for a family business and zero otherwise and all other variables are as previously defined.

The final step of the analysis concerns the phenomenon of discouraged borrowers. Within this, there are two interrelated phenomena. The first is that a creditworthy firm applies for and is denied financing and the likelihood that this firm, which is in need of finance, does not apply for credit as it expects another rejection. The second is that a creditworthy business that has not applied for finance does not apply for finance even it is in need of finance because of high application costs or an expectation of rejection. When Kon and Storey (2003) first utilized the term “discouraged borrowers,” they were actually referring to the second of these phenomena. However, it is difficult to measure the conditions under which this discouraged borrowers exist.

Kon and Storey (2003) present some assumptions. For example, the discouraged borrower’s phenomenon arises only from higher application costs because of errors in the screening procedures of finance providers, and higher interest rates cannot cause this phenomenon owing to zero errors in the setting of interest rates for the applying SMEs. Patently, these assumptions appear rather arbitrary. Moreover, psychic effects directly relating to this effect are not considered. The first of the phenomena of “discouraged borrowers” is also investigated in the literature (e.g. Blumberg and Letterie, 2007; Levenson and Willard, 2000). However, as the denial effect is included in the estimation, endogeneity could arise (Blumberg and Letterie, 2007).

In this paper, the investigation of discouraged borrowers most aligns with the first of these phenomena. To circumvent the potential endogenous issue, we employ data from two successive years. That is, we investigate whether a finance denial in year t has an effect on finance-seeking in year $t+1$. We estimate the following model:

$$APP06 = f(DENY, \text{operational factor}, \text{organizational factor}, \text{market factor})$$

(3)

where *APP06* is whether the firm applies for additional finance in the following year, *DENY* is a dummy with the value of one if the firm received a negative outcome of application in the previous year and zero otherwise. *OWNF* indicates whether the business had any degree of foreign ownership, which is one in the affirmative and zero otherwise. *PROF* has a value of one if the business experienced an increase in profitability compared to the previous year, and all other variables are as defined.

5. Data

In our analysis, we utilize the results of the surveys included in the Business Longitudinal Database, Expanded CURF (BLD), conducted by the Australian Bureau of Statistics (ABS). The BLD comprises two independent samples (referred to as panels) drawn from the in-scope Australian SME populations, defined in the survey as all businesses employing less than 200 people. Panel 1 in this paper contains three reference periods of data: 2004–05, 2005–06, and 2006–07 (for ease of discussion, we refer to these by the calendar year at the end of the financial year, i.e. 2005, 2006, and 2007, respectively). However, the scope of the questions included in the 2005 survey was refined for the surveys in the following two years. As a result, we removed the 2007 survey from the panel as the survey omitted a number of questions of interest in that year. The Panel 1 sample includes 2,732 SMEs, as selected from a survey frame created in June 2005 containing a population of 1,563,857 Australian SMEs. The BLD data is collected directly via the ABS Business Characteristics Survey (BCS), with the assistance of the Australian Taxation Office and Australian Customs.

Table 1 reports summary statistics of the variables used in this paper. Because of missing data owing to respondent omission or errors in sequencing, the samples in 2005 and 2006 were 545 and 711 observations smaller, respectively. About 24% of SMEs are from the industry of agriculture, forestry, and fishing (see Panel C in Table 1). The second-largest group of SMEs in the sample is in the manufacturing industry (16%) while the third-largest sample group are from the wholesale trade industry (10%). About 30% of SMEs are less than five years old, and 23% are in operation for more than 20 years.

Of the SMEs in the sample, 41% applied for additional finance in 2005: 38% applied for debt, 9% for equity, and thus 6% applied for both debt and equity (see Panel A in Table 1). The applying rates dramatically fell in 2006 to 19%. However, the availability of finance shows a relatively high level in both 2005 and 2006 at about 88% and 83%, respectively. The average of the cost ratio stays steady over the two-year period. About 16% of the SMEs received financial assistance from Australian government organizations in 2005 and some 14% in 2006.

Table 1 Variable definitions and summary statistics

Variables		Definition	Mean 2005	2006	Std. dev. 2005 2006	
Panel A. Dependent variables	FINA	Equals one if the firm applied for additional finance in 2005 or 2006; zero otherwise.	0.41	0.19	0.49	0.39
	DEBT	Equals one if the firm applied for debt finance in 2005; zero otherwise.	0.38	–	0.48	–
	EQUI	Equals one if the firm applied for equity finance in 2005; zero otherwise.	0.09	–	0.29	–
	AFINA	Equals one if finance is available in 2005 or 2006; zero otherwise.	0.88	0.83	0.32	0.38
	ADEBT	Equals one if the debt is available in 2005; zero otherwise.	0.89	–	0.32	–
	AEQUI	Equals one if equity is available in 2005 or 2006; zero otherwise.	0.67		0.47	
Panel B. Independent variables of interest	COST	Ratio of personnel costs to total sales in 2005.	0.24	0.23	0.18	0.18
	FOCUF	Equals one if the business focus is on financial measures; zero otherwise.	0.47	0.40	0.50	0.50
	FOCUC	Equals one if the business focus is on cost measures; zero otherwise.	0.40	0.34	0.49	0.47
	FOCUO	Equals one if the business focus is on operational measures; zero otherwise.	0.29	0.23	0.45	0.42
	FOCUQ	Equals one if the business focus is on quality measures; zero otherwise.	0.34	0.37	0.47	0.48
	FOCUI	Equals one if the business focus is on innovation measures; zero otherwise.	0.21	0.13	0.41	0.34
	FOCUH	Equals one if the business focus is human resource measures; zero otherwise.	0.21	0.17	0.41	0.37
	PLAN	Equals one if the business has the following business activities: written strategic and business plans, budget forecasts, formal networking with other businesses, comparison of performance with other businesses, export market plans; zero otherwise.	0.50	–	0.50	–
	GROW	Dummy, if the business has introduced any new or significantly improved operational or organizational processes; zero otherwise.	0.26	0.36	0.44	0.48
	OWNF	Equals one if the firm is a family business; zero otherwise.	0.63		0.48	
	OWNFO	Equals one if the business had any degree of foreign ownership; zero otherwise.	0.04	0.04	0.20	0.19
	PROF	Equals one if the firm was considered more profitable than its major competitors in 2005; zero otherwise. Or equals one if firm profitability increased compared to the previous year in 2006, zero otherwise.	0.12	0.32	0.33	0.47
Panel C. Control variables	SALE	Total sales in thousands of dollars	2678.3	3035.4	8707.8	10426.90
	SIZE01	Equals one if the business had no employees; zero otherwise.	0.189	0.176	0.392	0.381
	SIZE02	Equals one if the business had 1–5 employees; zero otherwise.	0.299	0.300	0.458	0.458
	SIZE03	Equals one if the business had 6–20 employees; zero otherwise.	0.272	0.278	0.445	0.448
	AGE01	Equals one if the business had been in operation for less than 5 years; zero otherwise.	0.30	0.28	0.46	0.45
	AGE02	Equals one if the business had been in operation for a period of 10 to 20 years; zero otherwise.	0.26	0.27	0.44	0.44
	AGE03	Equals one if the business had been in operation for a period of more than 20 years; zero otherwise.	0.23	0.24	0.42	0.43
	EXP	Ratio of export sales to total sales.	0.02	0.02	0.09	0.10

Variables	Definition	Mean		Std. dev.	
		2005	2006	2005	2006
IMP	Equals one if the firm imported goods/services into Australia; zero otherwise.	0.12	0.14	0.32	0.34
ASSI	Equals one if the business received any financial assistance from government organizations; zero	0.16	0.14	0.35	0.37
IND01	Equals one if the firm is in agriculture industry; zero otherwise.	0.24	0.24	0.42	0.42
IND02	Equals one if the firm is in mining industry; zero otherwise.	0.04	0.04	0.20	0.19
IND03	Equals one if the firm is in manufacturing industry; zero otherwise.	0.16	0.16	0.37	0.37
IND04	Equals one if the firm is in construction industry; zero otherwise.	0.05	0.05	0.22	0.22
IND05	Equals one if the firm is in wholesale trade industry; zero otherwise.	0.10	0.10	0.30	0.30
IND06	Equals one if the firm is in retail trade industry; zero otherwise.	0.06	0.06	0.25	0.25
IND07	Equals one if the firm is in accommodation and restaurant industry; zero otherwise.	0.07	0.07	0.25	0.25
IND08	Equals one if the firm is in transport industry; zero otherwise.	0.06	0.06	0.24	0.24
IND09	Equals one if the firm is in communication services industry; zero otherwise.	0.05	0.05	0.21	0.21
IND10	Equals one if the firm is in property industry; zero otherwise.	0.06	0.06	0.23	0.23
IND11	Equals one if the firm is in cultural and recreational services industry; zero otherwise.	0.05	0.05	0.22	0.22

Interestingly, in 2005 only 47% of SMEs regarded financial measures, such as profits, sales growth, and returns on investments, as a major measure of business performance, which dropped further to 40% in 2006. Similarly, cost measures also dropped from 40% in 2005 to 34% in 2006. However, the SMEs appear to pay more attention to quality measures, for example, customer satisfaction and defect rates, which increased from 34% in 2005 to 37% in 2006. By comparison, most SMEs do not consider innovation as a major measure. However, more SMEs introduced new goods, services, or processes during the sample period, from 26% of 2005 to 36% of 2006. Half of the SMEs were involved in planning activities in the business. About 26% of SMEs were considered (by the respondents) to be more profitable compared with their major competitors in 2005 and 32% observed an increase in profitability in 2006 compared with the previous year. In addition, 63% of the sampled SMEs are family businesses and 4% have some degree of foreign ownership.

6. Empirical results

This section reports the results from the three-step analysis: first, to present the results on the factors involved in SMEs seeking additional finance; then, to discuss the results on determinants of finance unavailability; lastly, to discuss whether the denial of finance applications negatively affects SMEs' applying for additional finance. We also discuss the role of agency costs these have an effect on SME financing decisions through the other factors. We investigate the factors that determine SMEs applying for finance and finance unavailability using the data from 2005 and 2006. This also serves as a robustness check.

6.1 Influential factors in seeking finance

Table 2 reports the results from the models of the determinants of seeking additional finance. Both the likelihood ratio (LR) and Wald tests suggest the overall significance of the results of the logistic regression analyses based on the six different dependent variables. None of the 11 industry dummies is statistically significant at the 10% level in the estimates using either the 2005 or the 2006 data. The industry effects are also not jointly significant. Therefore, industry appears to have no significant effect on SME decisions as to whether they apply for additional finance. However, this is not inconsistent with static trade-off theory because our focus is on whether SMEs apply for finance, not the composition of SME finance. Based on a similar dataset from a 1998 Australian survey, Cassar and Holmes (2003) also found that industry controls have a limited effect. Therefore, we prove Hypothesis 7, which proposes that the effects of industry on finance-seeking decisions are uncertain, such that industry has no significant effect on overall SME finance seeking. Consequently, we remove the industry dummies from the successive debt- and equity-seeking models.

Table 2 Determinants of finance seeking

Dependent variable		2005				2006	
		Debt + equity		Debt only	Equity only	Debt + equity	
		With industry effects	Without industry effects	Without industry effects	Without industry effects	With industry effects	Without industry effects
Variables of interest	FOCUF	0.153 (0.227)	0.152 (0.226)	0.132 (0.301)	0.238 (0.247)	0.412*** (0.009)	0.393** (0.013)
		–	–	–	–	[0.056]*	[0.054]*
	FOCUC	–0.102 (0.436)	–0.091 (0.483)	–0.093 (0.479)	–0.273 (0.186)	0.343** (0.036)	0.349** (0.030)
		–	–	–	–	[0.047]	[0.048]
	FOCUO	0.338*** (0.009)	0.331*** (0.009)	0.334*** (0.008)	0.086 (0.667)	0.093 (0.574)	0.104 (0.519)
		[0.069]	[0.068]	[0.068]	–	–	–
	FOCUQ	–0.186 (0.138)	–0.149 (0.226)	–0.271** (0.031)	0.192 (0.327)	–0.295* (0.057)	–0.297* (0.052)
		–	–	[–0.057]	–	[–0.040]	[–0.041]
	FOCUI	0.024 (0.859)	–0.001 (0.997)	–0.001 (0.995)	0.077 (0.709)	0.284 (0.124)	0.282 (0.125)
	FOCUH	0.064 (0.633)	0.046 (0.730)	0.047 (0.725)	0.114 (0.570)	–0.025 (0.892)	–0.038 (0.835)
		0.626***	0.615***	0.565***	0.855***	–	–
	PLAN	(0.000)	(0.000)	(0.000)	(0.000)	–	–
		[0.128]	[0.127]	[0.113]	[0.066]	–	–
	GROW	0.745*** (0.000)	0.735*** (0.000)	0.700*** (0.000)	0.455*** (0.007)	0.767*** (0.000)	0.741*** (0.000)
		[0.151]	[0.152]	[0.139]	[0.035]	[0.105]	[0.102]
	PROF	–0.098 (0.498)	–0.135 (0.334)	–0.033 (0.816)	–0.545** (0.033)	–0.032 (0.808)	–0.034 (0.794)
		–	–	–	[–0.001]	–	–
	OWNF	0.302*** (0.004)	0.345*** (0.001)	0.401*** (0.000)	0.043 (0.794)	–	–
		[0.062]	[0.072]	[0.081]	–	–	–
	OWNFO	–0.530** (0.035)	–0.467** (0.058)	–0.576** (0.022)	0.869*** (0.004)	–0.695** (0.046)	–0.625* (0.067)
		[–0.112]	[–0.100]	[–0.117]	[0.067]	[–0.095]	[–0.086]
	SALE	0.431*** (0.000)	0.384*** (0.000)	0.494*** (0.000)	–0.208** (0.024)	0.374*** (0.000)	0.327*** (0.000)
		[0.089]	[0.080]	[0.100]	[–0.017]	[0.051]	[0.045]
Control variables	AGE01	0.334** (0.015)	0.298** (0.028)	0.218 (0.114)	0.619*** (0.005)	0.247 (0.159)	0.217 (0.210)
		[0.070]	[0.064]	–	[0.050]	–	–
	AGE02	–0.038 (0.785)	–0.024 (0.864)	–0.005 (0.974)	–0.074 (0.767)	–0.239 (0.191)	–0.226 (0.213)
	AGE03	–0.016 (0.914)	0.016 (0.908)	–0.015 (0.920)	0.195 (0.436)	0.138 (0.443)	0.169 (0.339)
		0.359***	0.399***	0.483***	0.003	0.525***	0.595***
	ASSI	(0.008)	(0.003)	(0.000)	(0.989)	(0.000)	(0.000)
		[0.077]	[0.086]	[0.100]	–	[0.072]	[0.082]
	EXP	–0.814 (0.124)	–0.766 (0.140)	–0.672 (0.202)	–0.422 (0.591)	–0.479 (0.476)	–0.405 (0.542)
	IMP	0.163 (0.311)	0.139 (0.362)	0.048 (0.755)	0.382* (0.086)	0.097 (0.591)	0.060 (0.728)
		–	–	–	[0.029]	–	–
	IND01	0.321 (0.133)	–	–	–	0.318 (0.257)	–
	IND02	0.044 (0.885)	–	–	–	0.391 (0.318)	–

Dependent variable	2005				2006	
	Debt + equity		Debt only	Equity only	Debt + equity	
	With industry effects	Without industry effects	Without industry effects	Without industry effects	With industry effects	Without industry effects
IND03	0.322 (0.151)	–	–	–	0.134 (0.632)	–
IND04	–0.056 (0.842)	–	–	–	0.072 (0.844)	–
IND05	–0.234 (0.344)	–	–	–	–0.228 (0.484)	–
IND06	–0.146 (0.584)	–	–	–	–0.364 (0.314)	–
IND07	0.059 (0.819)	–	–	–	–0.045 (0.896)	–
IND08	–0.138 (0.615)	–	–	–	0.005 (0.988)	–
IND09	0.198 (0.498)	–	–	–	0.103 (0.781)	–
IND10	–0.344 (0.215)	–	–	–	–0.123 (0.739)	–
IND11	–0.257 (0.362)	–	–	–	–0.159 (0.668)	–
Obs.	2187	2187	2187	2187	2021	2021
Likelihood ratio test	317.714* (<0.001)	293.262* (<0.001)	306.431* (<0.001)	91.723*** (<0.001)	196.807* (<0.001)	185.195* (<0.001)
Wald test	265.471 (<0.001)	251.120 (<0.001)	257.945 (<0.001)	87.966** (<0.001)	174.568* (<0.001)	166.836 (<0.001)
R-squared	0.182	0.169	0.178	0.090	0.149	0.141

Notes: Asterisks indicate significance: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$, standard errors in parentheses, marginal effects in square brackets for significant coefficients only.

As shown in Table 2, the business focus dummies indicate the significance of the positive effects on finance-seeking decisions, though the effects are not consistent across the two sampling periods. For the 2005 sample, SMEs whose focus lies on operational measures, such as productivity or asset utilization, are more likely to apply for additional finance. The marginal effects of the focus variable on the possibility of applying for additional equity and debt finance are 0.9% and 0.8%, respectively. That is, Australian SMEs that focus on operational measures are 0.9% (0.8%) more likely to apply for additional equity (debt) than SMEs without an operational focus. In contrast, in 2006, a focus on financial measures, including profits and ROA, and a focus on cost measures, including cost per unit of output and inventory cost, are significantly associated with finance-seeking decisions. The marginal effects of these two focus variables on finance seeking are relatively large in 2006 with 5.4–5.6% for financial focus and 3.0–3.6% for cost focus.

Therefore, we confirm Hypothesis 1 (that SMEs focusing on growth has a positive effect on the finance-seeking decision), though the effects do not appear to be consistent over time. These inconsistencies may arise from the interaction between the SMEs' choices between the different focus measures. For example, the questions in the survey concerning business focus are not mutually inconsistent. For this reason, we group the six questions concerning business focus into two categories, four questions concerning whether the business is focused on financial, cost, operational and innovation measures, which we consider as

profitability or growth benchmarks, and the remaining questions, including whether the business focuses on quality measures and human resources, which we consider as non-profitable or non-growth benchmarks.

The significant negative effect of *FOCUQ* on finance-seeking decisions also inversely proves Hypothesis H1. That is, SMEs that focus on the quality measures, such as customer satisfaction and defect rates, are less likely to apply for additional debt in 2005 or finance in 2006 with a likelihood of 3.1% and 5.2–5.7%, respectively. This effect is statistically significant across the two sampling periods. In a combination of the positive effects of financial measures, cost measures and productivity measures, the negative effects of business quality measures on the SMEs' finance-seeking decisions apparently give evidence of the assumptions that, whether a SME has finance constraints or finance gap largely depends on the its willingness to apply for finance given that a considerable number of SMEs are pursuing business stability or operating utility instead of growth or profit-maximization (e.g., Doern, 2009; Hamelin, 2011).

As discussed, the SME objectives of profitability or growth can be proxied by four dummy variables, *FOCF*, *FOCUC*, *FOCUO*, and *FOCUI*. Across the two sampling periods, 49% and 51% of Australian SMEs in 2005 and in 2006 considered at least one of the four measures as a major business measure, with around 33% and 34% of SMEs in 2005 and 2006 considering quality as a major business measure. This may imply that the pursuit of profitability or growth is not as prevalent among small businesses as large businesses.

Another interesting finding is that the focus measures appear to have no significant effect on SME equity-seeking decisions. Given only 16% of equity seeking in the survey targets sources other than existing owners and their friends, we can rightly consider equity in this analysis as mostly internal finance. Pecking order theory suggests that internally generated funds are the preferred sources of financing, followed by external debt and then external equity. Due to information costs and credit rationing, small businesses are supposed to rely first on internal funding sources including owners and their family and friends (Bhaired and Lucey, 2010; Ou and Haynes, 2006). These internal financing sources are exhausted first to meet the needs of business operations, for example, for the use of working capital. Therefore, business focus measures may affect SME finance seeking more than normal finance seeking.

In contrast, three factors, planning, growth opportunity and foreign ownership, appear to have consistently significant effects across the six models. We strongly confirm Hypothesis 2A, by which business planning is a positive factor in seeking finance, at the 1% level such that planning increases the probability of applying for debt by more than 10% and equity by 6.6%. We can interpret this in at least three ways. First, business planning, comprising the planning process and the written business plan, is a proxy for a well-run business. Business planning not only legitimates the organization and enables better communication between entrepreneurs, internal and external stakeholders (Gibson and Cassar, 2005), but also helps in

understanding the mechanics of the intended business and enables learning (Sexton and Bowman-Upton, 1991). A well-run business is then supposed to have a better understanding of when and where and how to apply for finance.

Furthermore, some studies confirm that planning is positively associated with performance (e.g. Gruber, 2007; Schwenk and Shrader, 1993). Therefore, the well-run business may have need for and confidence in applying for finance. Second, a start-up or early-stage SME may require a formal business plan that is used as a sales document to obtain angel finance (Berger et al., 1998). Third, planning can act as soft information for the SMEs, which can help alleviate the opacity of SMEs, thus giving easier access to finance resources.

Growth opportunities also have significant positive effects on debt and equity seeking and finance seeking as a whole. Consequently, we reject Hypothesis 3A and accept Hypothesis 3B is accepted.¹ Put differently, SMEs with growth opportunities appear to have much stronger demand for finance, increasing at the margin the probability of applying for debt by 10% and 3.5% for equity. This gives some evidence of the discrepancies in financing decisions between large and small firms. This could be because SMEs with growth opportunities are more likely to exhaust internal funds and require additional (external) funds (Riding et al., 2010). In addition, as most SMEs are unlisted, there is less concern about conflicts arising between shareholders and creditors (Jensen and Meckling, 1976; Myers, 1977).

Foreign ownership has significant positive effects on debt/finance seeking, but negative effects on equity seeking. Roughly speaking, SMEs with some degree of foreign ownership are less likely to seek debt by 10%, but more likely to seek equity by 6.7%. These results accord with pecking order theory, which suggests that SMEs with foreign ownership have more reliable internal funding. The results also indicate that family ownership raises the probability of acquiring debt by 8.1%, but has no significant effect on seeking equity. The significant effects of family ownership on debt seeking and the non-significant effects of family ownership on equity seeking can arise from the premise that owner–manager and family-controlled SMEs have a greater desire for control and exhibit an aversion to external equity (Mishra and McConaughy, 1999).

However, a more convincing interpretation is directly attributable to agency costs: the idea that the interests of the firm’s managers and its shareholders, or the firm’s shareholders and its creditors, are not perfectly aligned (Jensen, 1986; Jensen and Meckling, 1976). We can actually interpret these two separate conflicts as an insider-outsider problem, that is, informational asymmetry aggravated by information opacity in the SME (Bhaired and Lucey, 2010). Therefore, owner-manager involvement in a family business should consolidate the firm, reduce the agency costs (Fama and Jensen, 1983), and give it more opportunities to gain access to resources from lenders (Lopez-Gracia and Sanchez-Andujar, 2007).

¹ As mentioned above, equity in this paper is mainly treated as internal financing.

Table 3 reports the results of the estimations for the agency costs model. As shown, family ownership has significant negative effects on the ratio of personnel costs and other payments to total sales. The savings in the cost ratio related to family ownership is up to 3%, which equals about \$80,349 dollars on average. However, family businesses may benefit from the savings of business operations, such as transport spending, rent, and so on if the family business is home-based. In Model B, a home-based dummy controls for the effects of these sorts of savings. Family ownership is still significant. The marginal effect in Model B is slightly lower than that in Model A at 2.9%. The home-based SMEs can reduce the cost ratio to 2.9%. Model C then allows the interaction between family ownership and home-based dummy. The home-based dummy and the interaction dummy are no longer significant. This means family and home-based SMEs cannot obtain further savings. However, the family dummy is still significant. This implies that agency costs exist in Australian SMEs, which confirms Hypothesis 7A.

Table 3 Impact of agency costs

Dependent variable	Cost ratio (A)		Cost ratio (B)		Cost ratio (C)	
	Coef.	Std. err.	Coef.	Std. err.	Coef.	Std. err.
SALE	−0.056*** (0.000)	0.007	−0.063*** (0.000)	0.007 0.009	−0.063*** (0.000)	0.007 –
	[−0.051]		[−0.058]	–	[−0.057]	–
	−0.033*** (0.000)	0.009	−0.032*** (0.001)	–	−0.027*** (0.009)	0.010 –
OWNF	[−0.030]		[−0.029]	–	[−0.024]	–
	–	–	−0.032*** (0.006)	0.012	−0.015 (0.461)	0.021 –
	–	–	[−0.029]	–	–	–
HOME×OWNF	–	–	–	–	−0.022 (0.322)	0.022
	0.021** (0.031)	0.010	0.020** (0.045)	0.009	0.019** (0.041)	0.009 –
	[0.019]	–	[0.018]	–	[0.018]	–
PROF	−0.009 (0.477)	0.012	−0.007 (0.536)	–	−0.007 (0.537)	0.012 –
	−0.004 (0.708)	0.011	−0.004 (0.671)	0.011	−0.004 (0.694)	0.011 –
	0.006 (0.606)	0.011	0.006 (0.538)	0.011	0.006 (0.539)	0.011 –
FOCUO	0.007 (0.556)	0.011	0.007 (0.527)	0.011	0.007 (0.502)	0.011 –
	−0.010 (0.367)	0.012	−0.010 (0.349)	0.010	−0.010 (0.337)	0.010 –
	−0.005 (0.693)	0.011	−0.005 (0.628)	0.011	−0.005 (0.614)	0.011 –
FOCUH	0.011 (0.331)	0.011	0.011 (0.323)	0.011	0.011 (0.307)	0.011 –
	0.006 (0.571)	0.009	0.006 (0.532)	0.009	0.005 (0.556)	0.009 –
	0.026 (0.226)	0.022	0.026 (0.221)	0.021	0.028 (0.191)	0.021 –
AGE01	−0.015 (0.229)	0.013	−0.016 (0.177)	0.012	−0.016 (0.177)	0.012 –
	0.002 (0.864)	0.012	0.001 (0.941)	0.012	0.001 (0.954)	0.012 –

Dependent variable	Cost ratio (A)		Cost ratio (B)		Cost ratio (C)	
	Coef.	Std. err.	Coef.	Std. err.	Coef.	Std. err.
AGE03	−0.006 (0.626)	0.012 —	−0.006 (0.618)	0.012 —	−0.005 (0.632)	0.012 —
ASSI	0.010 (0.371)	0.011 —	0.011 (0.328)	0.011 —	0.012 (0.311)	0.011 —
EXP	−0.029 (0.529)	0.046 —	−0.031 (0.484)	0.045 —	−0.031 (0.491)	0.045 —
IMP	−0.029** (0.031)	0.014 —	−0.030** (0.029)	0.013 —	−0.029** (0.028)	0.013 —
	[−0.027] −0.139***	— 0.018	— −0.126***	— 0.018	[−0.026] −0.125***	— 0.018
IND01	(0.000) [−0.126]	— —	(0.000) [−0.114]	— —	(0.000) [−0.114]	— —
	−0.051** (0.068)	0.028 —	−0.042 (0.137)	0.028 —	−0.041 (0.141)	0.028 —
IND02	[−0.047] −0.065***	— 0.019	— −0.061***	— 0.019	— −0.061***	— 0.020
IND03	(0.001) [−0.060]	— —	(0.002) [−0.056]	— —	(0.002) [−0.056]	— —
IND04	−0.026 (0.267)	0.024 —	−0.013 (0.583)	0.024 —	−0.014 (0.557)	0.025 —
	−0.131*** (0.000)	0.021 —	−0.125*** (0.000)	0.021 —	−0.126*** (0.000)	0.022 —
IND05	[−0.118] −0.103***	— 0.023	[−0.113] −0.102***	— 0.023	[−0.114] −0.103***	— 0.023
IND06	(0.000) [−0.094]	— —	(0.000) [−0.093]	— —	(0.000) [−0.093]	— —
	−0.075*** (0.001)	0.022 —	−0.075*** (0.001)	0.022 —	−0.075*** (0.001)	0.022 —
IND07	[−0.069] −0.060***	— 0.023	[−0.068] −0.050**	— 0.023	[−0.068] −0.051**	— 0.023
IND08	(0.010) [−0.054]	— —	(0.033) [−0.045]	— —	(0.032) [−0.046]	— —
	−0.074*** (0.004)	0.026 —	−0.067** (0.010)	0.026 —	−0.068*** (0.009)	0.026 —
IND09	[−0.067] 0.104***	— 0.023	[−0.061] 0.111***	— 0.023	[−0.062] 0.111***	— 0.023
IND10	(0.000) [0.094]	— —	(0.000) [0.101]	— —	(0.000) [0.101]	— —
IND11	−0.032 (0.181)	0.024 —	−0.031 (0.202)	0.024 —	−0.031 (0.201)	0.024 —
Obs.	1610	—	1610	—		—
Likelihood ratio test						
R-squared						

Notes: Asterisks indicate significance: *** p < 0.01, ** p < 0.05, * p < 0.10, standard errors in parentheses, marginal effects in square brackets for significant coefficients only.

As discussed, the agency costs arising from the conflicts between shareholders and creditors are not a major issue in small businesses. However, the primary concern for the outside contributors of credit arises from moral hazards, or the SME manager changing their behaviour to the detriment of the creditor after credit is granted (Bhaired and Lucey, 2010). Debt providers may seek to minimize the agency costs arising from these relationships by employing sophisticated monitoring or lending techniques. As a result, the creditors may price those sorts of costs to the extent that the SME considers it beyond its affordability, or

can ask for more collateralized tangible assets (Heyman, Deloof, and Ooghe, 2007). Moreover, creditors such as banks may be reluctant to provide financial support because of complex agency problems if more parties are involved in the financing of a SME (Ang, 1991).

On the one hand, the owner-manager style of family SME can reduce the costs of financial distress by including collateralized assets such as land, equipments, or other tangible assets (Psillaki and Daskalakis, 2009). On the other hand, they can reduce agency costs through a simple financing decision procedure. In other work, Lopez_Gracia and Sanchez-Andujar (2007) find that non-family SMEs approach their level of optimal debt more slowly than family SMEs, suggesting that being a family business reduces agency costs and makes obtaining finance resources easier. In addition, the existence of a family presence over successive generations also sustains personal and well-informed relationships with parties external to the SME, such as banks (Anderson et al., 2002). This may lead to other benefits for the SME through enhancing relationship banking (Fleming, Heaney, and McCosker, 2005).

As a control variable, size is positively associated with debt seeking, but negatively associated with equity seeking. Therefore, we confirm Hypotheses 5B and 5C and reject Hypothesis 5A. In the sense of a size effect, trade-off theory rather than the pecking order theory can explain the financing-seeking behaviour of the SMEs. Firm age can also explain equity-seeking behaviour, thus Hypothesis 6A is also accepted. However, Hypothesis 6B has only marginal support because the positive effects of firm age on debt seeking are not statistically significant in periods 2005 and 2006. Government assistance also exhibits a consistent and positive effect on SME financing decisions. However, we do not confirm the hypotheses on profitability; the signs of the estimated coefficients are all negative, but only that for equity seeking is statistically significant.

6.2 Demand-side determinants of finance unavailability

As shown in Table 4, business focuses appears to have no consistent effect on finance unavailability for SMEs. Businesses that focus on financial and human resources are less likely to be rejected at marginal values of 8.7%, 7.6%, and 4.8% respectively when applying for additional finance or debt. In contrast, SMEs that focus on innovation are more likely to obtain debt at a marginal value of 6.1%. However, not all those effects are consistent across the models. This may imply that business objectives are not a major concern for finance providers in assessing the finance worthiness of SMEs.

Table 4 Determinants of finance unavailability

Dependent variable	2005			2006
	Finance (Unavailable)	Debt (Unavailable)	Equity (Unavailable)	Finance (Unavailable)
FOCUF	0.133 (0.631)	0.241 (0.406)	0.065 (0.893)	-0.666* (0.081)

Dependent variable	2005			2006
	Finance (Unavailable)	Debt (Unavailable)	Equity (Unavailable)	Finance (Unavailable)
	–	–	–	[–0.087]
FOCUC	0.049 (0.859)	–0.313 (0.281)	0.483 (0.320)	0.088 (0.817)
FOCUO	–0.085 (0.754)	–0.145 (0.619)	0.114 (0.784)	0.311 (0.409)
FOCUQ	0.497* (0.065)	0.276 (0.339)	–0.094 (0.832)	0.229 (0.538)
	[0.049]	–	–	–
FOCUI	0.473 (0.107)	0.708** (0.018)	0.402 (0.402)	–0.159 (0.714)
	–	–	–	–
FOCUH	–0.781** (0.013)	–0.546* (0.087)	–0.498 (0.264)	–0.587 (0.194)
	[–0.076]	[–0.048]	–	–
PLAN	–0.649*** (0.009)	–0.228 (0.395)	–1.385*** (0.001)	–
	[–0.064]	–	–	–
GROW	0.251 (0.287)	0.089 (0.721)	0.295 (0.428)	0.039 (0.898)
	–0.241 (0.494)	–0.109 (0.752)	–0.276 (0.641)	–0.937*** (0.006)
PROF	–	–	–	[–0.122]
OWNF	0.163 (0.495)	0.340 (0.197)	0.118 (0.744)	–
OWNFO	–0.706 (0.356)	0.314 (0.593)	–1.149 (0.113)	0.772 (0.316)
	–0.286** (0.033)	–0.352** (0.014)	–0.025 (0.911)	–0.326* (0.082)
SALE	[–0.028]	[–0.077]	–	[–0.043]
	0.620** (0.045)	0.060* (0.075)	0.462 (0.335)	–0.141 (0.734)
AGE01	[0.061]	[0.073]	–	–
AGE02	0.109 (0.751)	0.259 (0.472)	–0.303 (0.588)	0.344 (0.426)
AGE03	–0.208 (0.579)	–0.252 (0.532)	–0.528 (0.359)	–0.029 (0.946)
	–0.944** (0.015)	–1.087*** (0.009)	0.109 (0.818)	–0.874** (0.021)
ASSI	[–0.092]	[–0.147]	–	[–0.114]
EXP	0.905 (0.401)	0.937 (0.399)	0.228 (0.904)	–1.436 (0.491)
IMP	–0.059 (0.861)	0.079 (0.823)	–0.087 (0.848)	0.259 (0.516)
Obs.	896	822	201	381
–2logL	597.900	532.554	228.050	318.101
Likelihood ratio test	57.555*** (0.000)	43.693*** (0.001)	27.829* (0.065)	33.157*** (0.001)
Wald test	49.830 (0.000)	37.400*** (0.005)	23.159 (0.185)	27.355** (0.038)
R-squared	0.120	0.103	0.180	0.138

Notes: Asterisks indicate significance: *** p < 0.01, ** p < 0.05, * p < 0.10, standard errors in parentheses, marginal effects in square brackets for significant coefficients only.

We partly confirm the hypothesis that planning assists in obtaining finance. The positive effects of planning are mainly on equity availability with a marginal value of 12.2% and a p-value of less than 1%. This is consistent with the assumption that a SME may need a formal business plan that is then used as a sales

document to obtain equity, especially for a start-up or early-stage SME (Berger et al., 1998). Surprisingly, profitability does not have a consistent effect on finance availability, which has a significant effect only in 2006. This is mainly because of the differences in the measurement of profitability. In the 2006 sample, profitability is whether a SME had an increase in profit from the previous year. However, in 2005 profitability is whether the SME was more profitable compared to its major competitors. Thus, the measurement of profitability in 2006 appears sounder.

The negative relation between size and finance application rejection implies that smaller finance-seeking firms are more likely to be rejected; the positive sign of the dummy variable, AGE01, implies that a young small business is especially likely to be rejected. However, the effects of size and age are not significant on equity availability. Government assistance can also significantly assist a small business get its finance applications passed through. The coefficient signs of growth opportunities in the unavailability models have a positive sign; however, not all the effects are statistically significant. The growth opportunities imply a higher level of risk, thus reducing the possibilities of attaining finance for a SME. As discussed, growth opportunities appear to make a difference in finance seeking for both small and large firms. The SMEs with growth opportunities are more likely to apply for additional funding.

However, this willingness may be contaminated by the phenomenon of the discouraged borrower. That is, some SMEs with growth opportunities that have not received acceptance of their finance applications in the past may be reluctant to apply for finance, even though they are in need of financing. In a similar vein, family ownership does not have a significant effect on finance unavailability either. We assume a family firm is capable of reducing agency costs, and providing collateral easily, as compared to a non-family firm. Therefore, the family firm should get easier access to finance. We can then attribute the insignificance of the effects of family ownership to its interaction with the phenomenon of the discouraged borrower. Unfortunately, there is no information about family ownership in the 2006 dataset. However, we test the association between growth opportunities and the discouraged borrower SME in the following section.

6.3 Discouraged borrowers

As discussed, negative expectations of the outcome may affect the decision of a SME to seek finance because the SME has already received a negative result in the past. This denial effect may not only directly affect SME finance seeking, but also interact with the factors affecting SME finance seeking. For these reasons, we use six models to investigate the denial effect and its interaction with other factors, such as growth opportunities, firm age, and size. Table 5 presents the estimation results.

Table 5 Discouraged borrower phenomenon

Model	(1)	(2)	(3)	(4)	(5)	(6)
	0.420*** (0.008) [0.055] 0.330**	0.412*** (0.010) [0.055] 0.324**	0.411*** (0.010) [0.054] 0.331**	0.410*** (0.010) [0.053] 0.313*	0.410*** (0.010) [0.053] 0.313*	0.405** (0.011) [0.053] 0.308*
FOCUF						
FOCUC						
FOCUO						
FOCUQ						
FOCUI						
FOCUH						
GROW						
PROF						
OWNFO						
DENY						
SALE						
AGE01						
AGE02						
AGE03						
ASSI						
EXP						
IMP						
DENY×GROW`						
DENY×SIZE01						
DENY×SIZE02						
DENY×SIZE03						
DENY×AGE01						
DENY×AGE02						

Model	(1)	(2)	(3)	(4)	(5)	(6)
	–	–	–	[–0.133]	[–0.133]	[–0.132]
	–	–	–	–0.570	–0.614*	–0.574
DENY×AGE03	–	–	–	(0.112)	(0.089)	(0.114)
	–	–	–	–	[–0.080]	–
Observations	2021	2021	2021	2021	2021	2021
–2logL	1700.352	1697.795	1691.166	1690.132	1680.001	1678.255
Likelihood	256.261***	258.818***	265.447***	266.481***	276.612***	278.358***
ratio test	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Wald test	221.011***	217.609	216.435***	223.622***	219.170***	216.429***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
R-squared	0.192	0.193	0.198	0.199	0.206	0.207

Notes: Asterisks indicate significance: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$, standard errors in parentheses, marginal effects in square brackets for significant coefficients only.

The denial variable is significant across all six models at least at the 5% level. Thus, the discouraged borrower's phenomenon exists in Australian SMEs. In Model 1, the denial effect has a significant and negative effect on the financing seeking of the SMEs at less than the 1% level and a marginal effect of 14.2%. This means that a SME that did not receive a positive outcome from its finance applications in 2005 would be 14.2% less likely to apply for finance again in 2006.

In the previous section, we discussed that the insignificance of growth opportunities on finance unavailability may be attributed to its interaction with the denial effect. Thus, Model 2 includes the interaction between these issues. The interaction variable is only just insignificant at the 10.9%, slightly larger than the normal benchmark of 10%. Furthermore, given that the interaction with the denial effect is under control, the marginal effects of growth opportunities on finance seeking decrease from a probability of 10.2% (see Table 2) to a probability of 8.8% (see Table 5). This means that the SMEs with growth opportunities are discouraged from applying for finance to a similar extent as other SMEs.

We use Models 3 and 4 to investigate how this discouraged borrower's phenomenon differs across different sizes and ages of SMEs. The results in Model 3 suggest that the discouraged borrower's phenomenon more severely affects smaller SMEs, especially SMEs without employees. A non-employee SME that did not get a positive outcome from its applications for finance in 2005 would then be less likely to apply for finance in 2006 at a marginal value of 10.3% because of the denial effect. This marginal effect is even higher, up to more than 11% when we control for the interactions of firm age and growth opportunities in Models 5 and 6. A smaller firm is more prone to the denial effect. This is consistent with Blumberg and Letterie's (2007) findings.

Interestingly, older SMEs appear more easily discouraged by the denial effect than younger SMEs. Specifically, the SMEs in operation for 10-20 years are discouraged from applying for additional finance at a marginal value of 0.8%. Very young SMEs (aged less than five years), appear unaffected by the denial effect, as proved in Models 5 and 6. This suggests that mature firms are more likely to have experience in dealing with finance providers, and may have time to establish financing relationships (Kon and Storey, 2003). Once

they have been rejected, they may then be more aware of what exactly has happened, and thus less likely to try again, as compared to the relatively more inexperienced younger firms. This could also relate to the measurement of the denial effect. The main shortcoming in using the denial effect to estimate the discouraged borrowers is that the denial does not have information about whether the business is creditworthy.

7. Concluding remarks

This paper provided empirical evidence relating to the finance-seeking behaviour of Australian SMEs using a large ABS dataset of confidentialised unit record files (CURFs). One key motivation of the paper is that the factors determining the willingness of small businesses to seek finance are not well known, especially in Australia. Moreover, the SME is not supposed to have financial constraints or “finance gap” issues, because the pursuit of profitability or growth is not as prevalent among SMEs as among large firms (see Vos et al., 2007). In order to investigate financing decisions when making allowance for the SME’s specific factors, such as business objectives, as well as the phenomenon of discouraged borrowers, this paper has used a three-step analysis. In the first step, the determinants of finance seeking were examined in the models, including SME characteristics. Then, in the second step, factors affecting finance unavailability were investigated. In the third and final step, the phenomenon of discouraged borrowers was considered, and its effects on SME financing decisions discussed.

Our findings show that business objectives significantly affect SME finance-seeking decisions. SMEs that focus on profitability or growth have a strong willingness to seek additional finance; in comparison, SMEs that focus on the quality of their products or services are less likely to apply for additional finance. Since only half of the SMEs in the sample considered profitability or growth to be a major business focus, variations in the SME financing decisions are greatly affected by the business objectives. However, this does not allow us to conclude a rosy account in relation to SAME financing in Australia, that is, as some SMEs do not require additional finance, SMEs that do need external finance to support growth can apply more often. Although this paper finds that SMEs with growth opportunities apply for finance more often, the existence of the phenomenon of discouraged borrowers implies that the SMEs in need of finance are actually discouraged from applying for finance. Furthermore, smaller SMEs are more severely affected by the discouraged borrower’s phenomenon. In combination with the finding of a significant negative relation between size and finance rejection, we conclude most Australian SMEs, especially smaller SMEs, suffer severe financial constraints.

Table 6 Results summary

Hypothesis	Findings
H1 SME focus on growth or profit maximization is positively related to finance	Confirmed

seeking.	
H2A SME business planning a positive factor when seeking finance.	Confirmed
H2B SMEs with business planning are more likely to have successful applications for finance.	Confirmed
H3A Growth opportunities have negative effects on debt seeking by SMEs.	Rejected
H3B SMEs with growth opportunities seek more external debt than equity.	Confirmed
H3C SMEs with growth opportunities more likely to be rejected by creditors.	Not confirmed
H4A SME profitability negatively associated with debt seeking.	Not confirmed
H4B SME profitability positively associated with debt seeking.	Not confirmed
H4C SME profitability positively associated with finance availability.	Confirmed
H5A SME size negatively associated with debt seeking.	Rejected
H5B SME size positively associated with debt seeking.	Confirmed
H5C SME size negatively associated with equity seeking.	Confirmed
H5D Small SMEs more likely to be rejected when applying for finance.	Confirmed
H6A SME age negatively related to equity seeking.	Confirmed
H6B The effects of SME age and external debt seeking are negatively related.	Confirmed
H6C SME age is negatively associated with finance rejection rates.	Partly confirmed
H7A Agency costs exist in SMEs.	Confirmed
H7B Separation of ownership and management in SMEs has a negative effect on debt seeking.	Confirmed
H8 The effects of industry on SME finance seeking are significant but mixed.	Rejected
H9 Exports and/or imports positively related to SME debt seeking.	Not confirmed
H10 There is a “discouraged borrower” phenomenon in SMEs.	Confirmed

In other findings, as shown in Table 6, classical theories of capital structure, such as the pecking order, trade off and agency costs theory all help explain finance-seeking decisions in the context of Australian SMEs. However, there are considerable differences between SMEs and large firms concerning the applications of the capital structure theories. For example, growth opportunities are always a positive factor in seeking additional finance because of limited financial sources for SMEs. This is not generally proven with larger firms in other studies. In addition, business objectives largely affect the financing decisions for SME, but this is less frequently observed in empirical work on large firms. Apart from the well-discussed factors in the literature, such as firm size and age, some other factors also have significant effects on SME financing decisions. For example, a record of government assistance has a consistent effect on both finance seeking and finance availability, as does foreign investment in the SME.

Of course, the paper has some limitations. The first relates to data availability. For example, data on some responses gathered in 2005 is missing from 2006, such as information relating to family ownership. Another

problem is that the measurement of some variables is rather dubious in the ABS methodology, especially that of profitability. Finally, as discussed earlier, we may need additional, but presently unavailable, control variables when constructing models investigating the phenomenon of a “discouraged borrower.”

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