A survey of Small Business Finance in New Zealand

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Abstract

In 2004 the Ministry of Economic Development, in cooperation with Statistics New Zealand, undertook a survey of small business finance in New Zealand. This was the first time such an exercise had been undertaken in New Zealand.

This paper reviews that survey relative to the literature on small business financing. It then looks at apparent difficulties with the results reported, and at ways in which the analysis of the results might have been differently reported, and at issues which should be addressed in future surveys.

1. Introduction

Economic growth and development are rightly regarded as major concerns for a government, to which end they look to the business sector to assist them. Because of their individual size and visibility, and consequent ability to be taken notice of politically, the traditional approach has been to place more emphasis on large businesses. In more recent times, however, greater attention has been paid to small businesses, which together make a major contribution to employment and growth of the economy. According to Statistics New Zealand (2004), 96% of businesses in that year had fewer than 20 employees, employing 479,210 people (29% of the total workforce).

MED (2005) reports National Bank research that small and medium-size enterprises (SME) outperformed the New Zealand economy as a whole from 2002 to 2004 (p.39). However, this does not mean that they could not perform better. Research and analysis of the problems facing small businesses need to be undertaken, so that constraints and problems they face are identified, and improvements made to support the growth of the economy. A major area of concern for small businesses is finance, which can be crucial for their success, especially in the first years.

There is a significant amount of international literature discussing issues around the financing of small business, particularly looking at the perception that small business is inclined to be financially constrained, and that these financial constraints in turn become a constraint on economic growth and development. Much research has been consistent with such perceptions, although Vos et al (2007) have found SMEs to be happy with financial services offerings.

It was against this background that, in 2004, the Ministry of Economic Development and Statistics New Zealand undertook a survey on small business finance (MED, 2005). This was part of a larger programme of work by the MED looking at small business finance issues, with earlier publications including PWC (2003) and Infometrics (2004). It was the first time such a survey had been undertaken in New Zealand, and there were no simple New Zealand models on which the survey could be based. The aim of this paper is to review the survey to

look for further results, and to identify possible improvements and directions for future research.

One of the major omissions from the report was the lack of any model or expectations against which the survey's results could be assessed. In the next section we provide an overview of international research on small business finance. We first define small business, before describing the different finance sources and the lending process. We then consider the implications and risks of lending to small businesses, and the possibility of reducing risks by taking securities. We look at the costs of undertaking small business lending, and consider its influence on the lender's portfolio. Finally we deal with the competition in small business finance and the influence of small business and its finance for the economy.

The third section outlines the major characteristics and results of the MED's survey. After a description of the survey, and its design and assumptions, we outline the key results. We then offer some analysis, based on the results of the survey, which interpret these in greater depth. Finally, we look at some implications for businesses, banks and the government.

In the fourth section the limitations of the survey are discussed. We first look at issues in the survey and the questionnaire, and then at problems with data presentation and the survey's assumptions. We then attempt some explanation of the problems arising from these limitations.

The final section concludes. Here we consider implications for future surveys and for future analyses.

2. Previous research on small business finance

2.1 Definition and basics of small businesses

Key features of small businesses are that they have only a very small number of owners, and that ownership and management are generally the same. In researching small business, a major challenge is then to try and define some measureable externally-visible criterion which

will reflect this. Surveys often look to proxy these other characteristics to define a business by its number of full-time employees, by its turnover or by its balance sheet capital. If only one criterion is selected for the definition of small business, it should be full-time employees. The other two criteria have problems depending on the industry the definition is used for. If turnover is taken as the measure, for example, retail businesses are likely to be perceived larger (as turnover is inflated by cost of goods sold), and, contracting businesses as smaller (as turnover is comprised predominantly of labour compensation) than they would be on other criteria. If balance sheet capital is used as the measurement criterion, a capital intensive business, such as farming in New Zealand, is recorded as larger, in contrast with a less capital intensive business such as takeaway food service (particularly if operated from rental premises).

Applying the headcount criterion, the European Commission (2005) defines a small business as having 10-49 full-time employees, excluding apprentices or students in professional training. A business which has less than 10 employees is seen as a micro enterprise (The European Commission, 2005). However, the New Zealand economy is much smaller than that of the European Union (EU). A business which has 40 employees is seen as relatively large in New Zealand because the total number of businesses and employees is much smaller. For a country such as New Zealand, a more appropriate classification of small business, and one used by the MED, is likely to be as having 5 or fewer employees, while a medium business might be described as having between 6 and 19 full-time employees (MED, 2004).

2.2 Sources of finance for businesses

Sources of finance for business may be categorised as equity or debt. The holders of equity generally participate equally in the business's profits or losses, but face the highest risks because in the case of insolvency they will only receive what is left over after all debt has been repaid (which may be nothing). On the other hand, they have the highest rewards because, if the business is doing well, they receive all the profit (after tax and interest). Since the owners of the business face the highest risks, they have the primary say in managing the business.

Debt is characterised by two main aspects. The providers of the debt have priority in receiving their money back in case of insolvency, ahead of equity holders. Furthermore, they may ask for collateral, such as a mortgage, or guarantees before granting the debt. Debt holders generally also have an entitlement to payment of interest at a contractual rate as their compensation for providing funding to the business. However, their provision of credit does not give them any general right to manage the business.

The equity sources can be divided into further groups. A main differentiation criterion is who supplies the money. According to Berger and Udell (2002), there are four groups of equity suppliers: the principal owner, angel finance, venture capital and other equity. The group "other equity" mainly consists of members of the start-up team, employees and family, and friends. Each of the groups is quite small, but, together as the group of "other equity" they are important for small business finance (Berger & Udell, 1998).

The sources of debt can be divided into six categories (Berger & Udell, 2002). There is debt from commercial banks, finance businesses and other financial institutions. Trade credit is seen as a fourth separate category because it is granted on the basis of goods sold to the business. Other debt, similar to the equity differentiation, includes debt provided by members of the start-up team, employees and family, and friends. The debt supplied from the owner of the business is the last category.

2.3 General lending practice

Lending by banks and other financial institutions is based on the creditworthiness of the borrowers (Elyasiani & Goldberg, 2004), the quality of a project and the assets it utilises, projected cash-flows, management, the location, and other criteria. Since there are many different aspects, techniques and reasons for lending, they are clustered into what Berger and Udell (2002) refer to as two main technologies: Transaction based and relationship lending. Transaction based lending is divided in three subgroups: Financial statement, credit scoring and asset-based lending.

In financial statement lending, credit decisions are based on information in the enterprise's financial statements, such as the balance sheet and income statement (Berger & Udell, 2002).

The requirement for historical financial statements is inclined to limit this approach to businesses with a longer history, which will often make it unsuitable and unavailable for start-ups or small businesses with a shorter history.

The second method, asset-based lending, places most of its emphasis on analysing the quality of the available collateral (Berger & Udell, 2002). It requires high-quality assets, of relatively certain value and which are readily marketable. Some types of collateral, such as inventories, entail higher monitoring costs. The more valuable the collateral, and the easier it is to sell, the better are the chances that credit will be provided. Usually start-ups or small businesses have little collateral and the costs of monitoring are often relatively high, because of the small amounts. Access to credit may be constrained accordingly.

The last transaction based lending subgroup is credit scoring. The basic idea behind it is that the creditworthiness of the owner and the enterprise are closely linked (Berger & Udell, 2002). The major weights are put on the financial statements of the business and on the financial history and condition of the owner(s). Since this method looks at the owner as well as the business, it allows businesses with a shorter history to borrow money (Mann, 1998).

The second main method, relationship lending, uses information about the business and the owner acquired over the period of the relationship to make the credit decision (Berger & Udell, 2002). Further information can be gathered through contacts with suppliers and customers. This method is especially suited for informationally opaque businesses, but where the owner (and perhaps the business as well) have a long-term bank relationship (Elyasiani & Goldberg, 2004). It can therefore be important for small businesses.

2.4 Implications of the lending practice for small businesses

The availability of finance for small enterprises is of major importance since it is one of the main growth constraints (Beck & Demirguc-Kunt, 2006). Sources of finance for small businesses are more limited than for large enterprises. Furthermore, particularly for a start-up, the owners' resources may be limited, causing these businesses to be more dependent on external finance.

Transaction based lending methods supply only limited amounts of external finance for small businesses. Financial statement lending is only for small businesses which are transparent, requiring a reasonably long history of balance sheets and income statements, with evidence of positive cash-flows. However, businesses which can meet these criteria are often able to generate their own financing from their own resources. Asset-based lending supplies credit to businesses depending on the amount and quality of available assets. Therefore, businesses with valuable assets have better access to finance than businesses with fewer assets.

However, one characteristic of small businesses is having small amounts of assets, with start-ups often having even less (Mann, 1998). Consequently, asset-based lending provides external finance to businesses according to how well they are financed already, and not on the quality of their business ideas or management, thus providing only limited support to small businesses. As noted above, few small businesses can supply a long (and positive) financial history and often the financial strength of the owners is limited (Avery, Bostic and Samolyk, 1998). These businesses may therefore not have access to credit scoring based lending. Summarising transaction based lending for small businesses, it only supplies credit to businesses if they either have sufficient assets, a strong financial history or a principal owner who is in good financial condition. However, these conditions do not apply to many small businesses and, even if they do, they may not obtain sufficient amounts of credit (see survey data for requested and received debt).

Relationship lending is different from transaction based lending. It is based on soft information on the business, its management and its owner(s). Many owners are known in the area where they live or start their business, particularly if they have been there for a long time, allowing their management skills to be assessed. Furthermore, the future prospects and success of their business idea can be evaluated more easily based on local circumstances and knowledge, than on generalised hard figures and data.

Some businesses thus may not have access to sufficient finance. Businesses and owners with little assets, who are not well known, who are not seen as good managers, or who introduce new business ideas will have problems getting finance, and thus the chances of failure are

particularly high. It is perhaps a sign of the efficiency of financial markets if no money is allocated to enterprises which would fail anyway (even if they got external finance).

2.5 Risks of lending to small business

Transparent businesses have a lower risk for the lenders, since their actions can be observed better. Small enterprises, in contrast to large businesses, are mostly informationally opaque, and thus a higher risk. Furthermore, the risks of each small business are very different from each other. This lack of homogeneity among small businesses makes it extremely hard to evaluate financial risk.

The availability of data for small business lending is another problem. There is a commonly-quoted figure of 80% over 5 years for small business exits, although in reality businesses cease for many reasons other than failure.[1] It can be, for example, because of retirement, a merger, moving or better opportunities. In making decisions, the lender can only use its own internal historical data, which may not reflect wider trends. The lack of data causes problems in risk evaluation.

Furthermore, small businesses have usually relatively limited reserves, making it more difficult for them to recover from set backs, which may be unexpected and not directly of their own making. Moreover, small regional changes in the environment can cause major problems for small, mostly regional businesses, e.g. a large employer close to a cafe in the some area might fail, causing problems in turn the cafe because of the loss of customers, regardless of the quality of its products or management.

Another major risk factor for small enterprises, compared with larger ones, is where the roles of owner and manager are combined. The future prospects for the business are closely connected with the future of the manager. Unexpected changes in the manager's life, such as matrimonial breakdown, illness, accident or death, can engender major problems for the business.

[1] Evidence to support this commonly cited figure of 80% exit over 5 years is sparse.

The manager can also be a source of agency problems. Funds advanced for one purpose may be spent on an alternative riskier opportunity. One of the best examples is the story of a computer sales business, which said it would use fresh money for product development but spent it instead on marketing. Luckily, it worked, and therefore the business is now a global player (Apple Inc.). However, the lender gains no additional profit if the business becomes a global player (future credits are not taken into account) since the returns are the same (credit plus interest), yet the risk of this credit may have increased. The agency problem of moral hazard is very likely to occur in small business finance, especially in high-growth and high-risk new ventures (Berger & Udell, 1998).

More agency problems can be the result of relationship lending. The credit decision is based on the relationship between the loan officer and the business. When the credit manager leaves the financial intermediary, the business relationship with the enterprise may cease.

The major risk of lending to small businesses is how they can repay their credit. Businesses may not have regular cash-flows and many small businesses lack a history to forecast their cash-flows. The main issue about this is uncertainty about future prospects. This causes higher risks for the creditor, although these may be partially resolved by providing collateral.

2.6 Securities for Lending

In case of default or insolvency the lender can liquidate the securities (or collateral) for the loan. The proceeds from the liquidation are then used to cover the debt. The collateral can be seen from different perspectives: either by the type or by the owner of the collateral.

Usually, the owner of the collateral is the enterprise (inside collateral) (Berger & Udell, 1998). Since there are often not many tangible assets, especially in small businesses, the private assets of the owner may be used as well to secure credit for the enterprise (outside collateral) (Berger & Udell, 1998; Avery et al., 1998). The types of collateral vary, depending on the owner.

The business assets can be classified as fixed and current. Fixed assets comprise mainly land and buildings, machinery and equipment, while current assets are inventory (raw materials

and finished products), accounts receivable and other assets, e.g. shares (Berger & Udell, 1998). Fixed assets have advantages that their value is relatively stable compared with current assets, and that they cost less to monitor than current assets (because of their relative immobility, in contrast with inventory and debtors which are continually changing). The current assets have the advantage that they are being converted into cash on an ongoing basis, and should be easier to realise on than fixed assets.

Private assets commonly used as collateral are property (particularly residential property), and other personal assets, e.g. shares (Berger & Udell, 1998). Personal guarantees are often used to secure credits as well, and these may be used to link assets owned personally to the small business (Avery et al., 1998). Smaller firms are likely to be more dependent on personal collateral becasue of the reltive lack of other assets in the business.

The quality of the collateral is mainly determined by its value. It is important that the collateral is easy to dispose of or liquidate, while monitoring costs have a major influence on its usability. Also, it is important that the collateral maintains stable value over time.

The social standing of the proprietor in a community can also have an influence on the value of the collateral. This is more important for small businesses because problems are more likely to happen with small businesses. There was a case where a lender tried to liquidate the collateral of an insolvent small business and two problems occurred. Firstly, no one in the town was willing to buy any assets of the failed business, which caused a higher than expected loss on the credit. Secondly, the lender's other customers in the town closed their accounts as well, resulting in an even larger loss for the creditor. In this case, the collateral had a negative value in the event of insolvency.

2.7 Influence on portfolio diversification

Although credit lines to individual small businesses may be small, the total amount of credit to small business may be large. The relatively small individual credit lines reduce the aggregation risks of the large credit lines granted to large businesses. Furthermore, the large number of small credit lines in the portfolio means that the credits to small businesses are

likely to be better diversified across regions and sectors. Therefore, the correlation of defaults between small businesses should be low.

Credit lines to small businesses thus improve portfolio diversification and decrease the unsystematic risk of lending, which reduces the volatility of credit exposures. It is also expected that the financial performance of small businesses should be less correlated with the business cycle than that of large business. This provides part of the justification for lower capital requirements in some jurisidictions for small business lending under the standardised version of Basel II.

2.8 Costs of small business lending

There are many risks arising from lending to small business, especially agency problems. Many of these risks can be reduced by the use of collateral and securing the personal commitment of the owner(s) through guarantees. Nevertheless, the risk of default increases the costs of lending to small businesses.

Many credit lines to small businesses are based on relationship lending (Berger & Udell, 2002). This is only possible if there are credit managers close to the business, which may result in higher operating costs, such as for staff and branches, in monitoring credit lines and collateral. Relationship lending has the disadvantage that credit lines are generally more difficult to securitize, potentially constraining the total value of credit lines (lenders cannot make as many loans) and increasing the relative costs of lending.

Portfolio diversification reduces the total risk of the lender. Financial markets will therefore not require such high interest rates when providing funds to the financial intermediary, and may increase the quantity of funding provided. In consequence, a diversified credit portfolio can significantly reduce a lender's funding costs.

The costs of relationship lending include those of customer acquisition. Therefore, it is an advantage to acquire customers at an early stage and retain their business over time so that, when such a business becomes large, it is already a customer. Lenders can thus enjoy lower costs over the life-cycle of a business.

2.9 Competition in small business finance

Research by Berger, Rosen and Udell (2007) found that interest rates on small business lending were significantly influenced by the market presence of large banks. The more large banks were present in the market, the higher were interest rates, regardless of whether the lending bank was small or large (Berger et al., 2007). The research further suggested that there is no significant advantage or disadvantage for large banks in small business finance, and in lending to information opaque enterprises, as long as they are present on the particular market. This is in contrast to previously held views (e.g. Akhavein, Goldberg & White, 2004; Craig & Hardee, 2007). The reason might be the omission of the market presence factor in previous research, as suggested by Berger et al. (2007).

Other research suggests that small banks are likely to specialise in lending to highly opaque firms, which are often small businesses (Gopalan, Udell & Yerramilli, 2007). This might be because they are more present in smaller markets and can offer loans based on relationship lending. Since informationally opaque businesses, such as small enterprises, rely more on relationship lending, they are less likely to switch banks (Gopalan et al, 2007). The main reason for this is that, over time, their bank generates soft information, on which loan decisions are mostly based. This soft information is not transferable to a new bank. Thus, switching banks causes high costs (Petersen & Rajan, 1994), giving a high value to the bank relationship for informationally opaque enterprises (Gopalan et al, 2007). This supports the argument that relationship lending binds businesses into long-term relationships (Degryse & Ongena, 2002), reducing competition in small business finance.

De novo banks play an interesting role in competition of small business finance. Since a new bank finds it hard to enter into large business lending, they will often emphasise small business lending (Akhavein et al, 2004).

2.10 Influence on economy (growth)

Robinson (1952) commented on the influence of finance and the economy: “where enterprise lead finance follows” (p.86). More recent research provides a different view of the financial

system. Levine (1997) argued that there is evidence that economic growth can be predicted well by the financial development, which shows the exact opposite.

Meyer (1998) has no doubts about the major role of small businesses for an economy, arguing that "Small business is a vital and energetic part of our [U.S.] economy that plays a key role in the generation of jobs" (1998, p.1109).

2.11 Summary

The preceding discussion suggests that small firms should find challenges in gaining satisfactory access to finance, simply because they are more complicated entities to finance, in contrast to, for example, individuals purchasing residential property for their own occupation. We can also see that there are good reasons for competition in the small business lending market to be less effective, which will make access to financial serivces more expensive. The position of small buinsesses can also be contrasted with the availability of fianical services for large businesses.

We would also expect businesses with a shorter operating history to have less favourable access to finance, and when finance can be obtained, for this to be more expensive.

3. Survey by the Ministry of Economic Development

3.1 Description

The questionnaire was sponsored by the Ministry of Economic Development. It was the first survey of its type in New Zealand with the aim to "help government and other organisations develop better understanding of the financing needs and practices of businesses in New Zealand" (MED, 2005, p 42). To gather the data for the survey, the questionnaire was sent by post to 6,000 selected businesses (of about 84,000 possible businesses) in August 2004.

The total number of about 84,000 enterprises was mainly based on GST (goods and service tax) turnover greater than $30,000, operating for six months or more and employing between 1 and 500 people. Neither subsidiaries of other businesses nor businesses operating in special industry fields were included (MED, 2005, p.42). The response rate for the questionnaire was

about 80%. The survey collected data, especially about financial statements, finance requested and received in the past 12 months, the instruments, sources and uses of finance, as well as non-financial information about the businesses (MED, 2005, p.42).

The small businesses are split into groups based on the number of employees or business age. The business age differentiates between businesses of 6 months to 3 years and above three years. The number of employees consists of four groups: 1 to 5 (fulltime) employees, 6 to 20, 21 to 100 and 101 to 500. It is hard to argue that businesses with 101 to 500 staff, or even with 21 to 100 staff really qualify as small businesses in the New Zealand environment, which raises questions as to the usefulness of this part of the survey. In the New Zealand context, it might even be that firms with 6 to 20 staff are not particularly small.

3.2 Assumptions

The first major assumption was that only businesses which fulfilled certain criteria were included. They had to be economically significant businesses, defined as businesses with an annual GST turnover of more than $30,000 and which had been operating for six months or more (MED, 2005, p.42).

The reason for the six months' operations was that GST data was not available for businesses operating for less than six months. As a result, the survey excludes one of the most important areas of small business finance: the financial constraints young enterprises face (MED, 2005, p.45). The missing group of businesses aged less than six months could be included in a survey by adding some of the businesses registered within the last six months to those questioned.

It is also not obvious that it is always appropriate to omit businesses with zero employees. What if a firm had no employees but a large number of people undertaking contracts for it?

Another assumption is that the businesses replying are representative. We note that they are relatively evenly distributed through the different industries, but we can only assume that there is no problem with non-response bias. One possible source of such bias is that the non-returning businesses might be smaller because completion of the questionnaire is relatively

more time consuming for a smaller business, and therefore more likely to be avoided. Other possible sources of bias could include difficulty in completing a form (and such firms might also face challenges in raising funds), and fears about disclosure of information.

Furthermore, there are some industries omitted from the survey, with a listing provided on page 43 of MED (2005). The explanation offered for this is that either adequate financial data were already held (which might apply to agriculture) or that the industry was not relevant for policy purposes. A more extensive discussion of the reasons for these sectors' omission would be appropriate.

3.3 Survey design and foundation

The survey criterion of business size was built on the number of full-time employees. This is considered reasonable, but the specification of the groups is not consistent with common numbers and in one case includes a wide range (with no division between 20 and 99 employees). Furthermore, the difference in the limits of each group is different to what is used elsewhere by Statistics New Zealand (2004), or to standards commonly used internationally, such as by the European Union, which makes the survey results harder to compare with ohter analyses.

The survey has no references to the literature describing small business finance, apart from a brief reference to a Canadian survey, the relevance of which is not explained and where the results differ significantly and the economies do not appear especially similar. Furthermore, the survey gives no information as to why certain questions are asked and why in that particular way. No clear structure and intention are shown within the questionnaire.

It is usual in research to first review the existing literature to understand more about the topic and, thus to be able to structure and design an appropriate questionnaire. Expectations are outlined, based on the literature, which should be specifically addressed in the survey. A review of prior research is also often helpful for identifying difficulties that were discovered, and to allow for a more appropriate research design. After the survey is completed, the results are analysed and compared with the expectations, the variance is explained and improvements for future research discussed. The variance between the results and the expectations based on

the literature and other surveys is of main interest since this difference might be a significant issue of economic interest. However, there is no indication that this survey was guided by the literature.

Moreover, the questionnaire does not appear to have been created especially for New Zealand's specific needs or to reflect its differences. The questionnaire seems to be adapted from the Canadian survey, which could be reasonable if it had been appropriately adapted for New Zealand, but this does not seem to have been done.

3.4 Results of the survey

In February 2004, 96% of enterprises had 19 or fewer employees and 87% fewer than 6 employees (MED, 2005, p.3). The total numbers of employees or average figures are not provided. However, according to Statistics New Zealand in 2004 479,210 people (29%) were working in small businesses with less than 20 employees.

Three of the sources of finance included in the survey are discussed only briefly. It was found out that factoring (sale of accounts receivable) was not an important source of finance because fewer than 1% of the enterprises used it (MED, 2005, pp.24, 71). Likewise, venture capital and angel finance were not further examined separately because they were a source of equity finance for less than 6% (MED, 2005, p.16). More exact figures are not provided. However, Infometrics (2004) had previously analysed business angel capital from the supply perspective.

The overall debt situation of small businesses is summarised in Table 1 below. Total small business debt was $35,854 million with an average of $429,000 (, p.28). This can be split up further for different sizes of business as follows, which raises questions as to the appropriateness and relevance of including the firms with larger numbers of employees:

Table 1: Debt per firm (summarised from Table 23, p 73, MED (2005)).

Number of employees	*1-5*	*6-20*	*21-100*	*101-500*
Total debt ($ million)	10189	11965	8557	5143
Average debt (per firm)	$194,678	$473,369	$1,558,980	$11,007,790

According to the survey, the main source of debt was banks (32%). Other major sources were owners 25%, and trade creditors or suppliers 24% (MED, 2005, p.22). In contrast, 72% of the debt received in the last 12 months was supplied by banks (MED, 2005, p.13). This raises the question as to why the source of debt received in the last 12 months was so different to overall debt sources.

The major reason for requesting debt was to extend working capital, at 46% (MED, 2005, p.13). The main reasons requested debt was not received was because the owner or the business did not have enough income or cash flow. Further major reasons were insufficient private collateral or securities for the lending. On average, banks declined 7.7% of the requested finance.

Furthermore, it was found out that the length of the relationship with the bank increased with both the size and age of the business (MED, 2005, p.81). This confirms the general expectation that the age of the business and the length of the relationship should be related. The relationship between the size of the business and the length of the (banking) relationship might be because larger businesses tend to be older than smaller ones.

Equity was requested rarely, with only 6% of the businesses asked for more equity during the previous 12 months. The low figure is not surprising because equity is usually not paid back as it stays with the business, and is therefore not often requested. The average success rate for equity requests of 70.5% suggests a reasonable outcome, but, only if evenly distributed across different businesses (MED, 2005, p.62).

3.5 Additional analysis of the survey

"Due to this high success rate, no clear trends could be established for the small fraction of businesses which did not receive finance" (MED, 2005, p.39). However, this describes only the businesses applying for debt (p.50) and, even within this group, the success rate for small businesses (89%) is lower than for larger businesses (96%).

Furthermore, only 29% of the smallest businesses (1-5 employees) asked for debt finance. This figure increases steadily with the number of employees (MED, 2005, p.50). The bigger

the business, the more likely they were to request debt, with more frequent requests. As a consequence, there might be a problem with smaller businesses' success relative to their efforts in requesting debt.

Examining table 2 (MED, 2005, p.51), two major influences on the debt request can be found. On the one hand the smaller the business the less the owner likes to be in debt (27% 1-5 employees).[2] On the other hand, the category "all other reasons" declines with increasing business size (17% to 4%). This group includes interesting reasons for not applying for small business finance: "the owner(s) felt the request would be turned down; applying for debt finance is too difficult and time consuming [and] the cost of debt financing is too high" (p.51). In addition to this, 83% of respondents (in this smallest size category) indicated that debt was not required (suggesting that 17% of firms not requesting debt actually required it). These results would be much more useful if the examination had been done in greater depth.

In combining the tables (MED, 2005, pp.50-51) it can be seen that the figures are much more significant. The smallest businesses, here taken as an example because the problems are more obvious, 12% of the cases need debt, which was not requested. This figure is more than seven times higher than in larger businesses (101-500; 1.7%), suggesting that small businesses face difficulty in accessing debt finance.

When debt finance is granted to small businesses, the conditions are different to those given to bigger businesses. The results of combining table 23 with table 28 and 30 make this clear (see Table 2 below): Small businesses need significantly more of both private and business collateral relative to their debt. A business with 1 to 5 employees on average needs security coverage for 89.2% of its debt whereas a business with 101 to 500 employees needs only 20.8%. Firm size and the percentage of collateral seem to be highly correlated. This becomes even clearer if we look at collateral other than private and business assets. Then a clear trend can be found from 83.7% for the smallest businesses, up to 54.4%, 46.0% and 16.9% for the

[2] This may be attributable to the likelihood that smaller firms will have to offer personal collateral, rather than being able to borrow against the assets in the business.

businesses with 101 to 500 employees. Consequently, small businesses seem to face problems in obtaining unsecured debt.

Table 2: Debt and collateral

Owner of collateral	*Type*	*1 - 5*	*6 - 20*	*21 - 100*	*101 - 500*	*Average*	*<3 yrs*	*>3 yrs*
Business	Unmovable collateral	4420	4116	3138	851	12525	1864	10662
	%	43.4	34.4	36.7	16.5	34.9	34.5	35.0
	Other	410	344	1425	179	2358	446	1911
	%	4.0	2.9	16.7	3.5	6.6	8.3	6.3
Personal	Unmovable collateral	4111	2388	798	16	7313	1893	5420
	%	40.3	20.0	9.3	0.3	20.4	35.1	17.8
	Other	143	123	112	25	403	74	325
	%	1.4	1.0	1.3	0.5	1.1	1.4	1.1
Total	Debt	10189	11965	8557	5143	35854	5397	30458
	Collateral	9084	6971	5473	1071	22599	4277	18318
	%	89.2	58.3	64.0	20.8	63.0	79.2	60.1
	Unmovable collateral	8531	6504	3936	867	19838	3757	16052
	%	83.7	54.4	46.0	16.9	55.3	69.6	52.8

(all numbers in $M NZ; see tables 23, 28 and 30)

A similar result can be found when examining younger businesses (6 month to 3 years) relative to older ones. Younger businesses need on average 79.2% security coverage compared with only 60.1% for older ones, and thus appear to face more difficulty in finding unsecured debt. However, the data do not tell us whether this is a problem with all young businesses, or only with small ones.

Young businesses ask for lower amounts of debt on average. This is not surprising because of their usually smaller size (MED, 2005, p.56). However, younger businesses have more difficulty obtaining debt. On average, they get 7.4% less than asked whereas older businesses receive only 3.3% less than requested (p.55).

The general success rate of equity request (70.5%) looks reasonably good. However, businesses with over 5 employees (and not more than 500) receive on average 95.7% of their requested equity whereas businesses with 5 or fewer employees were successful in only

41.4% of cases. Matters are similar with business age, where only 51.4% businesses younger than 3 years have received equity.

Furthermore, larger businesses (with 101 or more employees) requested no additional equity in only 4% of the cases, even though they needed it, whereas small businesses did not request equity that they needed in 7% of the cases (this decreases with size). This applies similarly to young businesses. Young businesses (6 months to 3 years), which did not request equity, needed it in 9% of the cases, whereas older businesses only in 6% of the cases (MED, 2005, p.59).

When combining the debt and equity figures as a debt to capital ratio (debt divided by equity plus debt), the average ratio is around 53% (MED, 2005, p.21). The only businesses which differ significantly are those with 6 to 20 employees. One possible explanation for this is that they are in situations of strong growth and do not have enough equity to finance it. Therefore, they finance it mainly with additional debt. Another explanation could be that when these businesses with more than 5 employees expand, they find debt easier to access than before and use this to finance growth. Assuming this explanation is correct, it suggests that the smallest businesses (5 employees and under) face financial constraints. Consequently, they need more access to debt finance for their growth.

Besides the analysis of the sources of finance, there are further interesting results of the survey, which might stand in relation to the financial situation. Small businesses with fewer than 20 employees are less optimistic on future growth than bigger ones (MED, 2005, p.75). One possible explanation is that they face growth constraints from difficulties in accessing finance: they cannot invest as easily in future growth for their business.

3.6 Implications for banks, government and enterprises

The analysis of the survey suggests that the process of finding debt is too complicated for smaller businesses. Additionally, small businesses have to supply more collateral for debt than larger businesses, with personal assets often having to be offered as securities for business debt. There is not enough debt finance available to young small businesses, suggesting that intervention might be useful. One example could be government support for

young businesses by providing a guarantee to financial institutions such as banks of debt finance to businesses under 6 employees for the first 3 years. Such a guarantee should reduce as the business ages.

One idea, which would increase the value and meaning of the existing survey significantly, would be to link the existing database of the survey and other sources, such as financial statements and insolvency and bankruptcy data of the surveyed businesses. It could show how businesses develop over time instead of just at one point. A possible extension of the analysis of this data could be to have a closer look at the businesses which did not reply to the first survey, to see if they had a higher figure of insolvency within the following 12 months. Similar analysis could be done with the other categories of respondents.

Another possibility would be an additional survey based on the existing one, with a closer look on the profits 12 months after the first survey. For this, the businesses could be classified, in addition to age and size, according to the debt and equity they asked for and received: received debt; received equity; not received debt; not received equity; not asked for equity; and not asked for debt. Their profit figures could be interpreted accordingly, allowing an evaluation for the business of their requests for debt and equity.

4. Limitations of the survey

4.1 Limitations in survey & questionnaire

Some of the limitations in the questionnaire can easily be avoided in future surveys. As mentioned before, the literature foundation for the study is absent as are applicable references. The sampling method is not outlined and there is no discussion of the representativeness of the study concerning regions or business size. Regional differences cannot be reviewed or analysed. Beyond that, the questionnaire is not adapted to New Zealand special needs, and the questions are not always sensible. These are major limitations of the survey, which have caused further limitations and might have influenced the results. If these had been considered in the survey, the quality of the data would be much higher and consequently more meaningful.

Other limitations are that some types of businesses that might have contributed usefully to the results are not taken into consideration because of age and data availability respectively. There are no figures on the number of employees in each business category and not even a total number of employees. There is no sign that cross-checks were made with other available data, such as bank statistics. There is a less than complete explanation as to how the figure of 84,000 businesses was found. The Statistics New Zealand data for businesses with one or more full-time employees shows about 114,000 (Statistics New Zealand, 2004). As a consequence, about 30,000 businesses or 26% of the businesses are not considered in the survey. This should be explained in more detail.

Some of the limitations in the sample have been disucssed in Section 3.2 above, but there is another issue that needs to be conisdered if we are concerned about financing constraints for small business. How many small businesses which might have prospered fail to get launched at all because of the owners' inability to access appropriate financing?

As mentioned before, the different sizes for businesses should be adapted to more common figures, such as those used by the European Union. However, the data in this set is aggregated to such an extent that it is not comparable, with there being only one group from 21 to 100 employees. A split between 21 to 49 and 50 to 99 employees should be done to make the data comparable with international standards, and with New Zealand Business Demographic Statistics categorizations. These show categories as 1 to 5, 6 to 9, 10 to 19, 20 to 49, 50 to 99, 100 to 249 and above 250 employees.

There are more detailed limitations identified as well. There should be more detailed questions about why debt was not requested if needed. The section "all other reason" needs to be specified more since the results of them can be useful for the analysis. "Don't like to be in debt" (MED, 2005, p.51) is not a sufficient explanation. Efforts should be made to subcategorise this further.

Moreover, there is no discussion of the possibilities for venture capital and business angel finance, which could easily have been covered in the survey. Knowing that venture capital is

generally not important is not sufficient; knowing the impact venture capital or business angels have would be good.

Another limitation of the questionnaire is that the relevance of the degree or qualification of the person arranging finance is not investigated (MED, 2005, p.86). Consequently, if the person arranging the finance for the business has a Bachelor's degree in some other area, such as music, it affects the results since it is assumed that the person arranging the finance has a degree in the area worked. However, a qualification in a non-relevant field does not say much about the quality of the person arranging the finance. This might be the explanation for the relatively high proportion of people with degrees arranging finance for education and health businesses.

4.2 Limitations in data presentation

The presentation of the data is not always complete and accurate. The major findings concerning data presentation are discussed in this section. The data tables (MED, 2005, pp.50-86) do not indicate how many businesses answered which question of those businesses replying. This would be helpful for analysing the response rate in more detail. It can be solved by adding the number of replies under each table. This would allow a more meaningful (and cautious) interpretation of some of those cases where the number of responses in any particular category are small. A general table of the response of businesses across size and age is missing. Consequently, the differences in those replying to the survey across size and age of businesses cannot be examined.

This leads to another problem in the data presentation. Often, it is not clear on what percentage figures the data are based, e.g. number of businesses, number of employees, weighted averages, based on amount of securities or number of loans. A solution for this would be to report the base of percentage figures under the tables.

The basic differentiation by age and size is a good idea. However, an important table is missing which shows how many businesses have 1 to 5 employees, and in the categories 6 months to 3 years old, and older. It would make the data much easier to analyse if these splits could be applied in all tables, so that there would be 8 subgroups instead of 6. This is a

general issue of data presentation, in that the level of data aggregation is very high. Much useful data is lost from the aggregation. The arguments of confidentiality and privacy (MED, 2005, p.1) are valid, but they could be still fulfilled with a lower level of data aggregation. A table showing the average number of employees in each of these 8 subgroups would be advantageous, too.

Furthermore, tables are missing to connect different data together. For example, in terms of relationship lending, a table which showed the length of the relationship with the bank and the amount of unsecured debt received would be helpful, as well as a table showing the length of the relationship in connection with the amount of debt requested and received. Two similar tables showing the qualification held by the person arranging the finance, the amount of unsecured debt, and the amount of debt requested and received, would also be useful for the analysis.

Lastly, the comparison with the Canadian survey is not very useful. Generally, it is a good idea to compare the results with other surveys, but to speak of similar results, when the figures are in some cases quite different, does not seem reasonable. The Canadian survey was compared with the New Zealand survey on 5 figures. The two main differences were that, in the Canadian survey only 1% of equity was requested, compared to 6% in New Zealand, and that 25% of the small businesses in Canada requested debt and leasing compared to 34% in New Zealand. Besides the results being different, the economies and regions are different as well. A comparison with, for example, Australia or even better with more than one economy, would be much more reasonable.

4.3 Limitations caused by the assumptions

The results of the survey might be different if the surveyed businesses were more representative, including more young businesses (less than 6 months).

As mentioned before, biases might be included in the data, which were caused by the assumptions of the survey. Furthermore, the survey does not provide information about the financial situation of small businesses excluded from the study. These businesses can have a

significant influence on the New Zealand economy, but their financial position cannot be analysed based on this survey.

4.4 Possible consequences of the limitations

The limitations of the survey and questionnaire mean that the data is not comparable with the EU data or with other data collected on similar definitions. Consequently, discrepancies from other small business studies cannot be identified. Data on venture capital and business angel activities in New Zealand are not comparable with other surveys since they are not, or not completely, collected. The quality of the survey is affected by the failure to validate the data with other sources.

The data presentation can result in misunderstanding and misinterpretation of the data. Comparisons might be drawn with Canada which may not be correct. There can be no conclusions about relationship lending since relevant tables are omitted. However, without changing the survey, the data could be presented more accurately, and some additional data tables and figures could allow better conclusions to be drawn.

Because of the survey's assumptions, the data might not show a true picture of the economy of the small businesses and their finance. Better or clearer conclusions could be drawn on different assumptions. No conclusion cna be drawn about very young businesses (less than 6 months old), which are expected to face the strongest growth constraints because of the lack of available finance to them, because they are not included in the survey.

Altogether, the limitations in the survey, questionnaire, and data presentation, and in the assumptions the survey is based have consequences, which reduce the usefulness of the survey results. Many of them could have been avoided. Some of these deficiencies could still be remedied by changing the presentation of the data.

5. Conclusion

Generally, a survey of small business finance in New Zealand is good idea because of small businesses' contribution to the economy, and since the field has not been examined much

previously. However, appropriate preliminary research on small businesses and their finance has to be done before sending out a survey. Consequently, it is not surprising that the results are interpreted differently to this analysis.

The interpretation of the survey results and its further analysis suggest that both young and small businesses face problems when requesting finance. These key findings are different to the outcome of the analysis of the survey issued by the Ministry of Economic Development in cooperation with Statistics New Zealand. The issuers of the survey did not find constraints for small businesses in their finance.

The analysis of the survey can be improved by changing and adding some features. A key issue is the high level of data aggregation which needs to be reduced. Furthermore, under each table which uses percentage figures, the underlying value or amount it refers to needs to be added as well as the number of businesses providing the data. Moreover, a general table of the response of businesses across size and age is missing. Additionally, cross-checks with other available data can be applied.

For future surveys on small business finance, it is necessary to define ex ante expectations based on a proper literature review. Consequently, the results can be compared with expectations and the variance can be explained. Furthermore, the missing group of businesses under six months of age needs to be covered. Therefore, a proxy instead of GST has to be identified to take these businesses into account, too. Moreover, the questionnaire needs to be adapted to New Zealand's specific needs, particularly so as to focus on small business, categorised in ways consistent with other data.

The next step, after analysing the results in more detail, is to identify solutions or ways to improve the finance for young and very small businesses. One idea could be to grant a guarantee by the government on top of the debt finance provided by financial institutions, for example 30% for the first year, 20% for the second year and 10% for the third year. This might reduce the financial constraints small businesses face, and therefore, provide a significant improvement in small business finance. However, this type of suggestion needs to be analysed in more detail before being applied.

The results that have beend eveloped suggest that, consistent with the literature, smaller businesses may face challenges in accessing finance. However, becasue of the inappropriateness of parts of the survey, the results are rather less useful than they might have been.

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