Small business financing and microfinance: Evidence from South Sumatera, Indonesia

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Abstract

This research investigates if different types of microfinancing have different impacts on the performance of small business enterprises/firms (SMEs). It also examines the impact, if any, of the business owners' gender (of female owners, in particular) on firm performance. Furthermore, it (1) identifies factors that may affect the decision to apply for a loan; (2) identifies the benefits and obstacles faced by small business firms in relation to their financing sources; (3) investigates the factors that influence SMEs' choice of financing sources; and (4) identifies the factors that disrupt the growth of SMEs' profits. Using questionnaires and interviews, the research team gathered 2,800 observations throughout South Sumatera; however, only 2,198 observations were used in the analysis. The sampling design involved cluster sampling and purposive sampling. Regression model (quantile regression and probit regression), structural equation modelling (SEM), and confirmatory factor analysis (CFA) were used to analyze the data.

The results reveal that the factors that exert a positive and significant impact on firm performance (specifically on return on assets [ROA] and return on equity [ROE]) throughout all quantiles are the following: a loan taken out by the SME owners, particularly a loan from formal microfinance; official firm registration; and fostering from financiers. Meanwhile, gender (female ownership in particular) has no significant impact on firm performance (ROA and ROE) throughout all quantiles. In terms of ownership status, sole proprietorship has a positive and significant impact on firm performance across quantiles. Two-person (partnership) and group ownership provide no significant impact on firm performance across the quantiles except for two-person ownership/partnership in quantile 50. Furthermore, educational background overall has no significant impact on firm performance throughout all quantiles except for senior high school in quantile 75. For control variables, type of industry has no significant impact on firm performance. Unlike type of industry, however, the coefficient for firm size is negative and significant for all quantiles.

The probit regression result for business growth indicates that an existing loan has a negative and significant impact on the business growth of firms (SMEs). Likewise, loans from formal microfinance also resulted in a negative and significant impact on SMEs' business growth. Meanwhile, nonformal microfinance provided no significant impact on business growth. For the gender variable, female proprietorship exerted a positive and significant impact on the business growth of SMEs when the female owners borrowed additional funding. In contrast, male proprietorship had a negative and significant impact on the business growth of firms in the same situation. Though the result for business growth differs from the result for firm performance (ROA and ROE) in the area of female ownership (i.e., female proprietorship has no significant impact on firm performance), we can justify this result in that the firm performance referred to here is only in terms of accounting numbers and covers only short periods. Business growth, on the other hand, is measured over a longer-term period (as it is measured using the difference between initial capital and current capital), suggesting that over longer periods, women are better at managing a business when they have a loan than men are in a similar position.

The SEM results for factors determining the decision to take out a loan reveal that from the exogen latent variables, which are finance, marketing, and human resources, only finance has a significant impact on the decision to apply for a loan. This suggests that the owners tended to take out a loan if their income increased. The CFA result reveals that the factors considered by SMEs in choosing the source of financing are the service provided by the financier/source of credit, location of the financier relative to the firm (i.e., the financier closest to the location of the firm), the ease of method of payment, the result of/impression from the visit to the financier's office by the SME owner or representative, the leniency of mortgage requirements, the leniency of the terms and conditions imposed by the financier, the interest rate charged, and the general approach of the financier toward the SME owner. Furthermore, factors considered by SMEs as significant barriers to their growth are limited capital, loss of product quality control, difficulty in obtaining raw materials, the distance of their location to their market, the lack of qualified employees, and the limitations of the technology they use to produce their product.

Keywords: SMEs, microfinance, firm performance

1. Introduction

1.1 Research question

The purpose of this research is to investigate whether different types of microfinancing have a different impact on the performance of small business enterprises/firms (SMEs). Microfinance in Indonesia is categorized into two groups: formal and nonformal. Formal microfinance is divided into banks and nonbanks. Nonformal microfinance is divided into *Baitul Maal wa Tanwil* (BMT), savings societies, and borrowing unions (*koperasi*), and other forms of nonformal microfinance. The impact of the owner's gender (female owners, in particular) on firm performance is also examined. Furthermore, this study (1) identifies factors that may affect the decision to take out or apply for a loan and the benefits and obstacles faced by small business firms in relation to their financing sources and (2) investigates the factors that drive SMEs in choosing financing sources and the factors that disrupt SMEs' growth in terms of profits.

1.2 Significance of the research

The growth of SMEs throughout the region is crucial to regional growth. The small-business sector has a significant role in enhancing economic growth in Indonesia. This sector's contribution has increased for three decades, starting in 1983 when the Indonesian government launched its deregulation package. Nowadays the SME sector is one of the contributors to the Indonesian economy. In 2011, business confidence in the country was positive and high, according to the results of the survey conducted by the Certified Practising Accountants (CPA) Australia. The respondents held overwhelmingly positive views about their growth prospects within the next 12 months. This reflected the very positive view that they had on the economy and on Indonesia's strong economic data. This confidence was shared fairly evenly among small businesses with various numbers of employees, with a remarkably high 68 percent of Indonesian respondents with 10 to 19 employees expecting their business to grow strongly over the coming 12 months. Businesses in other markets should also see Indonesia as an opportunity.

Moreover, the International Monetary Fund's (IMF) forecast for Indonesia's growth in gross domestic product (GDP) was 6.4 percent for 2011 and 6.3 percent for 2012. The Asian Development Bank's (ADB) forecast was for a 6.6 percent growth in 2011 and 6.8 percent in 2012. Both of these forecasts showed that the Indonesian economy was growing strongly, which was reflected in the very positive outlook that Indonesian small businesses had for the economy and their businesses. Inflation, however, posed a major risk to the economy.

The IMF forecast that inflation would increase from 5.7 percent in 2011 to 6.5 percent in 2012 while the ADB forecast that it would remain steady at 5.4 percent on average. If core inflation had continued its upward trend, then Bank Indonesia would have needed to increase interest rates (even though it had been cutting rates then). If global credit conditions had worsened, Indonesia would also have experienced sudden outflows of foreign capital as foreign investors repatriated their funds to their home markets.

SMEs play a critical role in providing job opportunities, enhancing the quality of human resources, nurturing a culture of entrepreneurship, fostering creativity, and opening up new business opportunities. Flexibility, as well as low start-up and operating costs, has enabled SMEs to spring up and to reposition and adjust themselves quickly in response to market conditions and economic changes. Moreover, SMEs easily expand or contract in a short span of time. They have not only survived the impact of big enterprises and the law of economies of scale but have also carved out niches for themselves, which enable them to coexist with big enterprises. However, the most common problems for SMEs are the lack of access to market information and technology, the low quality of human resources, and the lack of access to capital. Despite efforts by financial institutions and public-sector entities to close funding gaps, SMEs continue to experience difficulties in obtaining risk capital. SME borrowing requirements are small and frequently do not appeal to financial institutions. Financial institutions might require more collateral than SMEs can pledge. These institutions might also lack expertise in understanding small and medium knowledge-based businesses. The flexibility in the terms and conditions of financing that SMEs require may not always be available. However, the Indonesian government implemented a policy that encourages banks to have at least 20 percent of their portfolio in SMEs. Furthermore, the Indonesian government, through the Ministry of Cooperatives and Small and Medium Enterprises, has significantly contributed to the development of the SME sector through various programs, such as SME training and development programs, bank and financial institution linkages, and partnership programs between small businesses and big firms.

The confidence that Indonesian businesses have is reflected in the majority of businesses using their borrowing for business growth. In Indonesia, there is no strong correlation between borrowing for business growth and related reasons (e.g., purchasing assets, funding stock purchases, and covering increasing sales). However, it seems incongruous that while

64 percent of Indonesian businesses are borrowing for business growth, 47 percent borrowed for business survival. This means that there are some small businesses in Indonesia that borrowed for both growth and survival reasons. This could be a cultural factor, with some Indonesian small businesses, regardless of size, equating growth with survival. It is of interest that borrowing to cover increasing expenses featured so prominently. That increasing expenses are up is not a surprise due to strong inflation in the market but with a large proportion of small businesses borrowing to cover those expenses, this may indicate that some small businesses are not passing on their increasing costs to clients. While a business can do this for a short period of time, businesses that continue to bear increasing expenses reduce their profitability and therefore may become less viable over the medium term to long term. Moreover, lending conditions and the cost of financing became more important reasons in dissuading businesses from borrowing. Higher interest rates, the cost of borrowing, the fear of defaulting on loans, and the procedures to obtain financing from banks have also become more prominent factors dissuading businesses from seeking financing.

According to the CPA survey results, SMEs seek to obtain funding for the following reasons: business growth (66%), business survival (52%), to cover increasing expenses (22%), to purchase assets (32%), to fund stock purchases (29%), to cover increasing sales (17%), to cover late payment from debtors (13%), to service increasing cost on bank loans (11%), to cover tax payments (7%), and other reasons not included among those already mentioned (5%). However, only 29 percent of the respondents think that it is easy to borrow. It is also not surprising that many businesses that are expecting difficulty in accessing funding will anticipate such difficulty to affect their cash position. This means that to get around difficulties in accessing external funding, businesses should shift to internal sources of funding, if such money is available.

Banks, not surprisingly, are not the main source for advice on small-business financing in Indonesia. Small business firms seek advice from financial advisers when seeking external financing. Family and friends are also a major source of advice for businesses in Indonesia when they are seeking funding. Bank financing may not always be the most appropriate form of financing for all situations in the country. There is a need for local businesses to be

made more aware of the financing options available to them and when these options are the most appropriate form of financing.

In conclusion, this study is considered novel due to the fact that there has been little to no prior research conducted to investigate the impact of microfinance types on SMEs. In addition, the broad sample used, the robust method combining the use of primary and secondary data, and the robust statistical testing used all add value to this research.

1.3 Policy relevance of the research

This study aims to provide some empirical results regarding the relationship between small business finance and microfinance. As has been mentioned, the foundation of the economy depends on small business enterprise development and growth. It is expected, therefore, that the empirical results obtained in this research will provide:

a. Some new recommendations for government, local government in particular, to pass a regulation that will support the existence of small business enterprises
b. Some information for investors who are interested in investing in small business enterprises
c. An insight into how small business enterprises have survived the economic and financial crises
d. A starting point for researchers to examine small business enterprises

Description of South Sumatera, Indonesia

Indonesia is a country in Southeast Asia and Oceania. It has 34 provinces with over 238 million people. Indonesia is an archipelago made up of approximately 17,508 islands; however, there are five islands that are larger, in terms of size--namely, Sumatera Island, Java Island, Kalimantan Island, Sulawesi Island, and Papua Island. The capital city of Indonesia is Jakarta.

Figure 2.1. Map of Indonesia

Sumatera Island has eight provinces, including South Sumatera. Amongst those eight provinces, South Sumatera is the biggest province after North Sumatera. Geographically, Sumatera Selatan Province is located between 1 and 4 degrees south latitude and between 102 and 106 degrees east longitude, with a total area of 8,702,741 hectares. This province is located adjacent to Jambi province in the north, Lampung province in the south, Bangka Belitung province in the east, and Bengkulu province in the west.

Figure 2.2. Map of Sumatera Island

The province of South Sumatera is located towards the southern end of Sumatera Island and had 7.5 million inhabitants in 2011. Palembang is the capital city of South Sumatera, which is a one-hour flight from Jakarta. This makes Palembang one of the biggest and busiest capital cities after Jakarta, Surabaya, and Medan. There are four autonomous cities and eleven regencies. Every city/regency has its own characteristics and local language (see table 2.1 and figure 2.3).

The agriculture sector has an important role in the economic development of Sumatera Selatan. This sector was third major sector in the province, having contributed the most to the economy after the manufacturing and mining industries. The contribution of the agricultural sector to gross regional domestic product (GRDP) was 17.28 percent or in nominal value, IDR 31.42 trillion (at current market prices). The scope of agricultural undertakings in this province covers several kinds of activities. Hence, in order to show detailed data in agriculture, the sector has been classified into several subsectors; namely,

food crops, estates, forestry, animal husbandry, and fisheries. The province's vast area as well as the suitability of the land for growing estate crops led to the proliferation of estates. Besides those managed and cultivated by a state estate company, such as PTP Nusantara, there are also estates owned and cultivated by smallholders. Smallholder estates produce rubber, coffee, oil palm, and other types of estate crops.

Sumatera Selatan also has a large amount of activity in the mining and quarrying sectors. This region is known for being a source of crude oil, natural gas, and coal. Andesite, clay, and limestone are also being mined here. Explorations for crude oil and natural gas have been conducted in Muara Enim, Lahat, Ogan Komering Ulu (OKU), and Prabumulih while coal-mining sites are located in Muara Enim dan Lahat. Sumatera Selatan also has a large potential for tourism, which is expected to become a reliable source of income in the region. To achieve this goal, the local government has been trying out a variety of integrated policies on tourism.

The statistics bureau office has classified the manufacturing industry into three categories based on the number of employees a company has: large- and medium-scale industries, small-scale industries, and household-based manufacturing industries. A company is classified as a large-scale industry if it employs more than 100 workers. Medium-scale ones employ between 20 and 99 workers. Small-scale establishments employ between 5 and 19 persons while household-based manufacturing establishments employ up to 4 persons.

The manufacturing sector is the largest contributor to the economy of South Sumatera. In 2011, its contributions represented 20.6 percent of the province's GDP. Seen another way, approximately more than one-fifth of the economy of South Sumatera was supported by this sector in 2011. In the same year, the processing-industry sector grew by 5.76 percent, faster than its growth in 2010. This high growth was due to the Southeast Asian (SEA) Games VVXI being held in Palembang in late 2011, an event that drove almost all sectors of the economy, especially the processing industry, at the time.

Micro and small-firm industry is one component of the processing-industry sector contributing substantially to employment creation and welfare in South Sumatera. The rate of growth of the micro and small-industry sectors in 2011 fluctuated considerably. After

experiencing positive growth in the first and second quarters, micro and small-firm industry slowed to 9.68 percent growth in the third quarter. This was due to the businesses that closed down or temporarily ceased production. Business grew by 3.3 percent in the fourth quarter.

Results of a micro and small-industry survey conducted in 2011 by the government revealed that there were as many as 5,276 companies/SMEs in South Sumatera. About 92.33 percent of them employed 1 to 4 workers while 4.25 percent employed 5 to 19 workers. SMEs could be an alternative if the formal sectors are no longer able to accommodate the workforce. The empowerment of SMEs is expected to improve the economy for most people because they provide jobs and help eliminate the poverty gap.

Table 2.1. Cities and regents in South Sumatera

No.	Cities and regencies	Capital of the city and/or regency	Area (km^2)	Total number of subdistricts	Total number of villages/wards
1	Palembang City	Palembang	369,22	16	107
2	Ogan Ilir Regency	Indralaya	2.666,09	16	224
3	Ogan Komering Ilir Regency	Kayuagung	18.359,04	18	279
4	Ogan Komering Ulu Regency	Baturaja	4.797,06	12	130
5	Ogan Komering Ulu Timur Regency	Martapura	3.370,00	20	289
6	Ogan Komering Ulu Selatan Regency	Muara Dua	5.493,94	19	252
7	Prabumulih City	Prabumulih	251,94	6	22
8	Muara Enim Regency	Muara Enim	9.223,90	22	284
9	Lahat Regency	Lahat	5.311,74	21	360
10	Pagar Alam City	Pagar Alam	633,66	5	35
11	Empat Lawang Regency	Tebing Tinggi	2.256,44	8	153
12	Lubuk Linggau City	Lubuk Linggau	401,50	8	72
13	Musi Rawas Regency	Muara Beliti	12.358,65	21	258
14	Musi Banyuasin Regency	Sekayu	14.266,26	14	223
15	Banyuasin Regency	Pangkalan Balai	11.832,99	17	288
Total			91.592,43		

Source: South Sumatera in Number 2012 (Sumatera Selatan, Indonesia: Badan Pusat Statistik [BPS]).

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The farthest distance from Palembang, the capital city of Sumatera Selatan province, to regencies and municipalities is from the capital to Lubuk Linggau, the capital of Lubuk Linggau, a total distance of 342 kilometers (km). The 9 nearest regency from the capital is Indralaya, the capital of Ogan Ilir, which is only 48 km away. The distance from Palembang to other regencies and municipalities in consecutive order are: Palembang-Baturaja, 234 km; Palembang-Kayu Agung, 48 km; Palembang-Muaraenim, 129 km; Palembang-Lahat, 167 km; Palembang-Sekayu, 104 km; Palembang-Martapura, 265 km; Palembang-Tebing Tinggi, 241 km; Palembang-Prabumulih, 63 km; and Palembang-Pagaralam, 230 km. The distances between Palembang to Banyuasin and Palembang to Muaradua have not been recorded yet.

Figure 2.3. Map of South Sumatera

2. Literature Review

A large body of literature has shown that small firms experience difficulties in accessing the credit market. This may be due to the fact that small businesses are likely to suffer the most from information and incentive problems, limiting their ability to obtain external funding. Two strands of literature can be distinguished. The first strand is on investment and finance. The literature shows that investment is sensitive to cash flow, with investment-cash flow sensitivity typically limited to small businesses. This suggests that smaller firms suffer from financial constraints while larger firms do not (Fazzari, Hubbard, and Petersen 1988; Hoshi, Kashyap, and Scharfstein 1991; Bond and Meghir 1994; Hubbard 1998). A variant of this literature examines the link between firm growth and finance, and it seems that small companies have higher growth-cash flow sensitivities than large ones, indicating that external finance constraints may prevent small and medium-sized firms from fully exploiting their growth potential.

The other strand is on the transmission channel of monetary policy and the relevance of the credit channel. Experience with economic conditions along with most of the empirical evidence available confirm the idea that monetary-policy contractions and banking crises

adversely affect small businesses, especially because they have no access to funding sources other than bank loans (Gertler and Gilchrist 1994). A final reason, which relates to the previous one, is that small businesses appear to have limited geographical access to funding. A growing body of literature argues that distance matters in the provision of funds, especially for small firms. Petersen and Rajan (2002), for instance, provide evidence for the importance of distance in the provision of bank credit to small firms. Likewise, Lerner (1995) documents the importance of distance in the venture capital market. The immediate impact of distance on small firms is that their capital structure and debt capacity are determined by the conditions offered in local financial markets, given that they can only borrow locally. Developments in local markets, such as those experienced in many countries over the 1990s with waves of bank consolidation, may have strong effects on the supply of funding to small firms. Against this background, this paper provides a thorough analysis of small-business finance in Indonesia.

Informational asymmetries between small firms and banks may be so pronounced that profitable investment opportunities are not financed (Petersen and Rajan 1994; Berger and Udell 2006). Small enterprises may mitigate this problem by posting collateral or building close relationships with lenders. Nevertheless, these solutions are of little help to firms that lack collateral or credit history. The consequences of guarantee requirements for the cost and availability of bank financing have been examined in numerous theoretical and empirical studies (Smith and Warner 1979; Stulz and Johnson 1985). Furthermore, banks can overcome these asymmetries through relationship lending or at least mitigate their effects by asking for collateral. Small firms, especially if they are young, have little collateral and short credit histories, and thus may find it difficult to raise funds from banks.

The private equity and debt markets that fund SMEs are different from the public markets that provide funding to transparent and well-known large businesses. In contrast to public markets, private markets are characterized by relationships, tailored financing solutions, combinations of explicit and implicit contracts, and private information production and monitoring. These are market responses to the informational opacity and to the asymmetric information that arises because the insiders of a firm typically know more than outside investors about the likelihood of the firm making a breakthrough or going bankrupt (adverse

selection). They are also market responses to the frictions that arise because neither firms nor financiers can commit to not behaving opportunistically (moral hazard).

Financial intermediaries (FIs), such as banks, finance companies, insurance companies, and venture capital firms, play a special role as information producers in the private markets. Their specialized information production and monitoring are an important means of addressing the problems of adverse selection and moral hazard and of assessing the quality of SMEs. How efficiently they perform the tasks determines the ability of FIs to channel external finance to firms, be it equity or debt. Other sources of external finance, such as trade credit, private persons, and family finance, are also important because these may have a comparative advantage in providing finance to some of the most opaque SMEs. The comparative advantage of these other sources of external finance is, however, based on their natural relationships and interaction with SMEs rather than on specialization. Trade credit, for example, is a funding mechanism in which some firms act as intermediaries channelling funds from financial institutions to their peers (Demirgüç-Kunt and Maksimovic 2001).

Blackburn, Hart, and Wainwright (2013) investigated factors that influence SMEs' performance, in particular growth in the United Kingdom, using a logit regression of over 360 observations. They suggested that the size and age of enterprise dominate performance and are more important than strategy and the entrepreneurial characteristics of the owner. Moreover, there is substantial evidence that small firms have less access to formal sources of external finance (Beck and Demirguc-Kunt 2006; Kuntchev et al. 2012). Access to finance becomes increasingly problematic as the scale of the business decreases, a phenomenon that has also been observed in developed and other developing countries (Beck et al. 2006). In Indonesia, there has been considerable effort in investigating the SME sector, including its financing sources. The majority of the previous studies conducted only describe the data obtained from surveys (both questionnaire and interview). A study was conducted in 2012 of SMEs in six provinces in Indonesia--namely, West Sumatera, South Sumatera, East Java, West Nusa Tenggara, West Kalimantan, and South Sulawesi. Though the scope of the study was wider, it did not indicate the number of samples used for the observation. The result of this study only revealed the problem encountered by SMEs and the possible solutions based on this problem.

SMEs that produce similar products tend to form a cluster. Clusters of SMEs are common in Indonesia, particularly in the processing and manufacturing industries. This clustering tends to emerge in small towns and villages or in the confined parts of larger cities. For example, in the capital city of South Sumatera, Palembang, the center of *rotan* handicraft is located in three *ilir* region. In this area, you may see along the road a number of *rotan* (*bamboo*) producers and sellers. Another example is the *tenun songket (handwoven songket)* handicraft, which located in *seberang ulu* in Palembang, *ukiran* Palembang, behind the holy mosque area. This clustering phenomenon also exists in the other cities and regencies of South Sumatera. For example, in Ogan Komering Ilir Regency (OKI), the *songket tenun (handwoven songket)* is located in Pematang Kijang and Pematang Buluran, Pempek (*traditional fish meat-ball*) is located in Paku, Anyaman (*handwoven bamboo*) is located in Pedamaran, and many other centers of SMEs.

In conclusion, previous studies have revealed a number of common problems in Indonesia. These problems include lack of capital, human resources, technology and information; difficulties in procuring raw materials; weak marketing and distribution capacity; high transportation costs; and complicated and costly bureaucratic procedures (particularly in obtaining licenses to operate). These common problems are often referred to as external constraints to the growth of SMEs. This study attempts not only to investigate these common problems but also to examine to what extent these common problems affect SMEs. Moreover, this study examines gender to provide some insight into whether a female owner is better at managing SMEs when they have a loan. Overall, the majority of the empirical studies conducted in Indonesia so far provide only a description of the problems encountered by SMEs without exploring to what extent all variables investigated contribute to or affect SMEs.

4. Methodology

4.1 Data

Due to the different definitions of SMEs from country to country, the classification of SMEs can be based on a firm's assets, number of employees, or annual sales. The International Finance Corporation (IFC) defines SMEs as firms with less than 300 employees and total assets of less than USD 15 million. In smaller economies, SMEs are defined as firms with less than 20 employees. This study uses the SME definition promulgated by the Indonesian government (the Ministry of Cooperatives and Small and Medium Enterprises and Bank Indonesia, according to 2008 law).

- Micro firms are defined as enterprises with net assets of less than IDR 50 million (land and building excluded) or enterprises with less than IDR 300 million total annual sales.
- Small firms are defined as enterprises with net assets of less than IDR 50 million to IDR 500 million (land and building excluded) or enterprises with total annual sales ranging from IDR 300 million to IDR 2.5 billion.
- Medium-sized firms are defined as enterprises with net assets ranging from IDR 500 million to IDR 10 billion (land and building excluded) or enterprises with total annual sales from ranging from IDR 2.5 billion to IDR 50 billion.

These respondents to this study are from micro, small, and medium-sized firms.

This study set four objectives: (1) to investigate whether different types of financing from microfinance have different impacts on the firm performance of small business enterprises/firms (SMEs); (2) to investigate whether owner type (gender) has a different impact on firm performance of small business enterprises/firms (SMEs); (3) to identify factors that may affect the decision to take out a loan, and to identify the benefits and obstacles faced by small business firms in relation to their financing sources; and (4) to identify factors that drive SMEs to choose particular financing sources and also what factors disrupt the SMEs' growth in terms of profits. This study used primary and secondary data.

Primary data were obtained through the survey method us:

- A structured and semistructured questionnaire
- In-depth interviews

Secondary data were obtained through government publications published by the following:

- Indonesian Statistics Office
- Bank Indonesia
- Cooperative and Small Business Enterprises Department
- Planning and Development Affairs Office

To investigate the firm performance of SMEs, this study estimated performance using accounting ratios such as return on assets (ROA) and return on equity (ROE). The rest of the variables used in this study were acquired through primary and secondary data.

Questionnaire Design

Questionnaire surveys have been the preferred method for collecting data in studies involving the investigation of the capital structure of large and small firms. Graham and Harvey (2001) used a questionnaire in collecting data to test several aspects of corporate finance, including the capital-structure issue. Tucker and Lean (2003) undertook a questionnaire survey to collect data on small-business awareness and use of informal finance and to identify issues concerning the difficulties encountered in gaining access to finance. Houssain, Millman, and Matlay (2006) conducted a survey using a semistructured questionnaire to analyze the differences in the choice of funds employed among small firms in China and the United Kingdom.

Though we are unable to obtain the SMEs' income-and-balance sheet items, the structure of the survey reflected our special interest in the funding sources and financial structure of SMEs. Moreover, the survey questions were about the firms' basic characteristics (e.g., age), product market environment, ownership structure, creditors, innovation activity, etc. To cover this broad set of questions, the survey was divided into 10 main parts. For each section, there were a series of questions (questionnaire and interview questions). These ten sections are as follows:

- General information
- Access to finance (source of financing)
- Financial information
- Marketing information
- Human resources information

- Production information
- Information on management activities
- Factors in choosing source of financing
- Factors disrupting business growth
- SMEs' perception on the establishment of new microfinance

The series of questions for each section is shown in the appendix (see sample of questionnaire).

Furthermore, all the questions in the survey asked the respondents to provide the interviewer with either quantitative data or a "yes/no" answer, "agree/disagree" answer, and some supporting explanation. Questions requiring the provision of quantitative data were asked in three stages. First, the respondent was expected to provide quantitative data at the level of accuracy that the accounting books or other written documentation of the firm allowed her/him to respond with. If no accurate number was available, or the respondent was reluctant to provide it, he/she was asked to provide a rough estimate of the data item in question. Finally, if no rough estimate was available either, the respondent was asked to indicate to which prespecified categories her/his firm belonged. The prespecified categories were given by the interviewer. This strategy of letting the respondents self-select at which level they were willing to provide information turned out to be important in questions addressing the intensity of the firms' research and development activities, for example.

We spent about 45 minutes to 75 minutes interviewing each respondent, depending on the situation encountered during the interview process.

4.3 Variables

As mentioned in the research questions, this study:

1. Investigates whether various types of financing from microfinance have different impacts on firm performance of small business enterprises/firms (SMEs)
2. Investigates whether the owners' gender (female owners, in particular) has an impact on firm performance

3. Identifies the factors that may affect the decision to take out a loan as well as the benefits and obstacles faced by small business firms in relation to their financing sources
4. Investigates the factors that drive SMEs to choose the financing sources that they choose and the factors that disrupt the growth of their profits.

For the first and the second questions, the dependent variables are SME firms' performance, which is measured by:

1. Financial ratios such as ROA and ROE
2. Business growth. Business growth is obtained from the difference between the initial capital and the current capital employed. If the initial capital is lower than the current capital, then it can be said that there is a positive growth and vice versa. Two categories are set: SME has positive growth and SME has negative growth. The first category is coded 0 if the SME has positive growth. The second category is coded 1 if the SME has negative growth; otherwise, it is coded 0. The baseline category is used for this dummy if the SME has positive growth.
3. Business survival. Business survival is obtained from the age of the firm. If the firm has been established for five years or more, then it can be said that it has survived and vice versa. Two categories are set: SME has survived for ≥ 5 years and SME has survived less than five years. The first category is coded 0 if the SME has survived for five years or more. The second category is coded 1 if the SME has survived less than five years; otherwise, it is coded 0. The baseline category is used for this dummy if the SME has survived for five years or more.

The explanatory variables used for the first and second questions are:

1. Loan status. Two categories were set: SME has a loan and SME has no loan. The first category is coded 0 if the SME currently has/previously had a loan. The second category is coded 1 if the SME has no loan; otherwise, it is coded 0. The baseline category is used for this dummy if the SME currently has/previously had a loan.
2. Types of microfinance obtained. Two categories were set: SMEs obtained a loan from formal microfinance and SMEs obtained a loan from nonformal microfinance. The first category is coded 0 if the SMEs obtained a loan from formal microfinance. The second category is coded 1 if the SMEs obtained a loan from nonformal

microfinance; otherwise, it is coded 0. The baseline category is used for this dummy if the SMEs obtained a loan from formal microfinance.

3. Formal microfinance. Two categories were set: SMEs obtained a loan from a bank and SMEs obtained a loan from a rural bank. The first category is coded 0 if the SMEs obtained a loan from a bank. The second category is coded 1 if the SMEs obtained a loan from a rural bank; otherwise, it is coded 0. The baseline category is used for this dummy if the SMEs obtained a loan from a bank.
4. Nonformal microfinance. Three categories were set: SMEs obtained a loan from a cooperative (*koperasi*), SMEs obtained a loan from BMT, and SMEs obtained a loan from another source. The first category is coded 0 if the SMEs obtained a loan from a cooperative (*koperasi*). The second category is coded 1 if the SMEs obtained a loan from BMT; otherwise, it is coded 0. The third category is coded 1 if the SMEs obtained a loan from another source; otherwise it is coded 0. The baseline category is used for this dummy if the SMEs obtained a loan from a cooperative (*koperasi*).
5. SME owners' gender. Two categories were set: male and female. The first category is coded 0 if male. The second category is coded 1 if female; otherwise, it is coded 0. The baseline category is used for this dummy if the owner is male.
6. Legal status of the SMEs. Two categories were set: registered and unregistered. The first category is coded 0 if it is registered. The second category is coded 1 if it is unregistered; otherwise, it is coded 0. The baseline category is used for this dummy if it is registered.
7. Fostering provided by the financier. Two categories were set: fostering and nonfostering. The first category is coded 0 if the SMEs received fostering. The second category is coded 1 if the SMEs received no fostering; otherwise, it is coded 0. The baseline category is used for this dummy if the SMEs received fostering.
8. Ownership status. Three categories were set: sole proprietorship, two-person ownership (partnership), and group ownership. The first category is coded 0 if it is sole proprietorship while the second category is coded 1 if it is a two-person ownership (partnership); otherwise, it is coded 0. The third category is coded 1 if it is group ownership; otherwise, it is coded 0.
9. SME owner's educational background. Four categories were set: primary school, elementary school, senior high school, and undergraduate degree. The first category is coded 0 if the SME owner reached or completed primary school. The second

category is coded 1 if the SME owner reached or completed elementary school otherwise, it is coded 0. The third category is coded 1 if the SME owner's educational attainment consists of senior high school; otherwise, it is coded 0. The fourth category is coded 1 if the SME owner's education consists of an undergraduate degree; otherwise, it is coded 0.

10. Ease of access. Ease of access is measured using the Likert scale (1 to 5).

The control variables used are:

- Industry types. According to regulation promulgated by the Ministry of Cooperatives and Small Business Enterprises, there are nine types of industries in the SME sector. These industries are as follows:
  1. Agriculture, stockbreeding, forestry, and fishery
  2. Coal and mining
  3. Processing, home, and handicrafts
  4. Utilities (power, gas, and water)
  5. Construction and construction tools
  6. Trade, hotel, and restaurant
  7. Transportation and communication
  8. Finance and firm services
  9. Services

This study has a limitation that prevents us from obtaining all industries; therefore, we only used six categories of the aforementioned industries, namely: (1) agriculture, stockbreeding, forestry and fishery; (2) processing, home, and handicrafts; (3) construction and construction tools; (4) trade and restaurant; (5) finance and other services; and (6) others. Six categories were set, corresponding to industries 1 up to 6. The first category was coded 1 if the SME belonged to this industry; otherwise, it was coded 0. The same procedure applied to all the other categories. If an SME belonged to a specific category (whether categories 2, 3, 4, 5, or 6), it was coded 1; otherwise, it was coded 0.

- Firm size. Log of total assets was used to represent the firm size.

For the third and fourth questions, the variables were acquired from a series of questions. Those questions belong to each research question. This study uses CFA.

4.4 Sampling Design

The stages in selecting the final observation samples were as follows:

1. City and regency in South Sumatera

   We wanted to capture all the SMEs that can represent each region in the province of South Sumatera. Therefore, we used cluster sampling to ensure that the sample used was representative of the population. Cluster sampling is a sampling unit with which one or more listing units can be associated. The unit can be geographic, temporal, or spatial in nature. Feasibility and economy were the primary reasons cluster sampling was used in this study. It was the only feasible method of sampling because the only sampling frames readily available for the target populations were lists of clusters. Purposive sampling is a sampling unit in which individuals most representative of the population as a whole are selected.

   The observation sample consists of small business enterprises, both registered and unregistered, in South Sumatera. There are 15 regions under the South Sumatera provincial government. Though the distance of the locations in all 15 regions varied from one region to another, all of them were included in the observation.

2. Location of the subdistrict

   Due to constraints in time, location distance, and budget, we decided to use judgment sampling after choosing all regions because we were unable to survey all SMEs in each city and regency. From each city/regency that has been selected as observation samples, we used judgment sampling to determine the subdistricts. The subdistricts that were chosen as samples were (1) the subdistricts that served as the capital city for each city/regency and (2) the subdistricts with potentially more SMEs.

3. Location of the respondents

   From the subdistricts that were selected as samples, we then used incidental sampling to choose the respondents.

   Judgment sampling and incidental sampling are forms of nonrandom sampling in which the researcher makes decisions concerning the individuals to be included in the sample based on a variety of criteria, which may include specialized knowledge of the research issue or the capacity and willingness to participate in the research.

The subdistricts for every city/regency used in this study are provided in table 4.

Table 4.1. City/regent and its list of subdistricts

No.	City/Regent	No.	Subdistrict		No.	City/Regent	No.	Subdistrict	
1	OKU Regent	1	Sosoh Buay Rayap		3	Muara Enim Regent	16	Sungai Rotan	
		2	Pengandonan				17	Lembak	
		3	Peninjauan				18	Penukal Utara	
		4	West Baturaja	v			19	Benakat	
		5	East Baturaja	v			20	Abab	
		6	Ulu Ogan				21	Kelekar	
		7	midang Aji	v			22	Muara Belida	
		8	Lubuk Batang		4	Lahat Regent	1	Tanjung Sakti Pumu	
		9	Lengkiti				2	Jarai	v
		10	Sinar Peninjauan				3	Kota Agung	
		11	Lubuk Raja				4	Pulau Pinang	
		12	Muara Jaya				5	Merapi Barat	
2	OKI Regent	1	Tanjung Lubuk	v			6	Lahat	v
		2	Pedamaran	v			7	Pajar Bulan	
		3	Mesuji				8	Mulak Ulu	
		4	Kayu Agung	v			9	Kikim Selatan	
		5	Sirah Pulau Padang				10	Kikim Timur	
		6	Tulung Selapan				11	Kikim Tengah	
		7	Pampangan				12	Kikim Barat	
		8	Lempuing	v			13	Pseksu	
		9	Air Sugihan				14	Gumay Talang	
		10	Sungai Menang				15	Pagar Gunung	
		11	Jejawi				16	Merapi Timur	
		12	Cengal				17	Tanjung Sakti Pumi	
		13	Pangkalan Lampam				18	Gumay Ulu	
		14	Mesuji Makmur	v			19	Merapi Selatan	
		15	Mesuji Raya	v			20	Tanjung Tebat	
		16	Lempuing Jaya	v			21	ra Payang	
		17	Teluk Gelam		5	Musi Rawas Regent	1	Tugumulyo	v
		18	amaran Timur				2	Muara Lakitan	v
3	Muara Enim Regent	1	Tanjung Agung				3	Muara Kelingi	
		2	Muara Enim	v			4	Rawas Ilir	
		3	Rambang Dangku				5	Rawas Ulu	
		4	Gunung Megang				6	Ulu Rawas	
		5	Talang Ubi				7	Rupit	v
		6	Gelumbang	v			8	Jayaloka	v
		7	Lawang Kidul				9	Muara Beliti	v
		8	Semende Darat Laut				10	STL Ulu Terawas	
		9	Semende D.Tengah				11	Selangit	
		10	Semende Darat Ulu				12	Megang Sakti	
		11	Ujan Mas	v			13	Purwodadi	
		12	Tanah Abang				14	BTS Ulu	
		13	Penukal				15	Karang Jaya	
		14	Lubai				16	Nibung	
		15	Rambang				17	Karang Dapo	v

Source: Indonesia Statistics Bureau (2013).

Table 4.2. City/regent and its list of subdistricts

No.	City/Regent	No.	Subdistrict		No.	City/Regent	No.	Subdistrict	
5	Musi Rawas Regent	18	[illegible] PK		8	East OKU Regent	11	Bunga Mayang	
		19	Sumber Harta	v			12	Buay Madang Timur	
		20	Tuah Negeri				13	Madang Suku III	
		21	Suka Karya				14	Semendawai Barat	
6	Musi Banyuasin Regent	1	Sekayu	v			15	Semendawai Timur	
		2	Lais	v			16	Jayapura	
		3	Sungai Keruh				17	Belitang Jaya	
		4	Batang Hari Leko				18	Belitang MR	
		5	Sanga Desa				19	Belitang Mulya	
		6	[illegible]bat Toman	v			20	[illegible] Bangsa Raja	
		7	Sungai Lilin	v	9	Ogan Ilir Regent	1	Muara Kuang	v
		8	Keluang				2	Tanjung Batu	v
		9	Bayung Lencir	v			3	Tanjung Raja	v
		10	Plakat Tinggi				4	Indralaya	v
		11	Lalan				5	Pemulutan	v
		12	Tungkal Jaya				6	Rantau Alai	
		13	Lawang Wetan				7	Indralaya Utara	
		14	Babat Supat				8	Indralaya Selatan	
7	Banyuasin Regent	1	Banyuasin I				9	Pemulutan Selatan	
		2	Banyuasin II				10	Pemulutan Barat	
		3	Banyuasin III	v			11	Rantau Panjang	
		4	Pulau Rimau				12	Sungai Pinang	v
		5	Betung				13	Kandis	
		6	Rambutan				14	Rambang Kuang	
		7	Muara Padang				15	Lubuk Keliat	
		8	[illegible]uara Telang				16	[illegible]varaman	
		9	Makarti Jaya		10	Empat Lawang Regent	1	Muara Pinang	
		10	Talang Kelapa	v			2	Pendopo	
		11	Rantau Bayur				3	Ulu Musi	
		12	Tanjung Lago				4	Tebing Tinggi	v
		13	Muara Sugihan				5	Lintang Kanan	
		14	Air Salek				6	Talang Padang	
		15	Tungkal Ilir				7	Pasemah Air Keruh	
		16	Suak Tapeh				8	[illegible]ap Dalam	
		17	Sembawa	v	11	Palembang City	1	Ilir Barat II	v
8	East OKU Regent	1	[illegible]rtapura	v			2	Seberang Ulu I	v
		2	Buay Madang				3	Seberang Ulu II	v
		3	Belitang	v			4	Ilir Barat I	v
		4	Cempaka				5	Ilir Timur I	v
		5	Buay Pemuka Peliung				6	Ilir Timur II	v
		6	Madang Suku II				7	Sukarami	v
		7	Madang Suku I				8	Sako	v
		8	Semendawai Suku III				9	Kemuning	v
		9	Belitang II				10	Kalidoni	v
		10	Belitang III				11	Bukit Kecil	v

Source: Indonesia Statistics Bureau (2013).

Before we conducted the survey, we contacted related offices, such as the Small Business and Cooperative Affairs Office, the Industrial and Trading Affairs Office, Planning and Development Affairs Office, and the Statistics Bureau Office in every regency to request

information on SMEs. We requested lists of formal and nonformal SMEs, including types of SMEs, lists of microfinance institutions, and regency profiles.

Table 4.3. City/regent and its subdistricts list

No.	City/Regent	No.	Subdistrict		No.	City/Regent	No.	Subdistrict	
11	Palembang City	12	Gandus	v	12	South OKU Regent	18	Tiga Dihaji	
		13	Kertapati	v			19	ay Rawan	
		14	Plaju	v	13	Lubuk Linggau City	1	Lubuk Linggau Timur I	
		15	Alang-alang Lebar	v			2	Lubuk Linggau Barat I	v
		16	matang Borang	v			3	Lubuk Linggau Selatan I	v
12	South OKU Regent	1	Muara Dua	v			4	Lubuk Linggau Utara I	v
		2	Pulau Beringin				5	Lubuk Linggau Timur II	
		3	Banding Agung				6	Lubuk Linggau Barat II	v
		4	Muara Dua Kisam	v			7	Lubuk Linggau Selatan II	v
		5	npang				8	Lubuk Linggau Utara II	v
		6	Buay Sandang Aji		14	Prabumulih City	1	Prabumulih Barat	v
		7	Buay Runjung				2	Prabumulih Timur	v
		8	Mekakau Ilir					Cambai	v
		9	Buay Pemaca				4	Rambang Kpk Tengah	
		10	Kisam Tinggi				5	Prabumulih Utara	v
		11	Kisa lir				6	Prabumulih Selatan	v
		12	BPR Ranau Tengah		15	Pagar Alam City	1	Pagar Alam Utara	v
		13	Ranau Selatan					Pagar Alam Selatan	v
		14	Runjung Agung				3	Dempo Utara	
		15	Sungai Are				4	Dempo Selatan	
		16	Sindang Danau				5	Dempo Tengah	
		17	Buana Pemaca						

Source: Indonesia Statistics Bureau (2013).

After obtaining the information we needed, we proceeded to map the survey area for every regent. There were some considerations we used to choose the subdistrict for every regent. First, we chose the capital of each regent as one of the survey areas. Second, we chose the subdistrict and the villages close to the capital city of the regent. The survey areas, therefore, were chosen through purposive sampling.

4.5 Population and Sample

The population in this study is made up entirely of small business enterprises in South Sumatera. This province consists of four autonomous cities and 11 regencies. Those 15 cities and regencies are shown in tables 4.1, 4.2, and 4.3.

We attempted to seek information about the total number of SMEs in each city/regency from both the provincial authorities and the local authorities. Unfortunately, we were unable to obtain (1) an exact number of the total SMEs and (2) consistent data from the authorities.

We also were unable to obtain the debtors' information from Bank Indonesia due to the confidentiality of such data.

Therefore, we decided to have as close to 3,000 respondents as we can possibly get from all over South Sumatera. In the end, we were able to obtain data from only 2,800 SMEs all over the province. However, of these 2,800 SMEs, only 2,198 SMEs used debt to finance their business and there were 25 missing responses. Therefore, only 2,198 were used in the regression analysis. The 25 missing responses were due to the incomplete answers provided by the respondents. The people interviewed were mostly SME owners.

The total number of respondents obtained from each city/regency was calculated proportionately based on the subdistricts for each city/regency. The detail of the sample acquired from each city/regent is shown in table 4.4.

Table 4.4: Population and sample used

No.	Cities and regencies	Capital of the city and/or regency	Subdistrict used as samples	Respondents obtained
1	Palembang City	Palembang	16	649
2	Ogan Ilir Regency	Indralaya	6	243
3	Ogan Komering Ilir Regency	Kayuagung	7	284
4	Ogan Komering Ulu Regency	Baturaja	3	122
5	Ogan Komering Ulu Timur Regency	Martapura	2	81
6	Ogan Komering Ulu Selatan Regency	Muara Dua	2	81
7	Prabumulih City	Prabumulih	5	203
8	Muara Enim Regency	Muara Enim	3	122
9	Lahat Regency	Lahat	2	81
10	Pagar Alam City	Pagar Alam	2	81
11	Empat Lawang Regency	Tebing Tinggi	1	41
12	Lubuk Linggau City	Lubuk Linggau	6	243
13	Musi Rawas Regency	Muara Beliti	7	284
14	Musi Banyuasin Regency	Sekayu	5	203
15	Banyuasin Regency	Pangkalan Balai	2	81
Total			**69**	**2800**

Sources: Various reliable sources (various related government offices).

4.6 Data Collection Process in the Survey Methods

The survey took place between early January 2013 and the end March 2013 (for a period of almost three months). Before conducting the survey, we developed a protocol and then pretested and pilot tested the questionnaire. In the protocol-development process, we wrote step-by-step instructions for the study procedures. We pretested questionnaire drafts on ourselves and a few clients before pilot testing the questionnaire on 100 SMEs in a few subdistricts of Palembang City.

After obtaining the pilot-testing results, we realized that there were some questions in our questionnaire that had to be amended due to the inconsistency of the questions and some issues with the numbering of the questions. Furthermore, to minimize the effects of nonresponse, we compensated participants by giving them a small gift (a calculator).

We trained additional technical staff for data collection before we actually started collecting data. These were mostly university students who were hired to assist in the conduct of the survey, which included the interviews and the distribution of the questionnaires. In the training, we:

1. Demonstrated how to conduct a survey through questionnaire and interview.
2. Demonstrated how to introduce themselves to the respondent properly in order to assure the respondents that the survey is for academic purposes. We instructed the staff to introduce themselves nicely and explain their purposes clearly. Furthermore, we stressed that the interviewers should explain that the respondents will remain anonymous and assure them that their responses will remain confidential.
3. Explained each question and the purpose of each question in the questionnaire. If they had difficulties in explaining using the Indonesian language, we gave an example of how to communicate each question (item) in local language (Palembang language).
4. Taught them how to approach and persuade participants to provide the correct answers in such a way that participants or respondents would be eager to take part in the data-collection process.

We had five permanent staff (including the driver) that we relied on during the conduct of the survey in the 15 regions of South Sumatera. For each region, we contacted local universities, higher-degree education students, and local officers to help us in surveying the SMEs. Specifically, we temporarily employed university students/higher-degree education students to assist us in doing the survey. Ten students, including the coordinator, helped us in each region for a total of 18 surveyors for each region. We sent and explained the questionnaire and interview questions to them before the actual conduct of the survey. If anything about the questionnaire or the interview questions was not clear, they contacted us

before the survey date. Finally, during the first day of our survey in each region, we briefed all the temporary staff in order to reduce, if not eliminate, the occurrence of errors.

The surveyors were divided into 8 to 9 teams, with each team consisting of two people. The surveyors from Palembang were mixed with the local surveyors since the latter were more familiar with their respective areas.

4.7 Model analysis

Quantitative analysis, directed primarily toward investigating the explanatory variables related to the performance of various dependent variables, was used for model analysis. Maddala and Lahiri (2009) mentioned problems that might be present in the regression model, such as heteroskedasticity and multicollinearity. For quantitative analysis, therefore, a series of diagnostic tests were conducted prior to model specification. These tests included the normality test (IM-test), the heteroskedasticity test (Breusch-Pagan test), and the multicollinearity test (VIF test). These diagnostic tests helped specify which appropriate regression models fit the data.

As has been mentioned previously, there were four questions. Regression analysis was used to answer the first and second questions while CFA was used to answer the third and fourth questions. The findings of this study are divided into two sections. The first section consists of the results of the quantile and probit regression. The second section consists of the SEM results. The first section aims to examine whether (1) different types of financing from microfinance have different impacts on firm performance (i.e., on ROA, ROE, business growth, and business survival) and (2) the gender of an owner has a different impact on firm performance. The second section using SEM aims to explore the (1) factors that may affect the decision to take out a loan as well as the benefits and obstacles faced by small business firms in relation to their financing sources and (2) factors that drive SMEs to choose the financing sources that they choose as well as the factors that disrupt the growth of the SMEs' profits.

The following equation is a starting point for this study to establish if different types of financing from microfinance and if an owner's gender have different impacts on firm performance (i.e., on ROA, ROE, business growth, and business survival).

$$Y_i = \alpha + \beta_{i1}X_{i1} + \beta_{i2}J_{i1} + \beta_{i3}K_{i1} + \beta_{i4}L_{i1} + \beta_{i5}M_{i1} + \beta_{i6}N_{i1} + \beta_{i7}N_{i2} + \beta_{i8}O_{i1} + \beta_{i9}O_{i2} + \beta_{i10}O_{i3} + \beta_{i11}C_{i1} + \beta_{i12}C_{i2} + u_i$$

$$y_{it} = \mu_i + \lambda_t + v_{it}$$

$$i = 1, \dots, N; t = 1, \dots, T$$

where y_i is the firm's performance (ROA, ROE, business growth, and business survival), X_{i1} is the dummy for loan status, J_{i1} is the dummy for types of microfinance, K_{i1} is the dummy for gender, L_{i1} is the dummy for the SMEs' legal status, M_{i1} is the dummy for fostering by the financier, N is the dummy for the ownership types, O is the dummy for the SME owners' educational background, C_{i1} is the SMEs' industry type, and C_{i2} is the firm size. The symbol μ_i denotes the unobservable individual effect, λ_t denotes the unobservable time effect, and v_{it} is the remainder stochastic disturbance term.

The overall joint IM test rejects the model assumption that $y \sim N(x'\beta, \sigma^2 I)$, because p=0.000 and p=0.0013 is the total raw for both ROA and ROE model, respectively. The decomposition indicates that all three assumptions of homoskedasticity, symmetry, and normal kurtosis were rejected.

Cameron & Trivedi's decomposition of IM-test

Source	chi2	df	p
Heteroskedasticity	21.91	20	0.3456
Skewness	85.17	6	0.0000
Kurtosis	0.07	1	0.7903
Total	107.15	27	0.0000

Cameron & Trivedi's decomposition of IM-test

Source	chi2	df	p
Heteroskedasticity	93.50	97	0.5816
Skewness	67.57	16	0.0000
Kurtosis	3.81	1	0.0509
Total	164.89	114	0.0013

Quantile Regression

Quantile regression is gradually emerging as a unified statistical methodology for estimating models of conditional quantile functions. By complementing the exclusive focus of the classical least-squares regression on the conditional mean, quantile regression offers a systematic strategy for examining how covariates influence the location, scale, and shape of the entire response distribution (Koenker and Bassett Jr. 1978). Quantile regression essentially transforms a conditional distribution function into a conditional quantile function by splitting it into segments. In ordinary least squares (OLS), modelling a conditional distribution function of a random sample ($y_1,\ldots\ldots y_n$) with a parametric function $\mu(x_i,\beta)$ (where x_i represents the independent variables, β the corresponding estimates, and μ the conditional mean) can present the following minimization problem (Cameron and Trivedi 2010):

$$\min \beta \epsilon R \sum_{i=1}^{n} (y_i - \mu(x_i, \beta))2$$

obtains the conditional expectation function E[Y | x_i] can proceed in quantile regression. The central feature thereby becomes $\rho\tau$, which serves as a check function ρ_τ

$$\rho_\tau = \begin{cases} \tau * x, & if\ x \geq 0 \\ (\tau - 1) * x, & if x < 0 \end{cases}$$

In quantile regression, one now minimizes the following function:

$$\min \beta \epsilon R \sum_{i=1}^{n} \rho_\tau (y_i - \epsilon(x_i, \beta))$$

In contrast to OLS, the minimization is done defined by ρ_τ, where the estimates of the τth-quantile function is achieved with the parametric function $\xi(x_i\beta)$ (Koenker and Hillock 2001). Quantile regression analysis estimates five quantile regressions at the 25th, 50th, and 75th quantiles with standard errors to examine the relationship between the dependent variable and the explanatory variables. OLS regression was estimated for the comparison of these results.

Probit Regression

Since one of the aims of this study is to identify the main factors that determine the probability of business growth and business survival, a probit regression model was employed. The probit model is one of the binary outcome models. The dependent variable

y_i, takes only two values, so its distribution is unambiguously the Bernoulli, or binomial with one tail, with a probability of p_i (Cameron and Trivedi 2010).

Suppose the outcome variable, y, takes one of two values:

$$y = \begin{cases} 1 & with\ probability\ p \\ 0 & with\ probability\ 1-p \end{cases}$$

Given p as a function of regressors x in the model, there is no loss of generality in setting the outcome values to 1 and 0. The probability mass function for the observed outcome, y, is $p^y(1-p)^{1-y}$, with $E(y)=p$ and $\mathrm{Var}(y)=p(1-p)$.

A regression model is formed by parameterizing p to depend on an index function $x'\beta$, where x is a K x 1 regressor vector and β is a vector of unknown parameters. In standard binary outcome models, the conditional probability has the form

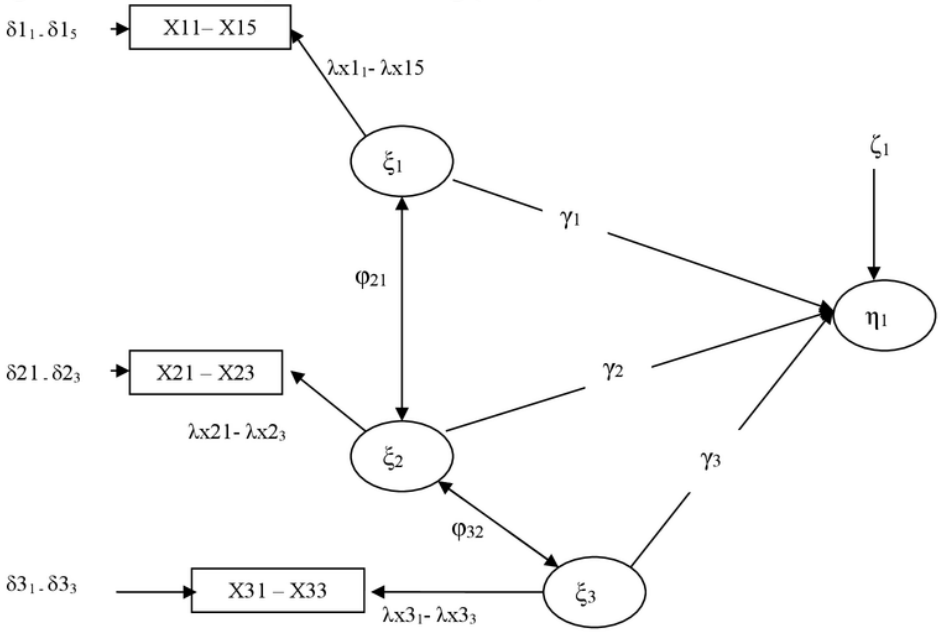
$$p_i \equiv \Pr(y_i = 1|x) = F(x_i'\beta)$$

Where $F(.)$ is a specified parametric function of $x'\beta$, usually a cumulative distribution function (s.d.f) on $(-\infty, \infty)$ because this ensures that the bounds $0 \leq p \leq 1$ are satisfied.

In this study, business growth is considered to be poor if the value of the initial capital is larger than the current capital employed and vice versa. Business survival is considered to be low if the firms have survived for less than five years and vice versa.

The equation below is a starting point for this study to explore (1) the factors that may affect a firm's decision to take out a loan as well as the benefits and obstacles faced by small business firms in relation to their financing sources and (2) the factors that drive SMEs to choose particular financing sources and the factors that disrupt the growth of SMEs' profits.

Figure 4.1. Structural equation modelling (SEM)



where:

ξ_1 = Exogen latent of financial, X11 – X15 = indicators
ξ_2 = Exogen latent of marketing, X21 – X23= indicators
ξ_3 = Exogen latent of human resource, X31 –X33= indicators
η_1 = Endogen variable of loan
δ_{11} - δ_{313} = *error* of exogen variables ξ_1, ξ_2, ξ_3
β = path coefficient among endogen latent variables
γ = path coefficient among exogen latent variables and endogen variables
φ = path coefficient among exogen latent variables
λ = path coefficient among latent variables with their indicators
ζ = error of endogen latent variables

5. Timeline and the Proposed Cost Budget

This section provides the timeline of this research. This research started in January during which time we read all the previous studies and collected data, activities that lasted until the end March. We reviewed the literature in February until the end of April. Data analysis was conducted in April up to May. The draft-writing process was from March to May. Finally, we expected to be able to submit our first draft on May 15 and our final draft by June. The timeline is shown in table 5.1.

Table 5.1: Schedule of the research process

Task	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13
Read previous study	■					
Data collection/Literature review	■	■	■			
Literature review		■	■	■		
Analysis				■	■	
Draft writing			■	■	■	
Revise and prepare a final version					■	■
Submit full paper						■

The next section provides the cost incurred during the research and the cost budget proposed. The cost incurred during the research was lower than the cost budget proposed (USD 12,696 < USD 14,337) because we did not provide the cost for the main researchers.

In table 5.2, we can see that the total number of surveyors was higher than the total number of surveyors in the proposed budget. Though the total number of surveyors was higher, the number of days required became shorter than what was originally estimated in the proposed budget. The details of the cost incurred during the conduct of the research are as follows:

- There was 15 additional staff for data collection. They were divided into two groups: the permanent staff and the temporary staff. The permanent staffs were hired to assist us in all cities/regents while the temporary staffs were hired in each city/regent where the survey was held. Each surveyor worked for two days to interview (including administering the questionnaire) the 11 to 12 respondents who were mostly SME owners. Due to the distance, location, and time constraints, we were able to obtain only 2,800 respondents in South Sumatera.

Each staff member was paid IDR 100,000, which included their hiring fee as well as their transportation and food expenses. This amount was considered sufficient, based on the prevailing minimum regional income in Palembang.

One staff member was required to obtain secondary data for each regent; therefore, 15 staffs were hired at the same rate (i.e., hiring fee) as the primary-data staff.

Overall, the cost for the primary-data staff and the secondary-data staff was USD 4,006 and USD 308, respectively.

To control the quality of this survey (interviews and questionnaires), all the technical staff were properly trained before the start of data collection. One staff member for each regent was needed to train all technical staff for two days. This trainer was compensated IDR 200,000 per day (USD 616).

- There were three main researchers in this study: Abdul Basyith, Fitriya Fauzi, and M. Idris. For the six-month duration of the research period, the main researchers used their own respective budgets.

- The costs incurred in data processing and draft preparation covered transportation, accommodation, stationary supplies, and communication. Transportation and accommodation costs amounted to IDR 70,000,000 (USD 7,190) while the cost of stationary supplies was estimated at IDR 2,000,000 (USD 205). The communication cost was estimated at IDR 3,600,000 (USD 370).

In conclusion, the total cost incurred was IDR 123,600,000, which was equal to USD 12,696 based on the currency exchange rate on October 15, 2012.

Table 5.2: Cost incurred during research

Activities	Number of technical staff/regent	Regency	Total technical staff	Cost/technical staff (IDR)	Number of days required to obtain data	Total amounts needed (IDR)	USD/IDR as per May 2013 (IDR 9,735/USD)
Data collection							
1. Primary data collection	13	15	195	100,000	2	39,000,000	4,006
2. Secondary data collection	1	15	15	100,000	2	3,000,000	308
Hiring and training cost	1	15	15	200,000	2	6,000,000	616
Independent cost for main researchers for six months							
Abdul Basyith						-	-
Fitriya Fauzi						-	-
M. Idris						-	-
Data processing and draft preparation cost							
1. Transportation cost+Accommodation cost						70,000,000	7,190
2. Stationary supplies cost (papers, draft binding)						2,000,000	205
3. Communication cost						3,600,000	370
Total cost estimated						**123,600,000**	**12,696**

Table 5.3: Proposed cost budget

Activities	Number of technical staff/regent	Regency	Total technical staff	Cost/technical staff (IDR)	Number of days required to obtain data	Total amount needed (IDR)	USD/IDR as per 15 October 2012 (IDR 9,575/USD)
Data collection							
1. Primary data collection	4	14	56	80,000	20	89,600,000	9,358
2. Secondary data collection	1	14	14	80,000	4	4,480,000	468
Hiring and training cost	1	14	1	200,000	2	5,600,000	585
Independent cost for main researchers for six months							
Abdul Basyith						10,000,000	1,044
Fitriya Fauzi						10,000,000	1,044
M. Idris						10,000,000	1,044
Data processing and draft preparation cost							
1. Transportation cost						2,000,000	209
2. Stationary supplies cost (papers, draft binding)						2,000,000	209
3. Communication cost						3,600,000	376
Total cost estimated						**137,280,000**	**14,337**

The details of proposed budget cost:

- There will be two groups of technical staff required for the data collection. The First group, which will have four technical staff, will collect primary data. Each staff will have to interview five SMEs (respondents) per day for 20 working days. Each regent will have the same number of technical staff. Therefore, the estimated number of respondents using four additional technical staff is 5,600 respondents (5,600 SMEs in all regents, South Sumatera, Indonesia). The estimated 5,600 respondents/SMEs was calculated from 4 technical staff * 5 respondents per day * 20 working days per month * 14 regents.

Each staff will be paid IDR 80,000, which includes their hiring fee and their transportation and food costs. This is considered sufficient based on the prevailing of minimum regional income of Palembang, Indonesia.

There will be only one staff required to obtain the secondary data for each regent; therefore, 14 staff will be hired at the same hiring fee as the primary-data staff.

Overall, the cost for the primary-data staff and the secondary-data staff are USD 9,358 and USD 468, respectively.

To control the quality of this survey (interviews and questionnaires), all the technical staff will be trained properly prior to the start of the data collection. One staff member for each regent is needed to train all technical staff for two days. This trainer will be compensated IDR 200,000 per day (USD 585).

- There are three main researchers in this research: Abdul Basyith, Fitriya Fauzi, and M. Idris. For the six-month duration of the research period, each of the main researchers will be given an independent allowance to be used for research purposes only. Each of researchers has to file a report regarding the use of this allowance at the end of the research project as part of the responsibility report.

- Data processing and draft preparation costs will cover transportation costs, stationary supplies costs, and communication costs. Transportation cost is estimated at IDR 2,000,000 (USD 209); the stationary supplies cost, at IDR 2,000,000 (USD 209); and the communication cost, at IDR 3,600,000 (USD 376). The latter is calculated from the three main researchers * IDR 200,000 per month * 6 months.

In conclusion, the total estimated cost in Indonesian currency is IDR 137,280,000, which is equal to USD 14,922 as per the currency exchange rate on October 15, 2012. Therefore, the proposed budget is USD 14,377.

6 Data Description

This section provides a description of the data obtained through the research survey. There were 2,800 SME respondents.

6.1 General information

There were 2,800 respondents in total, consisting of 1,882 male respondents and 893 female respondents. Males accounted for 67.2 percent and females, 31.9 percent, of the total number of respondents. Of the 2,800 total numbers of respondents, 1,355 represented registered SMEs while 1,420 represented unregistered ones. Registered SMEs accounted for 48.4 percent and unregistered SMEs, 50.7 percent, of the total number of SME respondents.

Registered status in this study was defined as an individual or a group operating a business that is within, or covered by, the scope or definition of micro, small, or medium-sized firms and where the firm was registered in a government office (e.g., Cooperative and SMEs Affair Office or Industrial and Trading Affair Office).

Of total number of male respondents (1,882), 51.9 percent reported having registered their firms while 48.1 percent of them have unregistered firms. Of the total number of female respondents (893), 42.3 percent registered their firms while 57.7 percent had unregistered firms.

If we compare male and female respondents in terms of registered status, 72 percent of the male respondents had registered their firms compared to the 27.9 percent of the female respondents that did the same. Of the male respondents, 63.5 percent had unregistered firms compared to the 36.5 percent of the female respondents that had unregistered firms. It can be concluded that the male respondents had more registered and unregistered firms compared to the female respondents. This could have been caused by the fact that males are generally the head of the household; therefore, the business could be their main source of income.

Table 6.1. Respondents' responses on SMEs' legal status based on gender

Gender	Registered	Unregistered	Missing responses	Total
Male	977	905		1882
Female	378	515		893
Missing responses				25
Total	**1355**	**1420**	**25**	**2800**

Table 6.2. Percentage of SMEs' legal status based on gender

Gender	Registered (%)	Unregistered (%)	Missing responses	Total (%)
Male	72.1	63.5		67.2
Female	27.9	36.5		31.9
Missing responses				0.9
Total	**100.0**	**100.0**		**100.0**

Table 6.3. Percentage of gender based on SMEs' legal status

Gender	Registered (%)	Unregistered (%)	Missing Responses (%)	Total (%)
Male	51.9	48.1		100.0
Female	42.3	57.7		100.0
Missing responses				
Total	**48.4**	**50.7**	**0.9**	**100.0**

As presented in table 6.4, there are 2,198 respondents out of the 2,800 who either currently have or previously had a loan while 577 reported having no loans. In terms of percentage of gender based on loan status (table 6.6), of the 2,800 total number of respondents, 78.5 percent have a loan while 20.6 percent do not. Of the total number of respondents with a loan, 70.9 percent are male and 29.1 percent are female. Of the total number of respondents with no loans, 56.1 percent are male and 43.9 percent are female (table 6.5).

Of the total number of male respondents (1,882), 82.8 percent reported having a loan compared to the 71.6 percent of the total number of female respondents (893) who did. It can be concluded that there are just as many male respondents with a loan as there are female respondents who also have the same (see table 6.6).

Table 6.4. Respondents' responses on loan status based on gender

Gender	Have a loan	Have no loan	Missing responses	Total
Male	1558	324		1882
Female	640	253		893
Missing responses				25
Total	**2198**	**577**	**25**	**2800**

Table 6.5. Percentage of loan status based on gender

Gender	Have a loan	Have no loan	Missing responses	Total
Male	70.9	56.1		67.2
Female	29.1	43.9		31.9
Missing responses				0.9
Total	**100**	**100**		**100**

Table 6.6. Percentage of gender based on loan status.

Gender	Have a loan (%)	Have no loan (%)	Missing responses	Total (%)
Male	82.8	17.2		100
Female	71.6	28.4		100
Missing responses				
Total	**78.5**	**20.6**	**0.9**	**100**

On average, 61.1 percent of the respondents reached or completed senior high school (table 6.7). This research was conducted in various regents where in which the level of education is relatively lower than that in Palembang, the capital city of the province. Mostly, if they graduate from senior high school and do not continue their studies at a university, they tend to go into business to feed their family.

Table 6.7. Educational background

Educational qualification	Number	%
Primary school	330	11.8
Elementary school	527	18.8
Senior high school	1711	61.1
Undergraduate degree	207	7.4
Missing responses	25	0.9
Total	**2,800**	**100.0**

Majority of the respondents (94.8%) reported having sole proprietorships (see table 6.8). The huge number of sole proprietors is due to the fact that most of the businesses consist of micro, small, or medium-sized firms.

Table 6.8. Ownership status

Ownership	Number	%
Sole proprietorship	2654	94.8
Two persons (partnership)	68	2.4
Group	53	1.9
Missing responses	25	0.9
Total	**2,800**	**100.0**

Table 6.9 shows that 33.4 percent of the respondent SMEs are in the trade and restaurant industry; 27.3 percent, in the processing, home, and handicrafts industry; 13.3 percent, in the finance and other services industry; 8.8 percent, in the construction and related equipment industry; 8.6 percent, in the agriculture, fishery, and plantation industry; and 7.7 percent, in other industries.

Table 6.9. Type of industry

Type of business	Number	%
Industry one (agriculture, stockbreeding, forestry, and fishery)	242	8.6
Industry two (processing, home, and handicrafts)	765	27.3
Industry three (construction and construction tools/equipment)	247	8.8
Industry four (trade and restaurant)	934	33.4
Industry five (finance and other services)	373	13.3
Industry six (other industries)	215	7.7
Missing responses	25	0.9
Total	**2,800**	**100**

6.2 Access to finance by small bussiness

There were 2,198 SMEs (78.5% of the total number of respondents) that had a current loan at the time of the survey (or took out one in the past). The respondents who have never taken out a loan made up 20.6 percent (577 respondents) of the sample (table 6.10).

Table 6.10. Current and previous loan status

Have a current or previous loan	Number	%
Yes	2,198	78.5
No	577	20.6
Missing responses	25	0.9
Total	**2800**	**100**

Of the total number of respondents who currently have (or in the past ever had) a loan, 1,165 were funded through formal microfinance. Formal microfinance is divided into bank and nonbank channels. The respondents who currently have a loan (or took out a loan in the past) through formal microfinance channels accounted for 53 percent of the population while those who availed themselves of a loan through nonformal microfinance made up 47 percent. It can be concluded that the distribution of formal and nonformal microfinance channels used by the respondents is relatively similar.

Table 6.11. Loan obtained from microfinance

Type of microfinance	Number	%
Formal	1165	53.0
Nonformal	1033	47.0
Total	**2,198**	**100**

The respondents who currently have a loan (or have obtained a loan in the past) from formal microfinance coursed through banks made up 87 percent of the population (table 6.12). Those who obtained loans from formal microfinance through rural banks accounted for 13 percent. Banks, in particular the state bank BRI, are frequently used because only BRI has wide coverage all over the regencies in Indonesia and also because BRI's mission is to help people belonging to the low-income group. Small or micro banks have also recently been established in some regents.

Table 6.12. Loan obtained from formal microfinance

Formal Microfinance	Number	%
Bank	1014	87.0
Rural bank	151	13.0
Total	**1165**	**100**

Respondents who have obtained loans (current and past) from nonformal microfinance through a cooperative (*koperasi*) accounted for 61.8 percent of the

sample population (table 6.13). Those who have obtained loans from nonformal microfinance through BMT accounted for 14.3 percent and through other nonformal microfinance channels, for 23.5 percent. "Other" is defined as the funding from state-owned enterprises (SOEs), Industrial and Trading Affairs Office *dana bergulir*, and Cooperative and SMEs Affairs Office *dana bergulir*.

Table 6.13. Loan obtained from nonformal microfinance

Nonformal microfinance	Number	%
BMT	148	14.3
Cooperative (*koperasi*)	642	61.8
Other (SOE)	243	23.5
Total	**1033**	**100**

Table 6.14 shows the reasons the respondents gave for not seeking additional funding. The reasons can be categorized into two: internally caused and externally caused. Internally caused reasons included the business not needing additional funds (19.9 percent) and the business possessing sufficient funds (18.3 percent). Externally caused reasons include the fear of not being able to repay the loan (16.4 percent).

Table 6.14. Reasons for not seeking additional finance (loan)

Reasons for not seeking additional finance	Number	%
The business did not need additional funds	115	19.9
The business had sufficient funds	106	18.3
The risk of not being able to repay the loan	95	16.4
Interest rates were too high	45	7.8
Procedures to obtain funding from a financial institution are too complicated	36	6.2
The business no longer needed additional funds	39	6.7
Terms and conditions are complicated	47	8.1
The potential to lose control of the business	44	7.5
A previous loan was rejected	26	4.6
Other	25	4.3
Total	**577**	**100**

Table 6.15 shows the reason for seeking additional funds. Of the total number of respondents with a loan, 41.4 percent said they needed additional funds to grow their business; 12 percent, to cover increasing sales; and 11.9 percent, to purchase assets. From those three main responses, it can be concluded that additional funds were needed mainly for further business development.

Table 6.15. Reasons for seeking additional finance (loan)

Reasons for seeking additional funds	Number	%
For business growth	911	41.4
For business survival	201	9.1
To cover increasing expenses	166	7.6
To purchase assets	261	11.9
To cover late payment from debtors	132	6.0
To cover increasing sales	264	12.0
Other	121	5.5
Don't know	142	6.4
Total	**2198**	**100**

Table 6.16 shows how frequently the respondents with loans obtained those loans. Of the total number of respondents with loans, 40.4 percent took out a loan once; 25.5 percent, twice; 17.5 percent, thrice; and 16.6 percent, more than three times. It can be concluded that more than half of the respondents (59.6 percent) obtained loans more than once. This may indicate that most of the respondents are trustworthy creditors from the financiers' perspective since they were able to obtain loans more than once. This result is also supported by the reasons provided for needing additional funding, particularly the most common reason which was to further develop their business.

Table 6.16. Frequency of obtaining loans

Loan frequency	Number	%
Once	888	40.4
Twice	560	25.5
Thrice	384	17.5
>Three times	366	16.6
Total	**2,198**	**100**

Table 6.17 shows the respondents' perceived difficulty in repaying the loan. Of the total number of respondents with loans, 73 percent said they did not find it difficult to repay those loans while 27 percent said repayment was difficult for them. This answer supports the frequency with which loans are/have been obtained by the respondents, which could indicate that they are reliable/trustworthy creditors.

Table 6.17. Perceived difficulty in repaying the loan

Perceived difficulty in repaying the loan	Number	%
Yes	590	27
No	1608	73
Total	**2198**	**100**

Table 6.18 shows the factors that caused late payment. These included too-high interest rates (24.1%); decreasing sales (23.5%), decreasing profitability (18.5%); worsening economic conditions (16.1%); and other reasons such as the misuse of the loan (16%).

Table 6.18. Factors causing late payment

Factors causing late payment	Number	%
Interest rates were too high	142	24.1
Decreasing sales	149	25.3
Decreasing profitability	109	18.5
Worsening economic conditions	95	16.1
Other	94	16.0
Total	**590**	**100**

Table 6.19 shows the number of respondents who underwent training provided by the financier and those that did not. Of the total number of respondents, 16.8 percent said they received training (fostering) from the financier while 83.2 percent did not. This result is supported by the fact that the majority of rural banks (and banks in general) do not provide training (fostering). Most training (fostering) is conducted or organized by SOEs, the Industrial and Trading Affairs Office, and the Cooperative and SMEs Affairs Office.

Table 6.19. Fostering (training) provided by the financier

Training program provided by the financier	Number	%
Yes	370	16.8
No	1828	83.2
Total	**2198**	**100**

Table 6.20 shows the respondents' perception of ease of access to additional funding. Of the total number of respondents, 15.4 percent found it very easy; 34.9 percent, easy; 25.7 percent, neither easy nor difficult; 12.7 percent, difficult; and 10.4 percent very difficult. It can be concluded that 53.3 percent found obtaining a loan to be relatively easy. "Very easy" and "easy" in this research is defined as being located in a place where the respondents feel there are various finance institutions, the finance institutions are located close to the market, and there is a great deal of loan offerings available.

Table 6.20. Perceived ease of access to finance

Ease of access to loans	Number	%
Very easy	432	15.4
Easy	977	34.9
Neither easy nor difficult	719	25.7
Difficult	356	12.7
Very difficult	291	10.4
Missing responses	25	0.9
Total	**2800**	**100**

Table 6.21 shows the different reasons the respondents gave for the difficulty they encountered in accessing funding. Of the total number of respondents, 13.8 percent said that the cost of funding was higher than expected; 25.6 percent cited the difficulty in meeting the types of security required; 20.4 percent found the terms and conditions imposed by the financier difficult; 11.9 percent said it was hard for them to find a financier willing to provide funding; 8.4 percent said the amount of funding offered was lower than what was sought; and 8.4 percent cited other reasons for the perceived difficulty. In general, the main reasons for the perceived difficulty in accessing funding were the mortgages required and the terms and conditions imposed by the financier.

The government has mandated that there should be no mortgage required to obtain microcredit for SMEs. However, the fact is that banks and microfinance require SMEs to provide a mortgage as one of the conditions for obtaining a loan. Moreover, most SMEs encounter difficulties in registering their firms. This makes it difficult for most of them to fulfill the terms and conditions imposed by financiers, which is registration status.

Table 6.21. Reasons for the difficulty in accessing finance

Reasons for the difficulty accessing finance	Number	%
The cost of funding was higher than expected	387	13.8
The types of security required	717	25.6
The terms and conditions imposed by the financier	572	20.4
Not enough financiers willing to provide funding	333	11.9
Mismatch between the amount of funding provided (lower) and the amount actually sought	235	8.4
Other	236	8.4
Don't know	294	10.5
Missing responses	25	0.9
Total	**2800**	**100**

Table 6.22 shows the respondents' assessment on the possible effects that the difficulty in accessing loans will have on their business. Of the total number of respondents, 21.7 percent felt that it will have no impact while 18.8 percent said the difficulty will have a negative impact on business growth. Between 3 percent and 6 percent of the respondents gave other answers, such as the possible effects on their cash position and the need to alter their business strategy, among others.

Table 6.22. Possible impact of the difficulty in accessing loans

Possible impact of the difficulty in accessing loans	Number	%
Negative impact on business growth	527	18.8
Impact on cash position	187	6.7
Need to alter business strategy	173	6.2
Impact on the ability to purchase business assets or inventory	194	6.9
Reduce sales	138	4.9
Impact on innovation planning	140	5.0
Lead to delays in the payment of salaries and other costs	165	5.9
Lead to efficiency	249	8.9
Reduce the number of staff	124	4.4
No impact	608	21.7
Other	96	3.4
Don't know	173	6.2
Missing responses	25	0.9
Total	**2800**	**100**

Table 6.23 shows the respondents' assessment of their need for additional funding in the future. Of the total number of respondents (2,800), 2,026 (72.4%) answered that they either definitely or probably need additional funding in future. This may indicate the respondents' prospective activities for their businesses.

Table 6.23. Assessment of future need for additional funding

Assessment of future need for additional funding	Number	%
Yes, definitely	422	15.1
Yes, possibly	1604	57.3
No	557	19.9
Don't know	193	6.9
Missing responses	25	0.9
Total	**2800**	**100**

Table 6.24 shows the possible sources of funding if additional funding is expected in the future. From the total number of respondents (2,026), 55.4 percent answered that they preferred to get funding from a bank while 12.7 percent said that they preferred fund their business using their own money. The respondents' high expectation of

sourcing funds from banks might make it more likely for existing micro banks to expand their business strategy or might enhance the probability of new micro banks being established.

Table 6.24. Sources of future funding

Sources of funding (if additional funding is expected in future)	Number	%
Bank	1121	55.4
Rural bank	50	2.4
Venture capital	43	2.1
BMT	37	1.8
Cooperative (*koperasi*)	159	7.8
Family or friends	150	7.4
Sale of asset/s	74	3.7
Own funds	257	12.7
Other	39	1.9
Don't know	97	4.8
Total	**2026**	**100**

Table 6.25 shows the respondents' reasons for needing funding in the future. Of the total number of respondents (2,026), 49.4 percent said that they will need funds in the future for business growth; 12.9 percent, for purchasing business assets; and 12.8 percent, for business survival.

Table 6.25. Reasons for needing funds in the future

Reasons for needing future funding	Number	%
For business growth	1001	49.4
For business survival	260	12.8
To cover increasing expenses	104	5.1
To purchase business assets	261	12.9
To cover late payment from debtors	97	4.8
To cover increasing sales	125	6.2
Other	50	2.5
Don't know	129	6.4
Total	**2026**	**100**

Table 6.26 shows the possible impact of future difficulty in accessing funding. From the total number of respondents (2,026), 25.6 percent said it will negatively affect business growth; 13.8 percent said that they would need to use their own funding; 12.7 percent would need to alter their business strategy; and 11.8 percent said it would have no impact on them.

Table 6.26. Possible impact of the difficulty in accessing loans

Possible impact of the difficulty in accessing loans in the future	Number	%
Negatively impact business growth	520	25.6
Need to alter business strategy	256	12.7
Impact on cash position	166	8.2
Need to use own funding	279	13.8
Reduce profitability	99	4.9
Impact on the ability to purchase business assets or inventory	71	3.5
Reduce business size	63	3.1
Impact on innovation planning	63	3.1
Reduce the number of staff	55	2.7
No impact	239	11.8
Other	60	3.0
Don't know	155	7.6
Total	**2026**	**100**

6.3 Possible impacts of securing a loan

Tables 6.27, 6.28, and 6.29 show the impacts of securing a loan on the respondents' business. Of the total number of respondents, 54.6 percent said that they purchased additional assets after securing a loan (table 6.27), 56.3 percent cited an increase in sales (table 6.28), and 56.1 percent answered an increase in profits (table 6.29). In sum, half of the respondents answered that their assets, sales, and profits increased after securing a loan while the other half did not experience an increase in any of these three.

Table 6.27. Impact of loan on business - additional assets

Additional assets after securing a loan?	Number	%
Yes	1200	54.6
No	998	45.4
Total	**2198**	**100**

Table 6.28. Impact of loan on business - additional sales

Additional sales after securing a loan?	Number	%
Yes	1238	56.3
No	960	43.7
Total	**2198**	**100**

Table 6.29. Impact of loan on business - additional profits

Additional profit after securing a loan?	Number	%
Yes	1234	56.1
No	964	43.9
Total	**2198**	**100**

Tables 6.30, 6.31, and 6.32 show the possible impact of securing a loan in terms of product line, employees, and salary. From the total number of respondents (2,198),

42.7 percent, 38.4 percent, and 32.2 percent, respectively, said that they were able to expand their product line, hire more employees, and increase their employees' salaries after securing a loan. The loan had no impact on the other respondents' business.

Table 6.30. Impact of loan on business - additional product line

Additional product lines after securing a loan?	Number	%
Yes	938	42.7
No	1260	57.3
Total	**2,198**	**100**

Table 6.31. Impact of loan on business - additional employees

Additional employees after securing a loan?	Number	%
Yes	843	38.4
No	1355	61.6
Total	**2,198**	**100**

Table 6.32. Impact of loan on business - increase in salary

Increasing salary after securing a loan?	Number	%
Yes	708	32.2
No	1490	67.8
Total	**2,198**	**100**

6.4 Small business characteristics

Table 6.33 shows the respondents' perceived level of competition in their respective industries. For 26.8 percent of the total number of respondents, the competition is tight; for 48.1 percent, moderate; and for 24.2 percent, just normal.

Table 6.33. Level of competition in industry

Level of competition	Number	%
Tight	751	26.8
Moderate	1346	48.1
Normal	678	24.2
Missing responses	25	0.9
Total	**2800**	**100**

Data presented in tables 6.34 and 6.35 have to do with the marketing efforts made by SMEs. Of the total number of respondents, 21.9 percent said that they incur a cost in selling their product while 77.2 percent said that there is no cost incurred in selling their product. This number is also supported by the way the majority of the SME respondents (78.9 percent) sell their products, which is direct selling to end consumers.

Table 6.34. Promotional cost

Cost in selling the product?	Number	%
Yes	614	21.9
No	2161	77.2
Missing responses	25	0.9
Total	**2800**	**100**

Table 6.35. Methods of selling

Methods of selling the product	Number	%
Sell directly to consumer	2210	78.9
Sell to distributor	425	15.2
Sell to government	14	0.5
Through exhibition program	22	0.8
Other	104	3.7
Missing responses	25	0.9
Total	**2800**	**100**

Table 6.36 shows data pertaining to the respondents' participation in exhibitions organized by the government. Of the total number of respondents, 90.2 percent said that they do not participate in exhibitions organized by the government while 8.9 percent do. Wtih regard to their frequency of participating in government-organized exhibits, one-third answered they participated only once, one-third answered 2 to 3 times, and one-third answered more than three times. The reasons given for participating are that they want to expand their target market (26.7 percent), the cost of promotion is cheap (26.2 percent), the procedures for participating are easy (23.6 percent), and other reasons (23.4 percent).

Table 6.36. Participation in exhibitions

Participation in the government-organized exhibitions?	Number	%
Yes	249	8.9
No	2526	90.2
Missing responses	25	0.9
Total	**2800**	**100**

Table 6.37. Frequency of participation in exhibitions

Frequency of participation in exhibitions	Number	%
Only once	87	35.0
2 to 3 times	81	32.7
More than 3 times	80	32.3
Total	**249**	**100**

Table 6.38. Reasons for participating in exhibitions

Reasons for participating in exhibitions	Number	%
Low cost of promotion	65	26.2
Desire to expand the target market	67	26.7
Easy procedures for participation	59	23.6
Other	58	23.4
Total	**249**	**100**

Tables 6.39, 6.40, and 6.41 present data on the training provided by the SME owners to their employees; whether training is provided in the neighborhood or not; and if it is, who provides such training. Of the total number of respondents, 81.9 percent do not provide training to their employees. Most employees already have prior knowledge (of the nature of the work) before they join the business. Furthermore, 74.7 percent of the respondents said that there is also no training provided in their neighborhood. The respondents who have access to training programs right in their neighborhoods said that either the government (21.5 percent of the respondents) or private entities, including SOEs (16.5 percent), provide such training programs.

Table 6.39. Training provided by the owner

SME respondent provides training for employees?	Number	%
Yes	481	17.2
No	2294	81.9
Missing responses	25	0.9
Total	**2800**	**100**

Table 6.40. Training provided in the neighborhood

Training programs provided in the the SME's neighborhood?	Number	%
Yes	683	24.4
No	2092	74.7
Missing responses	25	0.9
Total	**2800**	**100**

Table 6.41. Provider of training in the neighborhood

Provider of training programs in the neighborhood	Number	%
Government	147	21.5
Private entities, including SOEs	113	16.5
Nongovernment organizations (NGOs)	82	12.1
Cooperatives (*koperasi*)	85	12.4
Rural banks	82	12.1
Financiers	91	13.3
Other	83	12.1
Total	**683**	**100**

Table 6.42 shows reasons cited by the respondents for participating in the training programs provided in the neighborhood. Of the total number of respondents, 38.1 percent said that they wanted to improve quality (of production, of human resources, of their promotion and sales activities); 32.1 percent said that they wanted to expand their network; and 29.8 percent cited other reasons.

Table 6.42. Reasons for participating the training program

Reasons for participating the training programs provided in the neighborhood	Number	%
Want to improve quality (production, human resources, promotion and sales)	260	38.1
Want to expand business network	219	32.1
Other	203	29.8
Total	**683**	**100**

Data in tables 6.43 and 6.44 pertain to the sourcing of raw materials and the use of technology in production. Of the total number of respondents, majority (91.4 percent) used cash to buy raw materials and 76 percent used no technology in their production process.

Table 6.43. Ways of procuring raw materials

Ways of obtaining raw materials	Number	%
Buy using cash	2560	91.4
Buy using loans	36	1.3
Buy using loan from supplier	154	5.5
Other	25	0.9
Missing responses	25	0.9
Total	**2800**	**100**

Table 6.44. Use of technology in the production process

Is technology used in production?	Number	%
Yes	647	23.1
No	2128	76.0
Missing responses	25	0.9
Total	**2800**	**100**

6.5 Small business management

Tables 6.45, 6.46, and 6.47 show data pertaining to the SMEs' planning and controlling activities. Of the total number of respondents, 53.6 percent said they estimated their production activities while 54.9 percent estimated their monthly profits. With regard to the controlling function, 46.7 percent of the total number of respondents said they looked for the causes of failures.

Table 6.45. Product estimation

Product estimation	Number	%
Yes	1500	53.6
No	1276	45.6
Missing responses	25	0.9
Total	**2,800**	**100**

Table 6.46. Profit estimation

Profit estimation	Number	%
Yes	1538	54.9
No	1237	44.2
Missing responses	25	0.9
Total	**2,800**	**100**

Table 6.47. Controlling function

Controlling activity	Number	%
Yes	1307	46.7
No	1468	52.4
Missing responses	25	0.9
Total	**2,800**	**100**

6.6 Factors influencing the choice of financing sources

Table 6.48 shows the factors that influence the SME respondents' choice of additional funding sources (e.g., loans). Of the total number of respondents, 62.9 percent considered the location of the financier; 81.5 percent, the mortgage required; 88.9 percent, the interest rates charged; 83.8 percent, the terms and conditions imposed by the financier; 76 percent, the method of loan payment; 64.3 percent, the service and hospitality of credit sales; 69.1 percent, the impression obtained from a direct visit to the financier's office; and 64.1 percent, credit sales offering to their place of business.

In conclusion, the interest rates charged (88.9 percent), the terms and conditions imposed by the financier (83.8 percent), and the mortgage required (81.5 percent) were the three most important factors that influenced the SME respondents in their choice of source of financing.

The interest rate charged is an important matter for SMEs due to the uncertainty of their business cycle. They are afraid of being unable to make the monthly payment if the rates are too high. The majority of the SMEs also have insufficient business assets as collateral; therefore, they tend to use their own property, such as certificate of ownership of their own home, land, and vehicles, as collateral. Half of the SME

respondents are also unregistered, so they actually have no legal permit to operate a business. They are, therefore, unable to fulfill the terms and conditions imposed by financiers.

Table 6.48. Factors influencing the choice of financing/funding sources

Factors influencing choice of funding sources	Response	Number	%
Location of the financier	Yes	1761	62.9
	No	1014	36.2
	Missing responses	25	0.9
	Total	**2800**	**100**
Mortgage required	Yes	2282	81.5
	No	493	17.6
	Missing responses	25	0.9
	Total	**2800**	**100**
Interest rates	Yes	2489	88.9
	No	286	10.2
	Missing responses	25	0.9
	Total	**2800**	**100**
Terms and conditions applied	Yes	2346	83.8
	No	429	15.3
	Missing responses	25	0.9
	Total	**2800**	**100**
Method of loan payment	Yes	2128	76.0
	No	647	23.1
	Missing responses	25	0.9
	Total	**2800**	**100**
Service and hospitality of the credit sales	Yes	1801	64.3
	No	974	34.8
	Missing responses	25	0.9
	Total	**2800**	**100**
Direct visit to the financier's office	Yes	1934	69.1
	No	842	30.1
	Missing responses	25	0.9
	Total	**2800**	**100**
Credit sales offering credit in the respondent's place of business	Yes	1795	64.1
	No	980	35.0
	Missing responses	25	0.9
	Total	**2800**	**100**

6.7 Factors disrupting SMEs' growth

Table 6.49 shows the factors that the respondents considered as constraints to the growth of their business. These factors are limited capital (64.7 percent), difficulty of access to financing (42.4 percent); difficulty in controlling product quality (14.5 percent); difficulty in obtaining raw materials (17.6 percent); difficulty in marketing the product (21.2 percent); price competition (34.7 percent); difficulty in hiring

qualified employees (14.8 percent); difficulty in technology production (13.4 percent); lack of business management (18.6 percent).

Table 6.49. Factors disrupting business growth

Factors disrupting business growth	Response	Number	%
Unfavorable capital situation	Limited funding	1812	64.7
	Shrinking capital	233	8.3
	Capital not used for business activities	213	7.6
	Other	516	18.4
	Missing responses	25	0.9
	Total	**2800**	**100**
Difficulty of access to financing	Very easy	218	7.8
	Easy	1187	42.4
	Moderate	884	31.6
	Difficult	367	13.1
	Very difficult	120	4.3
	Missing responses	25	0.9
	Total	**2800**	**100**
Difficulty in controlling product quality	Yes	406	14.5
	No	2369	84.6
	Missing responses	25	0.9
	Total	**2800**	**100**
Difficulty in obtaining raw materials	Yes	493	17.6
	No	2282	81.5
	Missing responses	25	0.9
	Total	**2800**	**100**
Difficulty in marketing the product	Yes	594	21.2
	No	2182	77.9
	Missing responses	25	0.9
	Total	**2800**	**100**
Price competition	Yes	972	34.7
	No	1803	64.4
	Missing responses	25	0.9
	Total	**2800**	**100**
Difficulty in hiring qualified employees	Yes	413	14.8
	No	2361	84.3
	Missing responses	25	0.9
	Total	**2800**	**100**
Difficulty in production technology	Yes	376	13.4
	No	2399	85.7
	Missing Responses	25	0.9
	Total	**2800**	**100**
Lack of business management skills	Yes	521	18.6
	No	2254	80.5
	Missing responses	25	0.9
	Total	**2800**	**100**

Limited capital (64.7 percent), difficulty of access to financing (42.4 percent), and price competition (34.7 percent) were the top three most important factors that SMEs considered as constraints to business growth.

6.8 Perception on the establishment of new financiers

Table 6.50 shows the perception and expectations of the SME respondents on the establishment of new financiers (microfinance). Of the total number of respondents, 89.6 percent agreed with the need to establish new microfinance channels in future; 41.4 percent expected that the interest rates charged would be lower than the existing interest rates; 33.5 percent expected easier access to financing sources; and 19.7 percent expected easier mortgage terms from the financiers.

Table 6.50. Perception of/expectations for future financing institutions

Perceptions of/expectations for future financing insitutions	Response	Number	%
Agreement with the establishment of financing institutions	Yes	2509	89.6
	No	266	9.5
	Missing responses	25	0.9
	Total	**2800**	**100**
Expectations for the establishment of future financing institutions	Ease of access	938	33.5
	Lower interest rates	1159	41.4
	Ease of mortgage requirements	551	19.7
	Provision of training	118	4.2
	Proximity to market	6	0.2
	Other	3	0.1
	Missing responses	25	0.9
	Total	**2800**	**100**

7. Findings and discussions

This section is divided into three parts. The first section provides the descriptive statistics, the second section provides the results of the quantile and probit regression, and the third section provides the SEM and CFA. The second section is aimed at examining whether (1) different types of microfinancing have different impacts on firm performance (e.g., ROA, ROE, business growth, and business survival) and (2) a business owner's gender has an impact on firm performance. The third section, using SEM, is aimed at exploring (1) the benefits and obstacles faced by small business firms in relation to their financing sources, (2) the factors driving SMEs' choice of financing sources, and (3) the factors disrupting the growth of SMEs' profits.

7.1 Descriptive statistics

Table 7.1 exhibits the descriptive statistics of all variables, including those in the regression model (quantile and probit regression), SEM, and CFA.

Descriptive statistics

- ROA: The mean value for ROA is 0.3014 with a range of 0.0100 to 0.6158. This mean value indicates that the majority of SMEs are showing relatively the same profit return over their assets. The positive value indicates an effective use of firm assets in generating an operating surplus in the business.
- ROE: The mean value for ROE is 0.3023, with a range of 0.0021to 1.7258, suggesting that most of the firms experienced relatively average performance based on this accounting measurement. The positive value indicates that the firms in the sample create value for the SMEs' owners and operating efficiency is positively translated into benefits for the owners.
- Business growth: The mean value for business growth is 0.2498 with a range of 0.0000 to 1.0000, suggesting that only 24.98 percent of the firms have negative growth.
- Business survival: The mean value for business survival is 0.4094, with a range of 0.0000 to 1.0000, suggesting that most of the firms have survived for five years or more.
- Have a loan: Having a loan is used as a baseline category for the loan status, and it takes the value of zero.

- Have no loan: The mean value for having no loan is 0.4195, with a range of 0.0000 to 1.0000.

Table 7.1. Descriptive statistics

Variables	*Obs.*	*Mean*	*Std. Dev.*	*Min*	*Max*
Dependent					
ROA	2198	0.3014	0.2380	0.0100	0.6158
ROE	2198	0.3023	0.2417	0.0021	1.7258
Business growth	2198	0.2498	0.2330	0.0000	1.0000
Business survival	2198	0.2127	0.2094	0.0000	1.0000
Independent					
Have a loan	2775	0.0000	0.0000	0.0000	0.0000
Have no loan	2775	0.2079	0.2437	0.0000	1.0000
Formal microfinance	2198	0.0000	0.0000	0.0000	0.0000
Nonformal microfinance	2198	0.4700	0.3698	0.0000	1.0000
Bank	1165	0.0000	0.0000	0.0000	0.0000
Rural bank	1165	0.1296	0.1650	0.0000	1.0000
Cooperative (*koperasi*)	1033	0.0000	0.0000	0.0000	0.0000
BMT	1033	0.1439	0.0697	0.0000	1.0000
Other	1033	0.2352	0.1927	0.0000	1.0000
Male	2198	0.0000	0.0000	0.0000	0.0000
Female	2198	0.2912	0.2674	0.0000	1.0000
Primary school	2198	0.0000	0.0000	0.0000	0.0000
Elementary school	2198	0.1873	0.3903	0.0000	1.0000
Senior high school	2198	0.5970	0.4907	0.0000	1.0000
Undergraduate degree	2198	0.0751	0.2637	0.0000	1.0000
Registered	2198	0.0000	0.0000	0.0000	0.0000
Unregistered	2198	0.4966	0.3002	0.0000	1.0000
Fostering	2198	0.0000	0.0000	0.0000	0.0000
No fostering	2198	0.8320	0.4757	0.0000	1.0000
Sole proprietorship	2198	0.0000	0.0000	0.0000	0.0000
Two-person ownership	2198	0.0243	0.1543	0.0000	1.0000
Group ownership	2198	0.0175	0.1314	0.0000	1.0000
Industry one	2198	0.0464	0.1630	0.0000	1.0000
Industry two	2198	0.3207	0.3785	0.0000	1.0000
Industry three	2198	0.0732	0.1660	0.0000	1.0000
Industry four	2198	0.3926	0.2985	0.0000	1.0000
Industry five	2198	0.1051	0.3071	0.0000	1.0000
Industry six	2198	0.0619	0.1417	0.0000	1.0000
Firm size	2198	1.7419	0.7490	0.3480	4.4000

- Formal microfinance: Formal microfinance is used as a baseline category for a loan obtained from formal microfinance and it takes a value of zero.
- Nonformal microfinance: The mean value for nonformal microfinance is 0.4700 with a range of 0.000 to 1.0000, suggesting that 47 percent of the respondents obtained a loan from nonformal microfinance.

- Bank: Bank is used as a baseline category for a loan obtained through formal microfinance and it takes a value of zero.
- Rural bank: The mean value of rural bank is 0.1296 with a range of 0.0000 to 1.0000, suggesting that 12.96 percent of the respondents obtained a loan from rural banks.
- Cooperative: Cooperative is used as a baseline category for a loan obtained through nonformal microfinance and it takes a value of zero.
- BMT: The mean value of BMT is 0.1439 with a range of 0.0000 to 1.0000, suggesting that 14.39 percent of the respondents obtained a loan from BMT.
- Other: The mean value of other is 0.2352 with a range of 0.0000 to 1.0000, suggesting that 23.52 percent of the respondents obtained a loan from other sources of nonformal microfinance such as SOEs.
- Male: The male is used as a baseline category for gender and it takes a value of zero.
- Female: The mean value of female is 0.2912 with a range of 0.0000 to 1.0000, suggesting that 29.12 percent of the respondents are female.
- Primary school: Primary school is used as the baseline category for educational background of the SMEs' owner.
- Elementary school: The mean value of elementary school is 0.1873 with a range of 0.0000 to 1.0000, suggesting that 18.73 percent of the respondents have elementary school background.
- Senior high school: The mean value of senior high school is 0.5970 with a range of 0.0000 to 1.0000, suggesting that 59.70 percent of the respondents have senior high school background.
- Undergraduate degree: The mean value of an undergraduate degree is 0.0751 with a range of 0.0000 to 1.0000, suggesting that 7.51 percent of the respondents have an undergraduate degree background.
- Registered: Registered status is used as a baseline category and it takes the value of zero.
- Unregistered: The mean value of an unregistered status is 0.4966 with a range of 0.0000 to 1.0000, suggesting that 49.66 percent of the respondents have not registered their firms.

- Fostering: Fostering is used as a baseline category for fostering activity from the financier, and it takes a value of zero.
- No fostering: The mean value of no fostering is 0.8320 with a range of 0.0000 to 1.0000, suggesting that 83.20 percent of the respondents received no fostering from the financier.
- Sole proprietorship: Sole proprietorship is used as a baseline category for the ownership of the business and it takes a value of zero.
- Two-person ownership/Partnership: The mean value of a two-person ownership/partnership is 0.0243 with a range of 0.0000 to 1.0000, suggesting that 2.43 percent of the respondents have joint ownership.
- Group ownership: The mean value of group ownership is 0.0175 with a range of 0.0000 to 1.0000, suggesting that 1.75 percent of the respondents have group ownership.
- For industry types: The mean value of industries one, two, three, four, five, and six are 0.0464, 0.3207, 0.0732, 0.3926, 0.1051, and 0.0619, respectively.The types of industry that dominate in the survey are industry two (processing, home, and handicrafts) and industry four (trade and restaurant).
- Firm size: The mean value of firm size is 1.7419 with a range of 0.3480 to 4.4000, suggesting that the majority of the firms have relatively small assets.

7.2 Regression results

This section provides the regression results. For comparison purposes, column 2 in table 7.2 shows the OLS regression result. Columns 3 to 6 show the quantile regression results for $\theta = 0.25$, $\theta = 0.50$, $\theta = 0.75$, $\theta = BSQR0.50$, respectively. The different results from the OLS vis-à-vis the quantile regression indicate that estimating only the conditional mean regression can be biased and inconsistent when the data fail to meet the assumptions required to perform an OLS regression. Considering OLS estimates, though, the OLS regression results are relatively similar to the quantile regression results. However, applying the OLS on non-normal data is inappropriate.

In order to explore the types of loans obtained and firm performance, this study examined the entire distribution using quantile regression. The cross-sectional data here consists of 2,198 observations acquired through questionnaire. Stata statistical software package was used for the analysis. The * (asterisk) indicates the significance level. The expected difference effects of the explanatory variables for the different quantiles of the distribution are reflected in the size and sign of the coefficients and their respective significance-level differences. The high coefficient of determination (R^2) indicates that selected explanatory variables highly predict the value of the firm performance variable. The quantile regression results indicate that the effects of loans, microfinance types, and other variables differ across quantiles. To further illustrate, quantiles are depicted in figures 7.1 and 7.2.

As can be seen in table 7.2, SMEs with a loan, SMEs that obtained a loan from formal microfinance, SMEs that have registered their firms, and SMEs that received fostering from financiers have a positive and significant impact on firm performance (ROA, specifically) in all quantiles. This suggests that debt may encourage SMEs to manage their business efficiently because they have to obtain the desired profit in order to be able to pay their debts on time on a monthly basis. Formal microfinance (in this study banks and rural banks) provides a controlling function to assure that their debtor can make their monthly payment on time. Moreover, fostering from the financier may encourage the SMEs to develop their business, indicating that there is mutual benefit between the creditor and debtor.

Meanwhile, gender (with particular emphasis on female SME owners) has been found to have no significant impact on firm performance (ROA) throughout all quantiles. This suggests that the role of men as the head of household is still firmly entrenched in society. Though some women work to earn money, they only support the family finances. Therefore, the effort made by the women in SMEs is probably not as much as that made by men.

With regard to SME ownership, sole proprietorship has a positive and significant impact on firm performance across quantiles. Meanwhile, partnership and group ownership provided no significant impact on firm performance across quantiles

except for two-person ownership/partnership in quantile 50. This supports the fact the majority of the SMEs are sole proprietorships; therefore, the impact is much greater than the other types of ownership. Moreover, the culture of Indonesian society where people tend to work on their own supports this result.

Table 7.2. Quantile regression result

ROA	*OLS*	*QR_25*	*QR_50*	*QR_75*	*BSQR_50*
Cons.	0.5540	0.3110	0.5100	0.8370	0.5100
	(0.0430)***	(0.0380)***	(0.0560)***	(0.0810)***	(0.0570)***
Have no loan	0.1090	0.2690	0.0930	-0.0170	0.0930
	(0.0950)	(0.0840)***	(0.1240)	(0.1790)	(0.1080)
Nonformal microfinance	0.0070	-0.0140	0.0020	0.0260	0.0020
	(0.0200)	(0.0180)	(0.026)	(0.0380)	(0.0150)
Female	0.0140	0.0030	0.0210	0.0260	0.0210
	(0.0200)	(0.0180)	(0.0260)	(0.0380)	(0.0210)
Unregistered	0.0070	0.0140	0.0190	-0.0350	0.0190
	(0.0210)	(0.0180)	(0.0270)	(0.0390)	(0.0220)
No fostering	0.0100	-0.0110	0.0200	0.0150	0.0200
	(0.0190)	(0.0170)	(0.0250)	(0.0360)	(0.0180)
Two-person ownership (partnership)	0.0620	0.0390	0.0950	0.1060	0.0950
	(0.0590)	(0.0520)	(0.0770)***	(0.1110)	(0.0930)
Group ownership	0.0550	0.0590	0.1030	0.0300	0.1030
	(0.0860)	(0.0760)	(0.1130)	(0.1620)	(0.0930)
Elementary school	0.0200	0.0160	0.0170	-0.0180	0.0170
	(0.0340)	(0.0300)	(0.0440)	(0.0640)	(0.0370)
Senior high school	0.0390	0.0300	0.0190	0.0080	0.0190
	(0.0300)***	(0.0270)	(0.0390)	(0.00570)***	(0.0220)
Undergraduate degree	-0.0270	0.0020	-0.0240	-0.0730	-0.0240
	(0.0420)	(0.0370)	(0.0550)	(0.0790)	(0.0310)
Industry one	-0.0670	-0.0560	-0.0550	-0.0340	-0.0550
	(0.0650)	(0.0580)	(0.0850)	(0.1230)	(0.0830)
Industry two	-0.0450	0.0070	-0.0040	-0.0270	-0.0370
	(0.0550)	(0.0510)	(0.0687)	(0.1158)	(0.0760)
Industry three	-0.0780	0.0068	-0.0130	0.0250	-0.0130
	(0.0580)***	(0.0570)	(0.0760)	(0.1100)	(0.0680)
Industry four	-0.0780	-0.0030	-0.0050	0.0160	-0.0050
	(0.0200)***	(0.0170)	(0.0260)	(0.0370)	(0.0240)
Industry five	-0.1060	-0.0570	-0.0810	-0.1150	-0.0810
	(0.0330)***	(0.0290)***	(0.0430)***	(0.0620)***	(0.0490)***
Industry six	-0.0210	-0.0140	0.0100	-0.0300	0.0100
	(0.0560)	(0.0500)	(0.0740)	(0.1070)	(0.0470)
Firm size	-0.1550	-0.0990	-0.1570	-0.2300	-0.1570
	(0.0130)***	(0.0120)***	(0.0170)***	(0.0250)***	(0.0200)***

*t-value. *** Sig at 1% significance level, **Sig at 5% level, *Sig at 10% level. Standard error is in parentheses.*

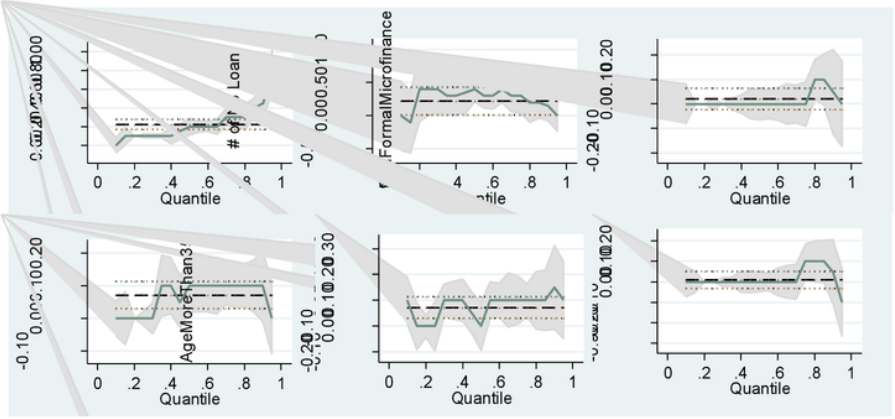
Further, educational background overall has no significant impact on firm performance throughout all quantiles except for senior high school in quantile 75.

This result indicates that education does not always determine success (as far as the management of SMEs is concerned). From our interviews, we observed that most of the people who are highly motivated to succeed ensure their success by any means. The high motivation of SME owners was also evident in the way they interacted with our surveyors and the way they answered our questions candidly and honestly.

For the control variables, we found that the type of industry also has no significant impact on firm performance. This suggests that the type of industry does not matter in the improvement of the performance of a firm when it incurs debt. Unlike the type of the industry, the coefficient for firm size is negative and significant for all quantiles, suggesting that big firms (SMEs) with a loan have a negative significant impact on firm performance. This may be due to the fact that bigger firms probably have stable capital and earnings. The additional loan only becomes a burden to those firms. Moreover, the income of the majority of big firms does not come from only one source. Usually, big firms have some business centers.

Figure 7.1 shows that firms with a loan, who obtained loan from formal microfinance, are officially registered, and who have received fostering from the financier, enjoy an increase in firm performance (ROA) at higher quantiles. It can be said that firms with the aforementioned characteristics exhibit a shift from a lower quantile to a higher quantile.

Figure 7.1. Quantile regression (ROA)



The absence of a loan and ownership by female proprietors exert a moderate impact on firm performance over quantiles. Furthermore, the following characteristics--a loan from nonformal microfinance, unregistered, and with no fostering--have a high impact on firm performance at higher quantiles.

Table 7.3. Quantile regression result

ROE	*OLS*	*QR_25*	*QR_50*	*QR_75*	*BSQR_50*
Cons.	0.5750	0.2370	0.5380	0.9390	0.5380
	(0.0980)***	(0.0610)***	(0.0950)***	(0.1440)***	(0.1440)***
Have no loan	0.1110	0.2750	0.1110	-0.0190	0.1110
	(0.0980)	(0.0600)***	(0.0920)**	(0.1450)	(0.1190)
Nonformal microfinance	0.0130	-0.0190	0.0040	0.0180	0.0040
	(0.0210)	(0.0140)**	(0.0210)	(0.0330)	(0.0200)
Female	0.0090	0.0050	0.0210	0.0250	0.0210
	(0.0200)	(0.0150)	(0.0210)	(0.0330)	(0.0300)
Unregistered	0.0090	0.0110	0.0180	-0.0360	0.0180
	(0.0210)	(0.0150)	(0.0220)	(0.0330)	(0.0220)
No fostering	0.0150	-0.0010	0.0180	0.0140	0.0180
	(0.0200)	(0.0140)	(0.0210)	(0.0320)	(0.0220)
Two-person ownership (partnership)	0.0590	0.0580	0.0950	0.1050	0.0950
	(0.0610)	(0.0360)***	(0.0610)***	(0.0870)***	(0.0920)
Group ownership	0.0530	0.0640	0.1000	0.0350	0.1000
	(0.0880)	(0.0540)*	(0.0850)*	(0.1260)	(0.0930)
Elementary school	0.0330	0.0360	0.0170	0.0100	0.0170
	(0.0350)	(0.0230)***	(0.0360)	(0.0560)	(0.0360)
Senior high school	0.0440	0.0550	0.0210	0.0030	0.0210
	(0.0310)***	(0.0200)	(0.0320)	(0.0480)	(0.0280)
Undergraduate degree	-0.0200	0.024	-0.020	-0.078	-0.020
	(0.0440)	(0.0300)	(0.0450)	(0.0680)	(0.0480)
Industry one	-0.1040	-0.0280	-0.0870	-0.1240	-0.0870
	(0.0109)	(0.0690)	(0.1060)	(0.1570)	(0.1620)
Industry two	-0.0320	0.0480	-0.0450	-0.0900	-0.0450
	(0.0890)	(0.0550)	(0.0850)	(0.1280)	(0.1430)
Industry three	-0.1120	0.0310	-0.0620	-0.0890	-0.0620
	(0.0105)***	(0.0660)	(0.1020)	(0.1550)	(0.1500)
Industry four	-0.0340	0.0350	-0.0520	-0.0750	-0.0520
	(0.0890)	(0.0550)	(0.0850)	(0.1280)	(0.144)
Industry five	-0.1420	-0.0280	-0.1150	-0.2090	-0.1150
	(0.0930)***	(0.0580)	(0.0890)**	(0.1350)***	(0.1420)
Industry six	-0.0540	0.0530	-0.0350	-0.1280	-0.0350
	(0.1040)	(0.0650)	(0.1010)	(0.1520)	(0.1470)
Firm size	-0.1600	-0.1060	-0.1560	0.2320	-0.1560
	(0.0140)***	(0.0100)***	(0.0140)***	(0.0210)***	(0.0190)***

*t-value. *** Sig at 1% significance level, **Sig at 5% level, *Sig at 10% level. Standard error is in parentheses.*

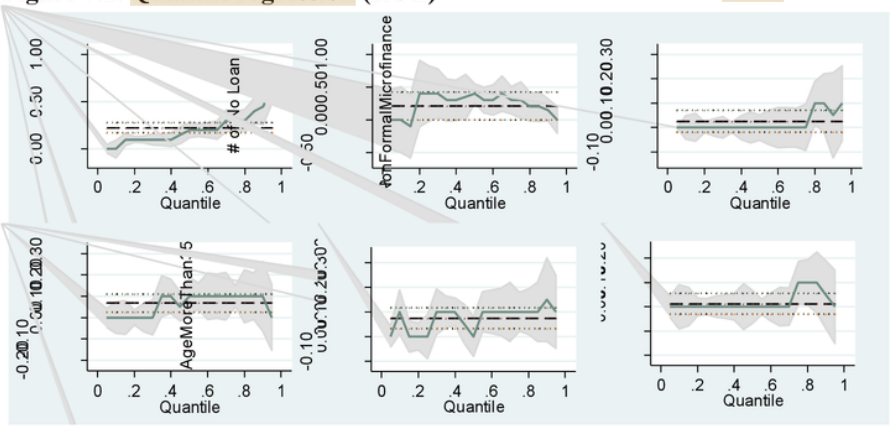
As can be seen in table 7.3, the following characteristics--a loan, a loan from formal microfinance, official registration, and fostering from financiers—all exert a positive

and significant impact on firm performance (ROE) throughout all quantiles. Meanwhile, gender (being a female owner, specifically) has been found to have no significant impact on firm performance (ROE) throughout all quantiles. Sole proprietorship has been shown to have a positive and significant impact on firm performance across quantiles. Educational background also has no significant impact on firm performance. This result is similar to the result obtained for ROA.

For control variables, the type of industry has no significant impact on firm performance. Further, the coefficient for firm size is negative and significant for all quantiles, suggesting that having a loan has a negative and significant impact on the performance of big firms (SMEs). This may due to the fact that bigger firms (SMEs) probably have stable capital and earnings. The additional loan only becomes a burden to those firms. The result for control variables is also similar to the result obtained for ROA.

Figure 7.2 exhibits the impact of explanatory variables over the quantiles. It can be seen that the following characteristics--having a loan, obtaining a loan from formal microfinance, official registration, and fostering--have increased the performance of firms (SMEs) at higher quantiles. It can be concluded that firms with the aforementioned characteristics tend to move from lower to higher quantiles.

Figure 7.2. Quantile regression (ROE)



Not having a loan and not having the firms registered exert a moderate impact on the performance of firms (SMEs) over quantiles. Furthermore, loans from nonformal microfinance and the lack of fostering have been shown to have a high impact on the performance of firms (SMEs) at higher quantiles. In conclusion, the result obtained for ROE also exhibits the same pattern as that obtained for ROA.

As can be seen in table 7.4, the probit regression result for business growth indicates that having a loan has a negative and significant impact on the business growth of firms (SMEs). This may indicate that the additional funding (i.e., loan) injected into the firm hampers or slows down its business growth. Though one of the reasons provided by the SMEs for taking out loans is business growth, in fact, not all SMEs use the debt for the purposes that they stated in the application they lodged with the financier. This is a common, real-life problem: some people or firms tend to misuse the debt they obtained for business by diverting it toward personal purchases or expenses, such as buying a car, buying a house, paying for their children's tuition fees, and other similar personal expenses.

Similar to loan status, the acquisition of a loan from formal microfinance exerts a negative and significant impact on the business growth of firms (SMEs). Meanwhile, nonformal microfinance provides no significant impact on business growth. This could indicate that the SMEs that obtained a loan from formal microfinance should adhere to the terms and conditions imposed. If the SMEs are not able to pay their debt, they face at least two consequences: (1) their mortgage will be seized by the financier and (2) they will have bad credibility/credit with the banking systems in their area.

For the gender variable, female ownership has a positive and significant impact on the business growth of firms (SMEs) when the female owners borrowed additional funds. In contrast, male ownership has a negative and significant impact on the business growth of firms (SMEs) when said owners borrowed additional funding. The possible reason is that when females take out a loan, they tend to worry more about being unable to pay it back; therefore, having a loan makes them work harder and more efficiently in order to be able to make payments on time. In the end, their

business growth improves compared to the time before they took out a loan. Though the result for business growth differs from the result for firm performance (ROA and ROE) where being a female SME owner has no significant impact on firm performance, we can justify our result by saying that firm performance is only in terms of accounting numbers and is measured for only a short period of time. Business growth is measured for a longer-term period (since it is measured using the difference between initial capital and current capital), which suggests that over a longer period of time, women are more capable in managing the business when they have a loan.

The coefficient for registered firms is negative and significant on business growth, suggesting that the firms that have officially registered their business tend to exhibit lower performance. Furthermore, the coefficients for fostering and nonfostering are negative and significant suggesting that both fostering and nonfostering provides no difference in impact on performance (business growth). The coefficient for ease of access to funds is negative and significant on business growth suggesting that the easier you get the money, the greater it can negatively impact on your business. Finally, the coefficient for firm size is negative but not significant.

For business survival, having a loan exerts a negative and significant impact on the business survival of firms (SMEs) while not having a loan has a positive and significant impact on their business survival. Two possible reasons for this are that SMEs may lack management skills and are not fully proficient in accounting matters (e.g., bookkeeping, understanding income statements and balance sheet statements, etc.) and, therefore, when they obtained the loan, they had difficulties in managing their total assets.

The coefficient for formal microfinance is negative and significant, suggesting that obtaining a loan from formal microfinance has a negative and significant impact on the business survival of firms (SMEs). Formal microfinance (banks and rural banks in this study) provide a controlling function to ensure that their debtor can make their monthly payment on time. Moreover, the fostering function from the financier may

encourage SMEs to develop their business, indicating that there is a mutual benefit for the creditor and debtor.

Unlike in formal microfinance, the coefficient for firms (SMEs) that obtained a loan from nonformal microfinance was positive and significant in the area of business survival. This result was quite surprising because it went contrary to the result for formal microfinance. It may be due to the fact that nonformal microfinance is more lenient about loans compared to formal microfinance. Therefore, the approach used by nonformal microfinance is different. As an example, in cooperatives (*koperasi*), the debtor is the member of the *koperasi*; therefore, they are not paying off their debt as there is no mortgage.

Table 7.4. Probit regression result

Variables	*Business Growth*	*Business Survival*
Cons.	-0.0678	-0.8699
	(0.3972)***	(0.1692)***
Have no loan	0.1184	0.3214
	(0.0863)	(0.0888)***
Nonformal microfinance	0.1097	0.3860
	(0.1216)	(0.1268)***
Female	0.2112	0.2112
	(0.0932)*	(0.0932)**
Unregistered	0.0292	0.2287
	(0.1264)	(0.1369)*
No fostering	-0.3760	0.0950
	(0.1241)***	(0.1416)
Ease of access	-0.0604	-0.0663
	(0.0780)	(0.0839)
Firm size	-0.1639	-0.2350
	(0.1010)	(0.1052)**

*t-value. *** Sig at 1% significance level, **Sig at 5% level, *Sig at 10% level. Standard Error is in parentheses.*

The coefficient for gender, in particular for females, is that the firms (SMEs) owned by females have a positive and significant impact when they have a loan. In contrast, having a loan has a negative and significant impact on firms (SMEs) owned by males. This result is similar to the result of business growth, so the possible explanations are similar. The coefficient for registered firms is negative and significant on business survival, suggesting that registered firms tend not to survive for more than 5 years. In contrast, being unregistered has a positive and significant impact on the business survival of firms (SMEs). The coefficient for fostering is negative and significant,

suggesting that firms that have received fostering have a lower chance of survival. Though this result seems a bit odd, it is relatively similar to the previous result for business growth in which either fostering or no fostering has no significant impact. The coefficient for firm size is also negative and significant, which is similar to the result for business growth. In conclusion, the results for business growth are relatively similar to the results for business survival.

Table 7.5 exhibits the summary of the quantile and the probit results. The foregoing shows that the probit regression results seem to contradict the results of the quantile regression.

Table 7.5. Summary of the quantile and the probit results

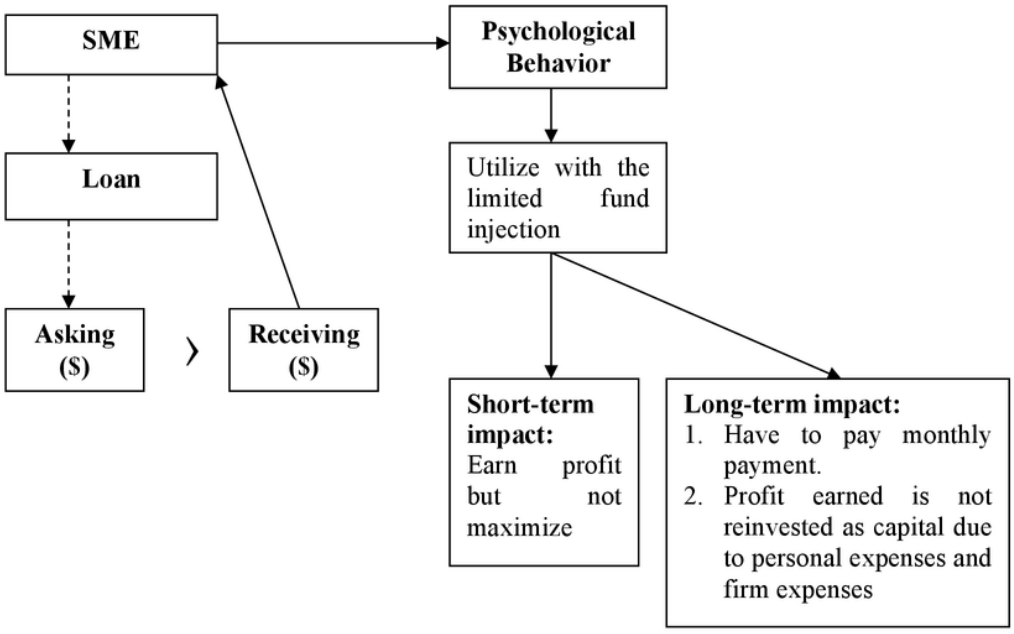
	Quantile (ROA and ROE)	Probit (business growth and business survival)
SME with a loan	Positive and significant	Negative and significant
SME with a loan from formal microfinance	Positive and significant	Negative and significant
SMEs that are registered	Positive and significant	-
SMEs that received fostering from a financier	Positive and significant	Negative and significant
SMEs owned by a female	No impact	Positive and significant
SMEs that are sole proprietorships	Positive and significant	-
SMEs that are owned by two persons/are a partnership	No impact	-
SMEs that are owned by a group	No impact	-
Type of industry	No impact	-

We identified that we have two types of respondents (SME owners). First, we have the respondent who really needs additional funding (depicted in the scheme 1). Second, we have the respondent who did not really need additional funding (received funding with enough capital), which is depicted in scheme 2.

The first type of respondent who really needs additional funding usually has insufficient capital and insufficient collateral; therefore, he tends to receive lower loan amounts compared to the loan amout he actually requested. The impact of not having additional funding is being unable to support operational plans for the business. In addition, some psychological behavior may arise from the limited fund injection. First, over the short term, the additional limited funding may earn profit but will not be maximized. Second, over the long term, the respondent will have to bear the fixed burden of monthly payments with higher interest and at the end of it,

he will be unable to reinvest the profit earned due to the funds being diverted to personal expenses and firm expenses as we have already explained previously.

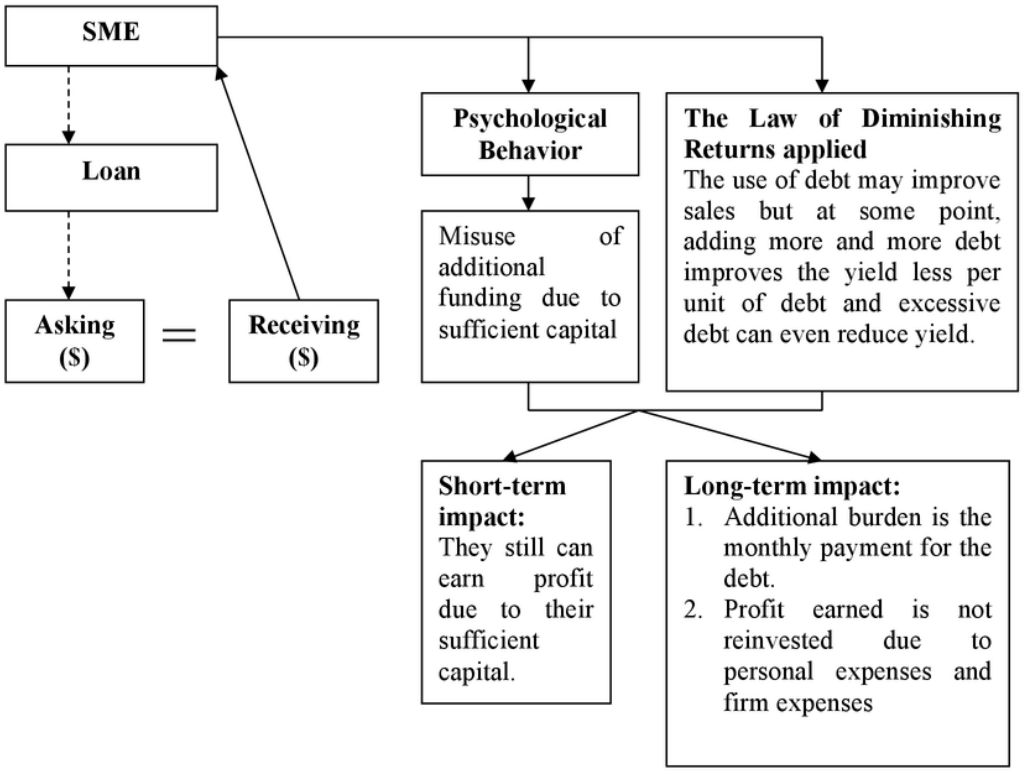
Scheme 1. SME (firms) that really need additional funding



The second respondent who did not really need additional funding (received funding with enough capital) has sufficient capital and sufficient collateral; therefore, this respondent tends to receive the same, or even a higher, loan amount compared to the loan amount requested. There are two things that may explain the impact of this type of respondent: psychological behavior and the law of diminishing returns. In terms of psychological behavior, this type of respondent tends to use the additional funding for other purposes (not for the operational cost) since he/she has sufficient capital. In terms of the law of diminishing returns, the respondent's use of debt may improve sales but at some point, adding more and more debt improves the yield less per unit of debt. Worse, excessive debt can even reduce the yield. In the end, the short-term impact is that the respondent still can earn some profit due to sufficient capital but over the long term, the respondent has to bear the additional burden of monthly

payments. The respondent will also be unable to reinvest whatever profit was earned due to personal expenses and firm expenses as we explained previously.

Scheme 2. SME (firms) that did not really need additional funding (received funding with enough capital)



Furthermore, the short-term positive impact of loans is due mainly to the cautious behavior of the SME owners since they have to make the monthly payments due to the tight monitoring of the financiers at the beginning of loan payment. Moreover, the additional funding in the short term may have an impact on production capacity which, in turn, will have an impact on sales and profits. On the other hand, the negative impact of a loan in the longer term is due to the principal and interest having been paid which lowers the principle of prudential. Moreover, production capacity has returned to normal with the existing capital.

7.3 Structural equation modeling and confirmatory analysis results

This section provides the finding for SEM and. There are 11 factor loadings as indicators to create exogen latent variables. For this model, there are three exogen latent variables: finance, marketing, and human resources. The indicators creating the finance latent variables are from X11, X12, X13, X14, and X15. X11 is return on assets, X12 is return on equity, X13 is a ratio of sales to total assets, X14 is a ratio of sales to total equity, and X15 is profit margin. The indicators creating marketing latent variables are from X21, X22, and X23. X21 is an additional product line after being established. X21 is an additional product line before a loan is obtained. X23 is an increase in sales. The indicators creating human resource latent variables are from X31, X32, and X33. X31 is the number of employees. X32 is the percentage of salary over total sales. X33 is an increase in salary before a loan is obtained.

Table 7.6. Factor loading and t-value for all indicators of loans

Variables	*Estimated values*	*t-values*	*R-squared*
X11	*0.2800*	*11.8100*	*0.1100*
X12	0.7800	21.2800	0.4100
X13	0.2900	14.2300	0.1600
X14	0.7700	21.9800	0.4600
X15	0.8400	6.1200	0.0310
X21	0.2800	22.0800	0.3100
X22	0.4600	33.2400	0.8300
X23	0.2600	21.0800	0.2800
X31	0.4100	26.4000	0.6800
X32	0.3600	25.0300	0.5700
X33	0.0059	0.6000	0.0003

All indicators of the finance latent variables X11 to X15 show that all factor loadings are significant factors in creating finance latent variables. However, only two indicators have the largest contribution, which is shown in the value of the coefficient determinant, ROE and sales to total equity. All indicators of the marketing latent variables X21 to X23 show that all factor loadings are significant factors in creating the marketing latent variables. However, only X22 provides a higher contribution in creating this latent variable. All indicators of human resource latent variables X31 to X33 show that only two factor loadings, X31 and X32, are

significant factors in creating the human resource latent variables. Both X31 and X32 contribute highly in creating this latent variable.

From three exogen latent variables (finance, marketing, and human resources), only finance has a significant impact on the decision to take out a loan. This suggests that if the SME owners' income increases, they tend to take out a loan.

Table 7.7. Factor loading and t-value for all exogen latent variables of loans

Variables	*Estimated values*	*t-values*	*R-squared*
Finance	*0.0680*	*4.9500*	*0.0220*
Marketing	0.0630	0.0450	
Human resources	-0.0140	-1.0000	

The result of the goodness of fit index exhibits that from five measures of fitness, only two measures, GFI and RMSR, indicated that the model specified is fit. The figure of estimated values and the t-values of the model can be seen in figure 7.7 and figure 7.8, respectively.

Table 7.8. Goodness of fit value of loan model

Goodness of fit index	*Cut-off value*	*The result of model*	*Note*
Chi-Square	-	1292.1200	Not fit
Probability	≥ 0.05	0.0000	Not fit
RMSEA	≤ 0.08	0.1200	Not fit
GFI	≥ 0.90	0.9000	Fit
AGFI	≥ 0.90	0.8400	Not fit
RMSR	≤ 0.05	0.0380	Fit
CFI	≥ 0.90	0.7000	Not fit

Figure 7.3. Estimated values of loan model

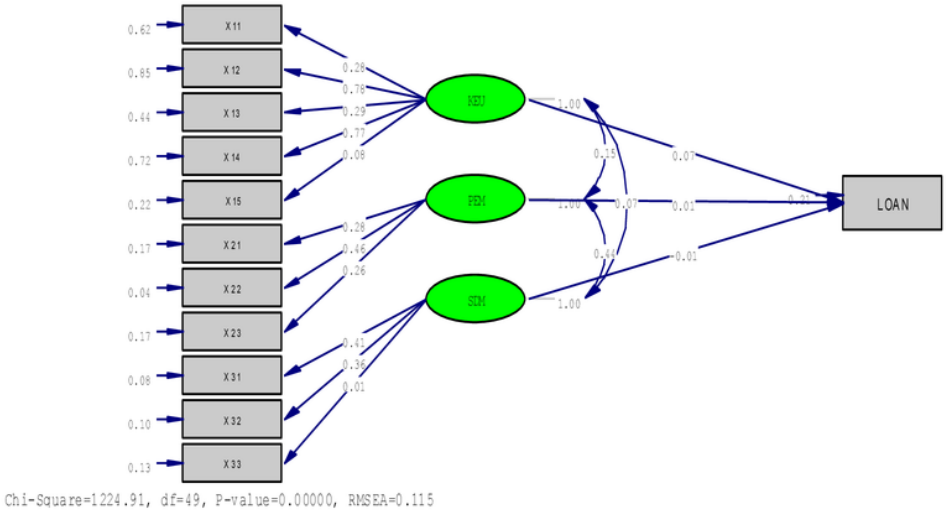
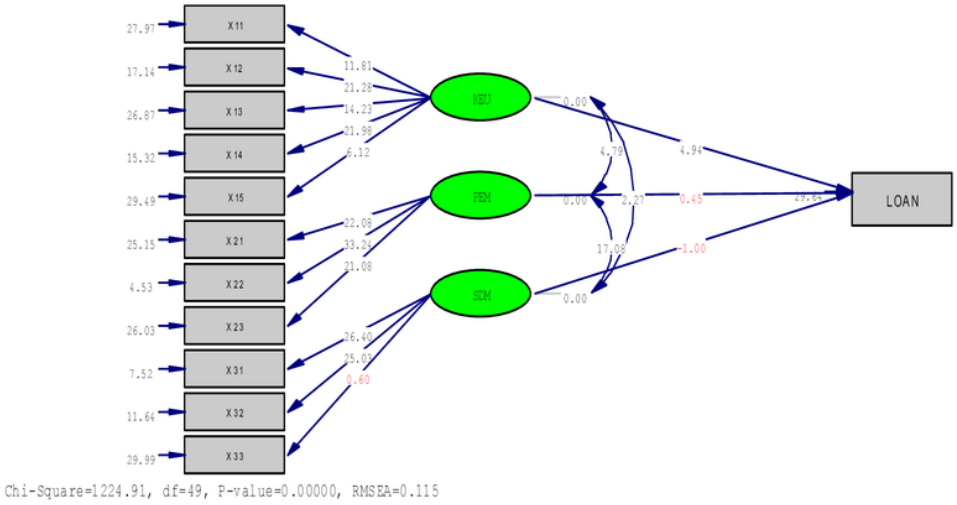


Figure 7.4. T-values of loan model



Next, all the indicators are significant in explaining the SMEs' preference when choosing a source of financing. The majority of the indicators have an almost similar contribution value of r-squared about 0.3000. This result suggests that the SMEs prefer the service provided by the financier/credit sales, the financier located closest to their business, the easiest method of payment, the financier who imparted a

favorable impression on the SMEs upon the latter's visit to the financier's office, the leniency of required mortgage, lenient terms and conditions from the financier, a lower interest rate, and the overall approach of the financier.

Table 7.9. Factor loading and t-value for all indicators of preference

Variables	*Estimated values*	*t-values*	*R-squared*
Location	0.2600	23.8800	0.2900
Mortgage	0.2000	24.3400	0.3000
Interest	0.1500	24.1100	0.3000
Terms	0.1900	24.2800	0.3000
Payment	0.2500	26.1900	0.3600
Service	0.2900	27.3200	0.3700
Come	0.2100	19.6900	0.2100
Approach	0.1200	11.2500	0.0730

The result of the goodness of fit index shows that from five measures of fitness, only two measures, GFI and RMSR, indicate that the model specified is fit. This result is similar to the results of the loan model. The figure of estimated values and the t-values of the model can be seen in figure 7.5 and figure 7.6, respectively.

Table 7.10. Goodness of fit value of preference model

Goodness of fit index	*Cut-off value*	*The result of model*	*Note*
Chi-square	-	1109.3400	Not fit
Probability	≥ 0.05	0.0000	Not fit
RMSEA	≤ 0.08	0.1600	Not fit
GFI	≥ 0.90	0.8900	Close to fit
AGFI	≥ 0.90	0.8000	Not fit
RMSR	≤ 0.05	0.0140	Fit
CFI	≥ 0.90	0.7100	Not fit

Figure 7.5. Estimated values of factors in choosing funding

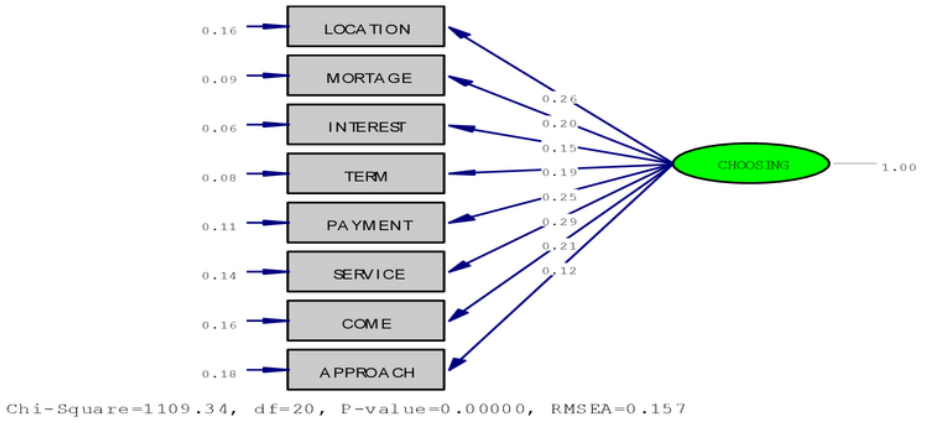
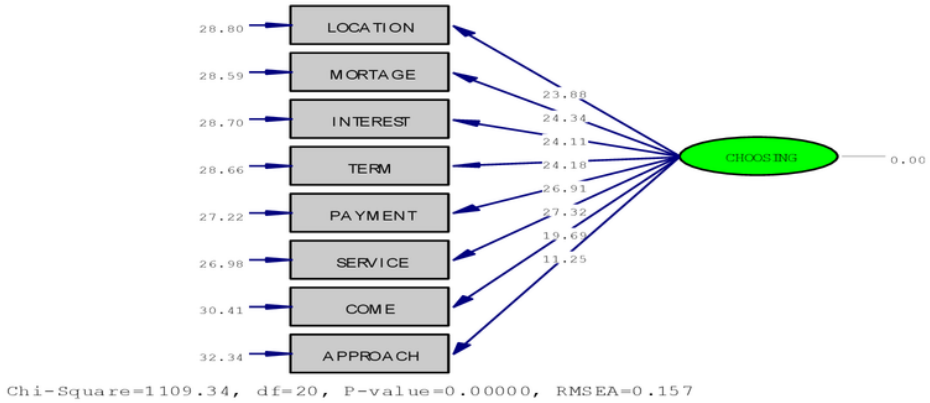


Figure 7.6. T-values of factors in choosing funding



For the indicators in the model for barriers, X1 is limited capital, X2 is ease of access to source of financing, X3 is product quality control, X4 is difficulty in obtaining raw materials, X5 is the market location, X7 is qualified employees, and X8 is production technology. The result reveals that all indicators are significant in explaining the growth barriers to SMEs. However, only two variables contribute the highest value in explaining the barriers' factors, which are product quality control and difficulty in obtaining raw materials. Moreover, only the coefficient of X2 is negative, suggesting that the easier the money, the more dangerous it can be for the SMEs' growth.

It can be concluded that the significant barriers that the SMEs considered are the limited capital they had, the loss of product quality control, the difficulty in obtaining raw materials, the distance to the market location, the unqualified employees they had, and the limited technology they use to produce their product.

Table 7.11. Factor loading and t-value for all indicators of imposed barriers

Variables	*Estimated values*	*t-values*	*R-squared*
X1	0.0085	1.3300	0.0010
X2	-0.0023	-0.3000	0.0000
X3	0.2700	31.2100	0.4600
X4	0.3300	36.7200	0.6200
X5	0.2200	22.9400	0.2700
X7	0.1700	20.3200	0.2200
X8	0.2100	24.4400	0.3000

Table 7.12. Goodness of fit value for the model for imposed barriers

Goodness of fit index	*Cut-off value*	*The result of model*	*Note*
Chi-Square	-	276.5300	Not fit
Probability	≥ 0.05	0.0000	Not fit
RMSEA	≤ 0.08	0.0920	Not fit
GFI	≥ 0.90	0.9700	Fit
AGFI	≥ 0.90	0.9300	Fit
RMSR	≤ 0.05	0.0065	Fit
CFI	≥ 0.90	0.8900	Fit

Figure 7.7. Estimated values of factors to the barriers in the growth of SMEs

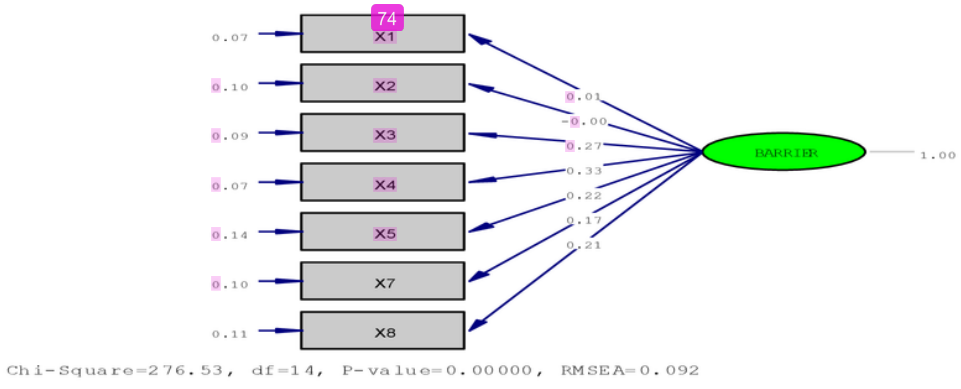


Figure 7.8. T-values of the factors to the barriers in the growth of SMEs

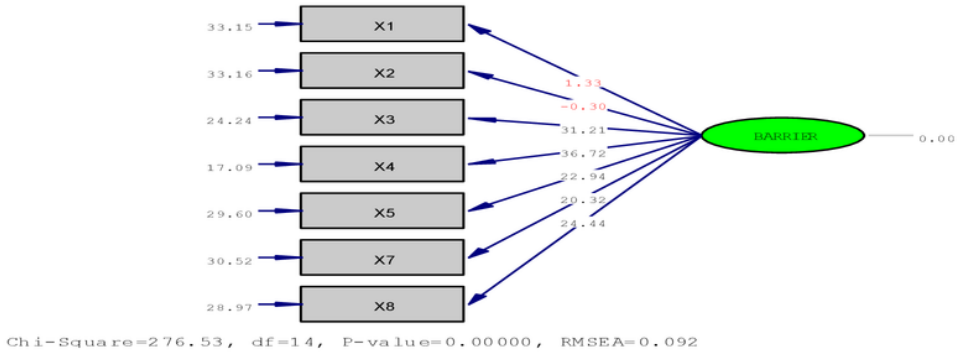


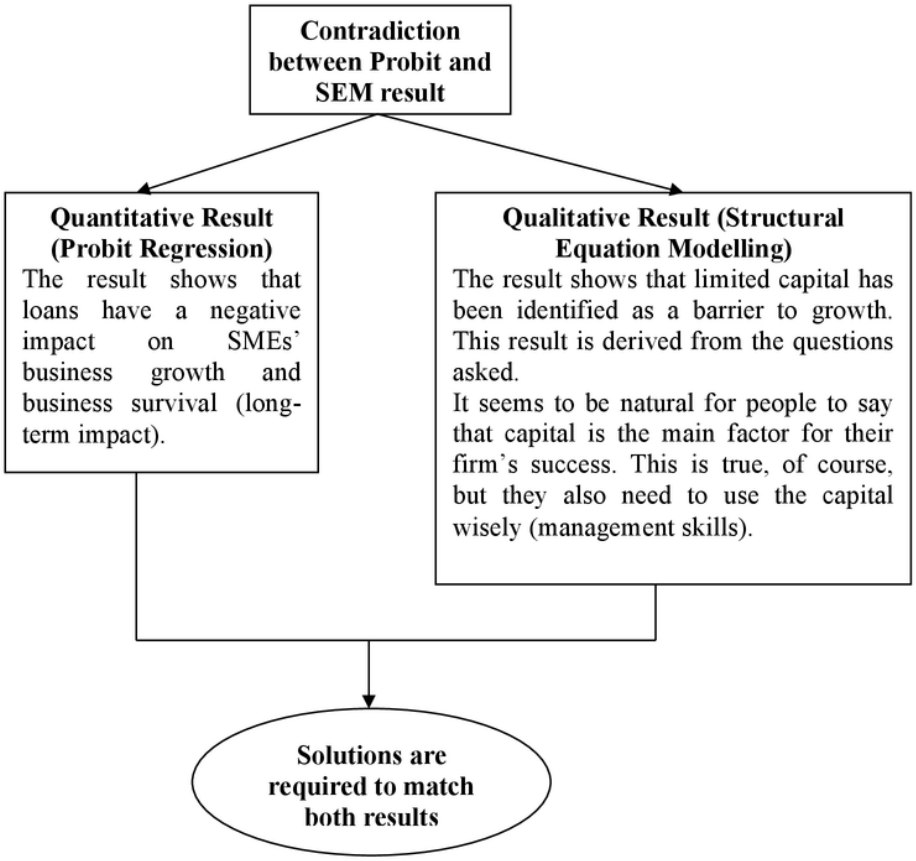
Table 7.13 exhibits the result of the probit and SEM. The foregoing shows that the probit regression results seem to contradict the results of the SEM which found that limited capital is a barrier to growth.

Table 7.13. Summary of the quantile and the probit results

Probit (business growth and business survival)	SEM results
Having a loan exerts a negative and significant impact on the business growth and business survival of SMEs.	Limited capital is identified as a barrier to growth.

As we previously explained (scheme 1 and scheme 2), the contradiction between the probit and SEM results is caused by the various questions we employed. For the SEM result, the results were derived from the questions asked. It seems to be natural for people to say that capital is the main factor in their firm's success and indeed this is true. However, they also have to back up the availability of capital with their ability to utilize it wisely (i.e., management skills). However, when we analyzed their answers using quantitative methods, the results revealed the truth in terms of number. Therefore, this mismatch between the respondents' answers and what is really happening may be a starting point to reconsider the previous government's policies.

Scheme 3. SME (firms) that did not really need additional funding (received funding with enough capital)



Conclusions

Small firms' financing is the most binding obstacle to investment by far. Access to credit is particularly stringent for small firms operating in the informal sector. The lack of collateral is often reported to be the binding constraint to credit access and results in harsher bank lending terms and conditions for small firms than for large firms. In addition, SME managers sometimes lack the skills needed to apply for a loan and meet bank standards. The use of SME assets as collateral entails so much effort that, in the end, small firms would have to provide collateral with a higher value than the value of the loan received. All these problems seem to be common problems encountered by SMEs in accessing financing sources. The government has attempted the use of various methods to solve these problems but the result seems to

be unfruitful as the implementation of the rules and regulations made are not similar to what it should be.

In conclusion, the results of this study reveal that firm performance is significantly and positively affected/impacted by the acquisition of a loan, by obtaining loan from formal microfinance, by the official registration of the firm, and by receiving fostering from a financier. However, over the longer term, a loan exerts a negative signifant impact on business growth and business survival. In addition, results show that over the long term, female SME owners are more capable in managing the business when they have secured a loan.

9. Limitations

Notwithstanding the findings, the current study does have limitations, which point to potentially fruitful, further research opportunities. First, the current study used only a few aspects of SMEs. Further studies could consider other aspects of SMEs such as demographic factors. Second the findings are based on research in a single province and may not be generalizable. Further, the findings of this study are restricted to the limitation of the data, which was collected using the survey method and publicly available data sources. If there were any problems relating to the responses acquired and the data disclosure, then that would limit the validity of the findings. In addition, the entire sample comprised only 2,800 respondents, with the survey being conducted in the beginning of 2013.

10.Recommendations

Some recommendations proposed in accordance with the results obtained:

a. In providing the loan, financiers should pay attention to the actual needs of the borrowers and not just base the amount on the collateral used. If the loan approved and provided is lower than the loan requested, then the borrowers are will be unable to utilize it effectively for the purpose they stated on the proposal.
b. Though the government provides loans without collateral, some financiers, in fact still continue to request collateral. Therefore, the government has to supervise the implementation of their current policy (i.e., loans without collateral) tightly through Bank Indonesia or a financial service authority (Otoritas Jasa Keuangan).

c. In some remote areas, the biggest problem is that the most of the SME owners are unable to provide credible collateral. Therefore, the government may need to come up with an appropriate policy to address this situation, such as the government acting as a liaison for prospective SMEs owners to access funding from financiers.

d. According to the survey, ROA and ROE are about 30 percent; however, business survival and business growth are about 20 percent. This indicates that profitability is quite good in the short term but not for the long term. In this case, financiers and government authorities should also provide fostering after the loan has been paid.

e. Financiers should provide loan packages with fostering because most SMEs are not able to use loan funds wisely over the long term. This suggests the need for business-finance literacy among SMEs.

f. As suggested by the mentor, the use of sales and net profits can be used as indicators of business growth for future investigations.

g. As suggested by the mentor, the government may provide credit enhancement facilities such as a guarantee facility for SME loans that do not have any collateral or are collateral short.

11. List of team members

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Fitriya Fauzi is currently a lecturer at the Faculty of Economics, University of Muhammadiyah Palembang, Indonesia. An active researcher, Fitriya Fauzi's work has been published in several international, peer-reviewed journals, with some of her papers currently under review for future publication. She is particularly interested in emerging markets, South Asia, Southeast Asia, and Oceania. Her main research interests are in the area of corporate finance, corporate governance, small business finance, and behavioral finance.

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13. Appendix

Sample of questionnaire and interview questions is provided below.

Research Survey
Micro, Small and Medium-sized Enterprises
2013
South Sumatera, Indonesia

The University of Muhammadiyah Palembang (UMP)
In collaboration with
East Asian Development Network (EADN)
January, 2013

Preface

The research is conducted by lecturers at the University of Muhammadiyah Palembang (UMP) in collaboration with the East Asian Development Network (EADN). The Small, Medium, and Micro Enterprises (SMEs) survey is conducted in South Sumatera, Indonesia, which consists of 15 cities and counties; namely, Kota Palembang, Ogan Ilir (OI), OKI (Ogan Komering Ilir), OKU (Ogan Komering Ulu), OKU Timur, OKU Selatan, Kota Prabumulih, Muara Enim, Lahat, Pagaralam, Empat Lawang, Lubuk Linggau, Musi Rawas, Musi Banyuasin, and Banyasin. Samples are taken from all cities and districts in South Sumatera using stratified sampling and purposive sampling.

This questionnaire consists of:

Bagian I	General information
Bagian II	Access to financing
Bagian III	Financial information
Bagian IV	Marketing information
Bagian V	Human resource information
Bagian VI	Production information
Bagian VII	Management activities of SMEs
Bagian VIII	Factors in choosing source of financing
Bagian IX	Factors in disrupting SMEs' gowth
Bagian X	SMEs' perspective on the establishment of new microfinance institutions

This survey is assisted by some surveyors which are divided into few teams. The data obtained will be processed and used according to the interests and objectives of the research. The results of the study are expected to provide input and recommendations for policymakers and may be material to the literature of similar studies in the future. Confidentiality of the respondents in this survey will protected for the benefit of the respondents.

The research team would like to thank the respondents who have been willing to give their time to answer questions from us.

Palembang, Indonesia
January 2013
Research team

The University of Muhammadiyah Palembang (UMP)
In collaboration with
East Asian Development Network (EADN)
Research Survey on the SMEs 2013
South Sumatera, Indonesia

A. Part I: General information

This section is aimed at obtaining general information on the business owner or manager. Information obtained will be used according to the interests and objectives of this study, and the results are expected to become input and recommendations for policymakers.

Questions	**Answer**
Name of SMEs	
Name of owner	
Address	
Location of the business	Regent:…….. Subdistrict:…… Wards:…..……
Ownership status	a. Sole proprietorship b. Two persons/partnership c. Group ownership
Gender	a. Male b. Female
Education background	a. Primary school b. Secondary school c. Senior high school d. Undergraduate degree
Age of owner	…… years
Who runs the daily business	a. Owner b. Family c. Someone else
Type of industry (business)	
Year established	
Current legal status	a. Registered b. Unregistered
Was the business registered when it	a. Yes

was started?	b. No
How many years did it take to have the business registered after it was started?	
Initial capital	Rp
Current capital	Rp
Number of employees when it started?	employee/employees
Number of current employees	employee/employees
When did you get your first funding (loan)	
How much did you get financed?	Rp
How many times do you get financed?	a. One b. Two times c. Three times d. More than three times

B. Part II: Access to finance

This section is aimed at obtaining data on the SMEs' access to finance.

Questions	**Answer**
1. Did/Do you previously and/or currently have a loan?	a. Yes b. No, go to question 2
2. What is the reason for not seeking additional funds?	a. The business did not need additional funds b. The business had sufficient funds under its existing arrangement c. The risk of not being able to repay the loan d. Interest rates were too high e. Procedures to obtain funding from a financial institution are too complicated f. The business no longer needed additional funds g. Unreasonable of terms and conditions h. The potential to lose control of the business i. A previous loan was rejected

	j. Other (……)
3. Do need a loan to cover previous operating expenses?	a. Yes b. No
4. What is the reason for seeking additional funds?	a. For business growth b. For business survival c. To cover increasing expenses d. To purchase business assets e. To cover late payments from debtors f. To cover increasing sales g. Other (……) Don't know
5. Sources of additional funds	a. Bank b. Rural bank c. Venture capital d. BMT e. Cooperative (*koperasi*). Other (Such as SOEs……)
6. Ease of access to additional funding (loan)	a. Very easy b. Easy c. Neither easy nor difficult d. Difficult e. Very difficult
7. Possible impact of the difficulty in accessing funding	a. Negatively impact ability to grow business b. Impact on cash position c. Requires alteration in business strategy d. Impacts ability to purchase the business assets one wants to purchase e. Reduced/lower sales f. Negatively impact plans to innovate g. Impact owenr's ability to pay the employees' salary h. Impact on business to be efficient as you have to use the existing funds i. Leads to reduction in the number of staff/employees j. No impact k. Other (……)

	l. Don't know.
8. Reasons for the difficulty in accessing finance	a. The cost of funding was higher than expected b. The types of security required c. The terms and conditions imposed by the financier d. Difficulty in finding a financier willing to provide funding to business e. The amount of funding provided was lower than what was sought f. Other (……) g. Don't know.
9. Do you need additional funding (loan) over the next 12 months?	a. Yes, definitely. b. Yes, possibly. c. No. d. Don't know.
10. If you expect that over the next 12 months you will need additional funding (loan), which source will you choose?	a. Bank b. Rural bank c. Venture capital d. BMT c. Cooperative (*koperasi*) d. Family and friend e. Sale of asset f. Own funding g. Other (……) h. Don't know
11. Reasons for expecting to obtain additional funding (loan) over the next 12 months	a. For business growth b. For business survival c. To cover increasing expenses d. To purchase business assets e. To cover late payments from debtors f. To cover increasing sales g. Other (……) h. Don't know
12. Possible impact of future difficulty in accessing additional funding (loan)	a. Negatively impact ability to grow your business b. Impact on cash position c. Require alteration in business strategy

	d. Impacts ability to purchase the business assets one wants to purchase e. Reduces sales f. Negatively impacts plans for innovation g. Impacts ability to pay the employees' salary h. Impacts business efficiency as existing funds need to be used i. Leads to reduction in the number of staff/employees j. No impact k. Other (……) l. Don't know.

C. Part III: Financial information

This section is aimed at obtaining financial information of SMEs so that their financial performance can be estimated using financial ratio.

Questions	Answer
1. Current total assets (can be a rough estimate)	
2. Current capital (own equity)	
3. Total sales per month (can be a rough estimate)	
4. Average profit per month (can be a rough estimate)	
5. Current debts (can be a rough estimate)	
6. Was there any increase in terms of total assets before/after having additional funding (loan)?	a. Yes b. No
7. Was there any increase in terms of total sales before/after having additional funding (loan)?	a. Yes b. No
8. Was there any increase in terms of total profits before/after having additional funding (loan)?	a. Yes b. No
9. Do you have difficulties in paying the loan?	a. Yes b. No

10. Factors that caused difficulties in paying the loan	a. Interest rates were too high b. Decreasing sales c. Decreasing profit d. Worsening economic condition e. Other (……)

D. Part IV: Marketing information

This section is aimed at obtaining marketing information from SMEs, in particular how SMEs market their products.

Questions	Answer
1. Was there any additional product line after the business was established?	a. Yes b. No
2. Was there any additional product line before/after having additional funding (loan)?	a. Yes b. No
3. Level of competition	a. Tight b. Moderate c. Normal
4. Was there any increase in terms of total sales (in units) before/after having additional funding (loan)?	a. Yes b. No
5. How do you market your product?	a. Offer directly to end consumers b. Offer to distributor c. Offer to government office d. Through exhibition e. Other (……)
6. Is there any cost in marketing your product?	a. Yes b. No
7. If there is a cost incurred in marketing your product, how much do you have to pay?	
8. Do you participate in the exhibition	a. Yes

program organized by either the local or central government?	b. No
9. How often do you participate in the exhibition program organized by either local or central government?	a. Once b. 2 to 3 times c. More than three times
10. Reasons for participating in the exhibition organized by the government?	a. Cost of promotion is cheap b. Want to expand the target market c. Easy prodecures in participating d. Other (……)

E. Part V: Human resource information

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This section is aimed at obtaining information on human resources involved in the production process or in the administrative process.

Questions	Asnwer
1. Was there an increase in the number of employees before/after acquiring additional funding (loan)?	a. Yes b. No
2. How much do you have to pay for the employees' salaries per month (can be a rough estimate)	
3. Was there any increase in the employees' salary before/after acquiring additional funding (loan)?	a. Yes b. No
4. Do you provide training for employees?	a. Yes b. No
5. If you provide training for employees, how much does it cost your business per month?	
6. If you have a loan, does the financier provide fostering?	a. Yes b. No
7. Is there any fostering activity in your neighborhood?	a. Yes b. No
8. If there is fostering activity in your neighborhood, who is the provider?	a. Government b. SOEs

	c. NGOs d. Cooperative (*koperasi*) e. Bank f. Financier g. Other (……)
9. Are you involved in the fostering program provided by the government?	a. Yes b. No
10. Reason for participating in the fostering program provided by government and private institutions	a. Want to increase the quality of production, employees, promotion and sales b. To expand networking c. Other (……)

F. Part VI: Production information

This section is aimed at obtaining information on the SMEs' production activity.

Questions	Answer
1. Product capacity per month?	
2. Cost of production per month (can be a rough estimate)	
3. Ways of obtaining raw materials	a. Cash with own funding b. Cash with loan c. Loan with supplier. d. Other (……)
4. Do you use a particular technology in your production?	a. Yes b. No

G. Part VII: Management activities

This section is aimed at obtaining information related to the SMEs' management activities.

Questions	Answer
1. Do you have sales estimation per month (sales forecasting)?	a. Yes b. No
2. Do you have profit estimation per month (profit forecasting)?	a. Yes b. No
3. During or after implementation, if your profit	a. Yes

estimation cannot be achieved, did you find the cause/s?	b. No

H. Part VIII: Factors in choosing source of financing

This section is aimed at obtaining information about the factors that may affect the SMEs' choice of source of financing.

Questions	Answer
1. Preferred source of financing	• Bank • Rural bank • Cooperative (*koperasi*) • BMT • NGOs • Venture capital • Family or friend • Sale of asset • Other (……)
2. Do you choose source of financing based on the proximity of the financier's office location to your business?	a. Yes b. No
3. Do you consider the types of security required (mortgage) in choosing your source of financing?	a. Yes b. No
4. Do you consider the interest rates offered in choosing your source of financing?	a. Yes b. No
5. Do you consider the terms and conditions imposed by the financier in choosing your source of financing?	a. Yes b. No
6. Do you consider the method of payment in choosing your source of financing?	a. Yes b. No
7. Do you consider the services and hospitality of the sales credit in	a. Yes b. No

choosing your source of financing?	
8. Do the sales credit people offering the loan come directly to your place of business?	a. Yes b. No

I. Part IX: Factors disrupting SMEs' growth

This section is aimed at obtaining information about the factors that disrupt the growth of SMEs.

Questions	Answer
1. Current capital	a. Sufficient b. Not sufficient
2. Ease of access to finance	a. Easy b. Difficult
3. Do you have difficulty in controlling product quality?	a. Yes b. No
4. Do you have difficulty in obtaining raw materials?	a. Yes b. No
5. Is the market location an obstacle to your marketing your product?	a. Yes b. No
6. Is price competition an obstacle to your business achieving profit?	a. Yes b. No
7. Do you have a problem with the quality of your employees?	a. Yes b. No
8. Do you have difficulty in acquiring the technology needed to produce your product?	a. Yes b. No
9. Do you have difficulty in management activities?	a. Yes b. No

J. Part X: SMEs' perception on the establishment of new microfinance institutions

This section is aimed at obtaining the SMEs' perception on the establishment of new microfinance institutions.

Questions	Answer
1. Have you ever heard about rural bank (BPR)	a. Yes b. No

2. Would you agree with the establishment of either a new rural bank or a new microfinance institution in this area?	a. Yes, go to question 3 and 5 b. No, go to question 4
3. Reason for your agreement	
4. Reason for your disagreement	
5. If there will be a new microfinance institution, what are your expectations/hopes for these institutions?	a. Easy access to finance b. Lower interest rate than the current/existing interest rate being offered c. The type of securities required (mortgage) would be more lenient than the ones required by existing financiers d. The financiers provide not only loans but also fostering (either technical fostering or management fostering) e. Proximity of the new financier to the market f. Other (……)

Surveyor notes:

_____
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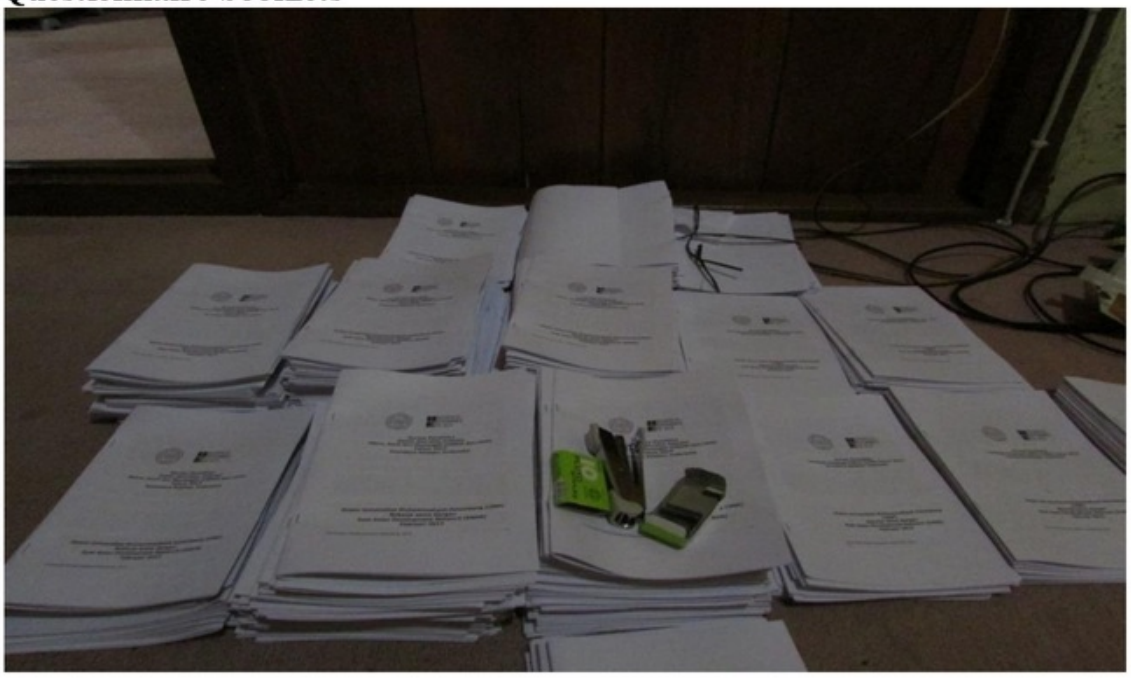
Pictures taken during the survey

Questionnaire booklets



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