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**Small Business Managers as Latent Informal Investors in Japan:
Evidence from a country with a bank-based financial system**

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Abstract

This paper demonstrates the activities of small business managers acting as financial and non-financial supporters of business start-ups in Japan, a country with a bank-based financial system, by using two data sets both surveyed in 1999 by the National Life Finance Corporation. Also, based on these analyses we seek to examine the possibilities of small business managers as latent informal investors for start-ups. The empirical results showed that managers who are younger, of relatively larger small businesses, or who had received support when their own businesses were starting tended to provide start-up support. It was shown that there was a clear tendency to provide financial support to “different” business types from the managers’ own businesses. Also, no evidence was shown that start-up support by small business managers tended to enhance the post-entry performance and possible success of new businesses. However, if we keep in mind that informal investors are extremely diverse, we can, through the promotion of research on the role of small business managers as latent informal investors, offer meaningful suggestions to countries whose formal and informal venture capital markets are still in the early stages of development.

Keywords: informal investor; small business manager; start-ups; bank-based financial system

1. Introduction

In many countries, policy-makers and researchers have a high level of interest in the relationship between entrepreneurial activities and the level of support for entrepreneurial activities from the viewpoint of strengthening international competitiveness (OECD 2000, Reynolds *et al.* 2001). One

important factor is the problem of raising risk capital for new businesses. Specifically, it is indicated that the difference in the vigorousness of an informal venture capital investment is vital. Since the pioneering research (Wetzel 1981, 1983, Wetzel and Wilson 1985, Wetzel 1987) conducted in the 1980's by Professor William Wetzel of the University of New Hampshire on the importance of the role informal venture capital plays in investment aimed at businesses in the seed and start-up stage, a lot of interest has been focused on this area (Sohl 2003).¹ For example, Wetzel and Freear (1996) estimated that the scale of informal venture capital investment in the US was five times the total value of formal venture capital investment with 20 times as many cases. Also, according to Gaston (1989b) it was estimated that the total annual genuine informal venture capital in the form of equity capital was \$32.7 billion. Likewise, if we take the \$22.9 billion provided by informal investors in the form of loans and loan guarantees, and add to this the \$19.3 billion that is estimated as additional investment if there is an investment opportunity, it shows that the scale of the informal venture capital market reaches \$74.9 billion a year. This situation is not limited to the US. Although not of the same scale as the US, other European countries have informal venture capital markets that exceed the scale of the formal venture capital markets (e.g. refer to Harrison and Mason 1997, Mason and Harrison 2000a, Mason and Harrison 2000b for details for the UK).

In addition, informal investors can provide assistance to entrepreneurs in the form of both financial and non-financial assistance such as management advice based on their business experience. These types of assistance play a very important role in the seed and start-up stage. For businesses whose future prospects can not be sufficiently foreseen even by the entrepreneurs themselves, raising capital in the seed and start-up stage is extremely risky, and the scale of the venture is normally relatively small. So it is difficult for large-scale formal venture capital firms funded from institutional investors to deal with these small sum investments (Bygrave and Timmons 1992). For

¹ Please also refer to Mason and Harrison (2000) for an excellent survey conducted recently.

example, as Freear and Wetzel (1990) pointed out, informal venture capital investment plays an important role in complementing formal venture capital for investment on a small scale of less than \$250,000, or for investment during the seed and start-up stage.²

Also, for countries other than the US and the UK, in the last decade, investigative research aimed at informal investors has advanced rapidly, and the role that informal venture capital plays in providing capital for businesses in the seed and start-up stage has reached a point where it is almost commonly recognized (Hindle and Wenban 1999, Hindle and Lee 2002, Reitan and Sørheim 2000, Landström 1993). However, a large part of this research is aimed at countries that have market-based financial systems like those of the US and the UK. There is an extremely small amount of research relating to informal investors in countries that have a bank-based financial system such as Germany and Japan. In countries with a bank-based financial system such as Japan, a way of thinking about equity finance on the side of capital seekers (businesses) largely differ, and the number of capital providers (investors) is quite small. Therefore it is necessary to find different approaches to promoting the informal venture capital market. Regarding this point, there are already a number of interesting studies that show informal investors are not homogenous (Gaston 1989, Landström 1992, Freear, Sohl and Wetzel 1994, Coveney and Moore 1998, Sørheim and Landström 2001). Of these, Landström (1992) focused on Sweden and took a wider definition for his analysis than the research that focused on the US and the UK. Therefore the significance of his research when considering the policy implications for countries with a bank-based financial system makes this an extremely interesting study. In his paper, four categories of informal investors are

² Small sum investments of less than \$250,000 in venture capital firms make up only 5 percent of the cases, while investments of this size in informal venture capital form 58 percent of the total. Certainly, the supply of small-scale funds plays an important role in informal venture capital investment. In the investing stage too, investments in the seed and start-up stage by venture capital firms account for only 28 percent of the cases, while informal venture capital investments account for 60 percent of the total.

given. One of these, “individuals in the firm’s business environment” is one where even though the investment is infrequent and of a small amount, it is still possible, even in countries where the equity finance system for new businesses is not well developed, for the investment to grow enough for it to be a viable investment. Moreover, as Bygrave *et al.* (2003) analyzing informal investing in 29 nations pointed out, German informal investors have a different investing style than US and UK investors. Also they pointed out that research on formal venture capital firms and business angels as professional investors has increased substantially, but informal investors other than professional business angels are almost ignored. So, it is important to investigate the activities of informal investors other than professional business angels (e.g. family, relatives, friends and business associates), especially in a country other than the US and the UK.

This paper pays special attention to the role of small business managers as latent informal investors in a country with a bank-based financial system, while undertaking an analysis of the actual state of business start-up support. Specifically, it consists of four analyses. Firstly, we estimate probit model for what types of small business managers actually provide business start-up support. Secondly, within those managers, we analyse what types of managers provide “financial” support to business start-ups. Also we consider the importance of the data that only businesses who have provided business support can obtain information about businesses for which they provided support. Taking this into account, we do probit model estimation with sample selection. Thirdly, we estimate probit model for what types of managers who have an intention to provide business start-up support in the future. Lastly, we verify whether the start-up support provided by small business managers has an effect on the performance of a supported business after the start-up. Generally speaking, together with the traditional type of venture capital firms (i.e. classic venture capital) that puts a greater emphasis on investment in the early stages, informal investors offer a large contribution to the improvement of the performance of investee companies through the

hands-on investment of informal investors. However, literature that deals directly with the relationship between the performance of the business that receives the investment and informal investing is extremely limited.³ Moreover, a small number of studies that did analyses on a descriptive statistics level that were based on small samples in limited situations cannot be used (e.g. Mason and Harrison 1996).

The structure of this paper is as follows: Section 2 provides a general overview of the current status of Japanese equity financing, so that we can gain an understanding of the Japanese background. Section 3 describes the characteristics of the data from the informal investing survey analysed in this paper. In Section 4, we define the explanatory variables that are used in the empirical analysis. Then in Section 5, the results are presented. Also in Section 5, using not only data from the informal investing survey but also data from the survey of new business start-ups, we try to analyse of the relationship between the performance of the business that receives the investment and informal investing. In Section 6, we summarize our evidence and some implications for policy-makers and researchers.

2. Japanese Background

Compared with the US and Europe, especially with the US, it is difficult for businesses to start up in Japan or to succeed after start-up. Japan's business start-up rate since the 1980's has been around the extremely low level of 4 percent, and since the 1990's the business start-up rate has dropped below the business failure rate. In OECD surveys and in the Global Entrepreneurship Monitor (GEM) carried out by the London Business School and Babson College, Japan's entrepreneurial activities as well as the level of entrepreneurial activity support was placed in the lowest position of

³ There are some researches that deal with the difference between the hands-on and hands-off investment styles and its relationship with the performance of the business that receives the 'formal' venture capital investment (e.g. MacMillan *et al.* 1989, Fredriksen *et al.* 1990, Hellmann and Puri 2002).

the countries surveyed (OECD 2000, Reynolds *et al.* 2001). This can be attributed to various reasons, but one important factor is the number of financial constraints, particularly the weakness of formal and informal venture capital investment activities. However, to construct a smooth supply system for equity capital it is necessary to overcome the problems in both the supply side and the demand side of investment capital. Also, it is necessary to consider a promotion policy that takes into account the distinctive characteristics of both sides.

2.1 Demand Side of Equity Capital

Firstly, if we look at the current situation of the demanders of capital (the business side) in Japan with its bank-based finance system, we can see that the spread of equity finance is lagging behind. If we compare the capital structure of Japanese businesses by the scale of the business, the ratio of equity to total assets for large businesses with capital stock of more than ¥1 billion has been rapidly increasing since the mid-1980's and presently exceeds 30 percent (Japanese Ministry of Finance). While its ratio for small and medium businesses with capital stock of less than ¥1 billion has not changed from 1965 until the present at a rate of only 10-15 percent. In Japan, raising capital for small businesses has tended to depend on bank loans, and mostly avoided raising capital through equity financing. Compared to this, for example in the US where equity financing is well developed, the degree of dependence on bank loans is low and the ratio of equity to total assets is over 40 percent for all types of businesses (U.S. Department of Commerce).

This low equity ratio is mainly based on the historical development process of the Japanese financial system that emphasizes bank financing and is well-known as the main bank system. Under this long-established bank-based financial system, Japanese small businesses have been negative for equity financing. For example, in a recent survey conducted by the Small Business Administration (*White Paper* 2002, pp.155-157), for small businesses with less than 100

employees, those who have engaged in direct financing accounted for less than 3 percent.⁴ But almost 80 percent answered that they don't use direct financing and don't intend to. As the reason for not wanting to use direct financing, 40-50 percent answered that they are satisfied with indirect financing or they want to maintain a good relationship with their current main bank. A considerable share (25 percent) of small businesses answered that they don't want an outsider to be involved in their management.

2.2 Supply Side of Equity Capital

According to the Venture Enterprise Center's latest research report (Venture Capital Center 2002), as shown in Table 1, Japan's formal venture capital investment in the early stages of growth has increased rapidly. Currently the investment in businesses in the period from start-up to less than 5 years after start-up accounts for 36 percent of the number of cases and 50 percent of the money invested. However, the percentage of investment in the start-up stage is as small as ever (only 13 of 2028 investments). Even the high investment rate in companies from start-up until five years after start-up can be attributed to the high rate of investment in about 700 companies. Furthermore, if we look at the average investment amount per investment, these businesses, which have start-up capital of around ¥30 million and within 5 years have close to ¥80 million in capital, are certainly not small-scale. This shows that formal venture capital has a limit in its ability to handle small-scale investments. This in no way differs from the situation in the US and Europe.

[Insert Table 1 about here]

Informal venture capital can hopefully fill this gap but Japan's informal investing is, for

⁴ Direct financing here refers to raising capital from the stock markets, accepting formal and informal venture capital, issuing public bonds or commercial paper, etc.

example in the GEM survey, placed at 25th out of 29 countries surveyed.⁵ In Japan, primarily because there are no comprehensive surveys or calculations of the total scale of the informal venture capital market, it is impossible to make accurate comparisons. But we can speculate that informal investing is not as vigorous as that in the US and Europe (e.g. Tashiro 1999, p.271). With the aim of promoting informal investing in Japan, an “Angel Tax System” was established in June of 1997. Even this from its establishment until 5 years later at the end of August 2002, had been used by only 16 companies on a total of 246 occasions, still quite a low standard.⁶ However, when considering the limits of the range of investments that were appropriate for formal venture capital especially in Japan, it was strongly expected that informal venture capital would play an important role in the reduction of the equity gap in the seed and start-up stage.

There are a number of reasons for this difference in the vigorousness of informal investing activities. (1) In Japan there are few investors who have enough assets or capital to be able to engage in informal investing. (2) In the US and Europe there are many people who made their fortunes in business start-ups and then became informal investors. But in Japan it is quite rare. (3) In Japan, the framework for harvesting (i.e. to list on the stock market in the short term or to sell the start-up for a high price and give a return to investors that corresponds with the risk taken) does not exist or does not function as necessary. (4) There are insufficient favorable conditions in the

⁵ There are some possibilities of inconsistency in how the surveys were done in different countries and how the questions were interpreted by respondents.

⁶ In addition, since the present angel taxation system offers measures against not the investment time but the result of investment (gains from the transfer of property or transfer loss) and its application is followed by a time lag, there are still no cases where the preferential treatment measure of the taxation system has actually been applied. 246 cases of investment have received certification by the Ministry of Economy, Trade and Industry (METI) for satisfying the requirements for the application of the Angel Taxation System. Although this is not discussed in detail since it is a diversion from the course of the argument, revision of the Angel Taxation System is a necessary condition to promote informal venture capital investment.

tax system for informal investing. (5) The provision of a matching system for entrepreneurs and informal investors is inadequate.

However on the other hand, in Japan, there have long existed systems and practices for self-supporting business start-ups centered on small businesses. Of course these types of start-ups are generally of a small scale and there are few actual cases where there is an intention to go public from the very start. The type of assistance also tends to center on introductions of financial institutions or traders, or on management advice and guidance rather than direct capital support. The important thing here, however, is that there is the possibility of effectively engaging in business start-up support of a type a little bit different from that in the US and Europe through small business managers utilizing their own assets as well as their previous business experience and contacts to engage in start-up support. In fact, according to the *New Business Start-up Survey* in 1999, more than half of business start-ups received some type of support from small business managers at the time of start-up. This type of business start-up support by small business managers looks extremely promising for the formation of a pool of latent informal investors in countries like Japan with bank-based financial systems and small-scale informal investing. Moreover, compared to the US and European style informal investors, although it tends to be inferior in regard to the scale of financial support, this type of business start-up support by small business managers is certainly not inferior in regard to the hands-on capacity to provide management know-how and contacts. In addition, if we consider a large number of small businesses in Japan, there is even the potential for this type of support to function as the most effective type of business start-up support.

3. Data

In this Section, as preparation for the analysis that follows, we describe the characteristics and handling of the data from the *Survey of Business Start-up Support by Small Business Managers*

which is the main source of data used in this paper. This survey is a questionnaire-based survey carried out in August 1999 by the Research Institute of the National Life Finance Corporation, which is the government agency which provides loans to small businesses. The focus of this survey was the 11,985 companies with more than three years in business that, as of January 1999, had been receiving loans from the National Life Finance Corporation. The number of responses was 4,233 and the response rate was 35.3 percent. However, not all of these can be used in this analysis, so it is necessary to first single out a sample of just the responses that answered the applicable questions.

In this paper the questions from the survey that we focus on are:

- (1) Have you provided business start-up support? (Question 9)⁷
- (2) Have you provided financial support such as capital or loans? (Question 11)⁸
- (3) Do you intend to provide business start-up support? (Question 38)⁹

In our analysis, firstly, for the business start-up support by small business managers in (1) and (2), we combine this with the results from asking when the support occurred (Question 12) and consider the following question that they have provided support in the last five years since 1995. This was actually asked in Question 9 - whether they have engaged in business start-up support.

⁷ The contents of Question 9 are as follows: Have you given any form of assistance (excluding that offered as part of your companies' activities such as taxation advice by licensed tax accountants, management advice from management consultants, or temporary personnel from human resource firms) to new companies that have yet to be founded or have been established for less than a year?

⁸ The contents of Question 11 are as follows: Answer only if you answered yes for Question 9. Please answer by choosing all the actual details of the support. For those who have supported two or more entrepreneurs or companies in the start-up stage, please select the latest (the choices are the 18 items in Figure 1, plus others).

⁹ The contents of Question 38 are as follows: What is your intention for supporting entrepreneurs or companies in the start-up stage in the future? 1) We want to actively provide support. 2) We would consider it if the conditions were satisfied. 3) We are not interested in providing support. 4) We absolutely don't want to provide support.

But if we use this question as it is, businesses who have engaged in support in the distant past can answer yes to Question 9 the same as businesses who have done so recently. So this is not suitable. Also, Question 11 only asks about the latest case of support, so where a number of businesses are provided with support, only the information about the latest business that received support can be obtained. Therefore, we conclude that it is necessary to have the focus period as close to the present as possible. Moreover, to achieve consistency, we make the focus of the analysis only businesses founded before 1995, and for the variables for managers' ages and years since establishment used in the analysis, we will use the age and number of years for each as of 1995. Besides that, to avoid the possibility that they do not know the situation of their business at the time of establishment, we have to take into account the possibility that the person responding had engaged in support before I becoming a manager, and also the analysis about whether their own companies received support when I founded. To do this we select only the cases where the manager is the original manager. Consequently, the focus of our analysis is narrowed down to small business managers who have experience with their own business start-ups. This is preferable to the focus of the analysis of US and European informal investors that mainly consists of those who have experience of others' business start-ups.

[Insert Figure 1 about here]

As a result, the size of the sample used in our analysis becomes 1,995. Within that there are 150 cases (7.5 percent) where the respondents had engaged in business start-up support in the five years from 1995 to 1999. Figure 1 shows what type of support these 150 cases actually engaged in. We can see that there are various types of support and that, above all, soft management resource support such as advice on management, the introduction of suppliers and clients, and guidance in the use of technology, is becoming more common. Also, at the bottom of Figure 1, those respondents who answered that they had engaged in one of the following - providing capital,

providing a loan of start-up funds (with interest or interest-free), offering collateral, acting as guarantor on a loan from a financial institution - are regarded as having engaged in financial support. The rest are regarded only as non-financial support. As a result, within the 150 cases, financial support accounted for 61 cases (40.7 percent) while only non-financial support accounted for 89 cases (59.3 percent).^{10,11}

Lastly, in regard to the intention to engage in business start-up support in the future (Question 38), if we combine those managers who answered that either they wish to actively provide support or they would consider providing support if the conditions were favorable, we get a total of 66.2 percent (about two-thirds) of small business managers who have an intention to provide business start-up support.

4. Variables

The explanation of each explanatory variable used in the analysis of (1) through to (3) as shown in the previous section is as follows. Also, each variable's definition and mean is shown in Table 2.

[Insert Table 2 about here]

4.1 Manager's Age and Gender

Considerable previous research has shown that informal investors are mainly middle-aged people around 50 years old. For example, according to Gaston (1989a), US informal investors are normally a little under 50 (average age is 47), overwhelmingly male (95 percent), and with a high percentage of business experience (83 percent). UK informal investors are a little older (average

¹⁰ In addition, having engaged in financial support also includes non-financial support. There were 24 out of 61 cases like this.

¹¹ This applies not only to financial support, but also capital investment is a notable part of support activities. However, since there have been only 32 cases of capital investment in the last five years, they have been omitted for the empirical analysis.

age is 53) compared to US investors, and the percentage with business experience is relatively low (57 percent). Overall, they tend to be middle-aged men with business experience (Mason and Harrison 1994, Harrison and Mason 1996).

In our analysis, the mean age of small business managers is 50.3 years. But, if we look at the managers with business support experience, the mean age is 45.6 years, about 4.7 years younger. Although it's not shown in a table, if we look at a breakdown by age, we can see that those managers with business support experience are younger. Furthermore, in our analysis, only 5 percent of female business managers intended to provide support in the future. However, a large percentage difference between this and whether they have provided support in the past was not observed. Therefore this bias can be regarded as reflecting the small percentage of females who hold positions as small business managers. Thus in our empirical analysis, managers' age and gender are included as explanatory variables. *MANAGER_AGE* is small business manager's age, and *GENDER_FEMALE* is the dummy variable. If the manager is female, it is 1, and male is 0.

4.2 Firm Size, Firm Age, Industrial Category, and Business Conditions

These variables were not used in past research as foreign research focused on the "individual" informal investor. However, in this study, because the analytical focus is on all small business managers, by using these variables we can test whether or not there are differences in the business support activities depending on the firm size, firm age, and industrial category of the supporting manager's own business. Furthermore, it is limited to businesses which have engaged in support and we know the business conditions of the business when support was given (Question 13). So it becomes possible to control directly the variable of the business conditions of the business at the time support was given in the financial support analysis. For the firm size (*FIRM_SIZE*), we can use the natural log of the total number of employees, which can be calculated from one of the survey

questions, plus the managers themselves. *FIRM_AGE* is years since establishment. For the industrial category we use six categories of manufacturing, wholesale, retail, food and drinking, construction, and service. *MANUFACTURE*, *WHOLESALE*, *RETAIL*, *FOOD*, *CONSTRUCTION*, and *SERVICE* are dummy variables for each industrial category. *BUSINESS_GOOD* is a dummy variable where if the business conditions in that industry at the time of support are quite good or good=1. If they are not good=0.

Each distribution is shown in Table 2. As the target group of the survey was small businesses financed by the National Life Finance Corporation (a government institution that specializes in small business finance), the number of employees would probably reflect this quality and have a high percentage of fairly small-scale businesses. Moreover, if we compare the overall distribution with the distribution of businesses with support experience, those businesses with support experience have, on average, more employees and the number of years since establishment is fewer.

4.3 Received Support at Start-up

As opposed to formal venture capital firms, informal investors are not necessarily investing just for financial reward. For example, according to Mason and Harrison (1994), the typical motivation for an informal investor is a high capital gain. But, it is also shown that at the same time there are non-profit motive reasons like wanting to contribute to the start-up process and wanting to support goods and services of benefit to society. In the case where they themselves received support for their start-up, it is expected that this tendency is even more pronounced. Based on this view, we use whether they received support for their own company at start-up as an explanatory variable of *RECEIVED_SUPPORT*. Then we try to verify whether there is a tendency or not for business managers who received support for their own start-up to engage in business start-up support

themselves. If we look at Table 2, managers who had experience with business start-up support occupied a larger percentage of those managers who had received start-up support themselves when compared with the overall trend. Overall was a little less than 40 percent, while those with support experience were about 50 percent.

4.4 Same Industrial Category

In previous research such as Gaston (1989a) it has been shown that a large number of informal investors are people with business experience or who were involved in business through their own investments. Above all, it is essential to have technical knowledge in the type of business that is to be invested in to provide hands-on investment that plays a serious part in the management side of the business. Thus we can expect that business support will center on businesses of the same type as that of the supporter. In our analysis by including the same industrial category dummy variable of *SAME_INDUSTRY* (if the supported business is of the same type as the supporter=1) as an explanatory variable, we can verify whether having experience and technical knowledge in the type of business they are supporting has an effect on the support activities.¹² However, like the previous business conditions dummy variable of *BUSINESS_GOOD*, we can only observe the cases of those who have engaged in support. So this variable can only be used in the financial support analysis. If we look at Table 2, we can see that two-thirds of managers support start-ups of the same type of business as theirs.

4.5 Relationship with the Supported Entrepreneur

In previous research regarding the source of information about informal investors, it was found that

¹² Industrial type matching was conducted using the same 6 industry-type bases as the previous industrial category dummy.

in many cases informal investors were friends or business associates (Mason and Harrison 1994). Furthermore, if we consider the importance of the receiving and storing of confidential information that is needed to make investment decisions, then we can foresee that there will be a strong tendency to support entrepreneurs that informal investors have known for a long time. In the same way, in the case where the manager of the business to be supported is a former director or employee of the supporting business, or a relative or family member of the manager, then the gathering of information necessary for informal investors to make an investment decision can proceed smoothly. We can expect that there will be many cases that result in support proceeding. Considering this point in our analysis, the relationship with the supported business's entrepreneur and length of acquaintance with the foresaid entrepreneur will be included as explanatory variables. The actual categories will be as follows: For the relationship with the supported business's entrepreneur, four categories, i.e. a former director or employee of the supporting business (*EMPLOYEE*), the manager's family or relative (*FAMILY*), a third party introduced by an acquaintance (*FRIEND*), and others (*OTHERS*) will be used. For the length of acquaintance, 3 categories, i.e. less than one year (*YEAR1*), 2-9 years (*YEAR2-9*), and over 10 years (*YEAR10*) will be used.¹³ Each distribution is shown in Table 2. It is interesting to note that it is not just former directors or employees, and family or relatives of the manager, but also those introductions from a third party that account for 15 percent.

4.6 Distance from the Supported Business

Formal venture capital investment tends to be concentrated in financial centers or in areas where

¹³ Here, to correspond with the European and US-type informal investors, cases where support has been given to family members should not be included in the analysis. However, this paper did not take this stance, and instead emphasized the framework encompassing the entire range of support provided by small business managers and thus included support to family members.

venture enterprises are concentrated. It has been shown that informal investors have an important role to play as a supplier of equity capital to regional businesses (Mason and Harrison 1991, Mason and Harrison 1995b). Furthermore, according to Gaston (1989a), US informal investors have a strong tendency to invest in businesses close to their home or office. This investment in businesses less than 50 miles away makes up 72 percent of the total. UK informal investors, in the same way as those in the US, also tend to specialize in a region and their investment in businesses within 50 miles of their home or office makes up 54 percent of the total (Mason and Harrison 1994, 1995a).

In our analysis, we control the difference in the distance from the supported business. Specifically, we use three groups, i.e. same city or county (*SAME_CITY*), same prefecture (*SAME_PREFECTURE*), and different prefecture (*DIFFERENT_PREFECTURE*). If we look at Table 2, we can see that on the one hand, the support for businesses within a short distance (same city or county) makes up the majority. On the other hand, the number of cases of support to a different prefecture also makes up a reasonably large share of 14.7 percent.

5. Empirical Analysis

5.1 Business Start-up Support by Small Business Managers

Firstly, we estimate the probit model that tests what types of small business managers have a tendency to provide business start-up support. Dependent variable is the dummy variable if having engaged in start-up support in the last five years=1, and having not engaged=0.

[Insert Table 3 about here]

The results are shown in Table 3. The sign of coefficient on manager's age (*MANAGER_AGE*) is significantly negative, firm size (*FIRM_SIZE*) is positive, and own company received support at start-up dummy (*RECEIVED_SUPPORT*) is positive. Thus, we can say that younger managers of relatively larger-scale small businesses, who received start-up support

themselves, are more likely to provide business start-up support to others. However, differences in gender (*GENDER_FEMALE*), years since establishment (*FIRM_AGE*) and business type (each industrial category dummy) did not reveal any significant results. In fact, *FIRM_AGE* showed a small tendency to the negative, so businesses that have only recently started operations have a small tendency to be more active in support.

5.2 Financial Support by Small Business Managers

Next we do a probit model estimation with sample selection that aims to find who conduct financial support within those small business managers that provide business start-up support. This deals with detailed information about the supported business that can only be obtained for businesses that have provided support. In other words, when we investigate the details of the support, not only are a sample of managers who have provided support used, but we also have to consider the process of sample selection as to whether they provided support or not.¹⁴ Specifically, the two equations below are estimated by using Full Information Maximum Likelihood (FIML). Equation 1 is what types of small business managers provide financial support (sample size is 150). Dependent variable is the dummy variable for those who conducted financial support within those businesses who provided support since 1995=1, and for other=0. Equation 2 is what type of small business managers have a tendency to provide business start-up support (sample size is 1995). Dependent variable is the dummy variable for having provided support since 1995=1, and for other=0.

Within these, Equation 2 formulizes the sample selection process to test whether they have provided support. While Equation 1, with the selected sample as the base, formulizes the selection process to examine whether they have provided financial support. In addition, the structure of

¹⁴ Please refer to Wynand and Praag (1981) and Boyes, Holffman and Low (1989) for the probit model with sample selection.

Equation 1 is exactly the same as the model in the previous section. In fact, the explanatory variable for the characteristics of the supporting company like firm size is not included in the finance and non-finance selection section. Moreover, using the formula for the finance and non-finance selection as a factor that can only be observed in businesses with support experience, we can use the dummy that business is performing well or not, which considers the more direct factors involved in determining whether to provide financial support. Therefore, a number of other variables relating to the potential multicollinearity problems that can be seen in the supporting business's characteristics were dropped from the formula (Reid and Smith 2000).¹⁵

[Insert Table 4 about here]

The results are shown in Table 4. ρ is the value of the correlation coefficient of the error term for both models. The sample selection condition formula of Equation 2 has almost the same results as Table 3. The sign of coefficient on Equation 1's same industry dummy (*SAME_INDUSTRY*) is statistically negative, business conditions dummy (*BUSINESS_GOOD*) is positive, and the manager's family or relatives dummy (*FAMILY*) is positive. Moreover, although it is not statistically significant, we can see that the sign of coefficient on close distance to supported business (*SAME_CITY*) is positive, and that less than one year since meeting (*YEARI*) is negative. Of these, the result that the same industrial type dummy is negative is particularly important. Start-up support for businesses of the same type essentially allows the manager to directly utilize his experience and technical knowledge, as well as making it possible for the manager to make a relatively better judgment as to whether to provide capital support or not. In spite of these merits, if there is a mismatch in the pairings of informal investors and entrepreneurs, there is still room for an improved method.

¹⁵ Theoretically, the explanatory variables of these two formulas do not necessarily have an inclusive relationship. If each has been essentially formulized differently, then they can be decided accordingly (Vella 1997).

5.3 Intention to Provide Support in the Future

To identify what types of small business managers intend to provide business start-up support in the future, we do the following probit model estimation. The make-up of the explanatory variable is exactly the same as in Section 5.1. Dependent variable is a dummy variable where having an intention to provide business start-up support in the future=1, and other=0.

For Question 38, the responses about supporting an entrepreneur or a business being established in the future are divided into the following four answers. 1) We would actively like to provide support. 2) We would consider providing support if the conditions were favorable. 3) We are not interested in providing support. 4) We absolutely don't want to provide support. In our analysis, answers 1) and 2) are regarded as having an intention to engage in start-up support in the future. The empirical results of the ordered probit that considers the differences in answers from 1) to 4) is shown in the Appendix, but large differences in the empirical results could not be seen. Moreover, although it could be regarded as an exception from the analytical focus group of those who had actually provided support (sample size is 150), because the sample is less than 10 percent of the total, the results don't change much whichever sample is used. Here we show only the empirical results that include the cases where actual support was provided.

[Insert Table 5 about here]

The results are shown in Table 5. The sign of coefficient on manager's age (*MANAGER_AGE*) is significantly negative, firm size (*FIRM_SIZE*) is positive, and the received business support at own start-up dummy (*RECEIVED_SUPPORT*) is positive. Therefore, in the same way as the results in Section 5.1, it is shown that younger managers of relatively large-scale businesses who received support for their own business at start-up, are more likely to form a pool of latent informal investors.

5.4 Performance of the Supported Business after Start-up.

Lastly, we analyse the relationship between start-up support by small business managers and the performance of the business after start-up. Firstly, based on the same three analyses used before for the *Survey of Business Start-up Support by Small Business Managers*, we will examine whether financial support has an effect on the performance of the business after start-up. Table 6 shows the current (as of August 1999) business conditions of the supported business (Question 23) and the effect of the small business manager's support on the supported business (Question 32). There doesn't appear to be a clear relationship between financial support and business success after start-up.

[Insert Table 6 about here]

In fact, as we are limited to the data from this survey, we cannot verify whether the difference between the type of support (financial or non-financial) has an influence on the success of the business when compared to other businesses that also received start-up support. Originally, we sought to verify whether businesses which received support (including financial and non-financial) by small business managers at start-up showed any difference in post-start-up performance. Thus, additionally, data was used from the *New Business Start-up Survey* in 1999 conducted by the same Research Institute of the National Life Finance Corporation. This survey focused on the 7,304 small businesses that had received a loan from the National Life Finance Corporation in the first half of 1998 and that at the time of receiving the loan were less than one year old (includes pre start-up businesses). The number of responses was 1,682. Although the *New Business Start-up Survey* had been conducted every year since 1991, only the 1999 survey asked details such as those in the *Survey of Business Start-up Support by Small Business Managers* about whether they received support from small business managers at start-up. The results of the survey were that of the 1,262

businesses that answered, 52.1 percent had received support while 47.5 percent of those that had received support answered that they had received financial support. That is, more than half had received some type of support from small business managers at start-up, and within those, close to half received financial support.

Specifically, using this data and based on Harada's (2003) framework, we do a probit model estimation that identifies the relationship between start-up support and post-start-up success. As a measure of start-up success, following Harada (2003), we use the current monthly business is greater than the monthly business target before start-up=1, i.e. we use a dummy variable whose base is whether the current monthly business attained the goal set before start-up. In the *New Business Start-up Survey*, quantitative indices like the sales growth rate and the return on total assets cannot be used because of the limited types of surveyed items. For the explanatory variable, like Harada (2003) we use the following dummy variables: entrepreneur's individual characteristics (age at time of start-up (*ENTREPRENEUR_AGE*), gender (*GENDER_FEMALE*)), and business characteristics such as amount of start-up capital (*STARTUP_CAPITAL*), months since start-up (*FIRM_AGE*), six industrial category dummies. In addition to these, we use a second, new type of dummy variable whether they have received support from small business managers, specifically, received some type of general support=1 (*GENERAL_SUPPORT*), and received financial support=1 (*FINANCIAL_SUPPORT*). From this, the median age at the time of start-up was 40.5, 11.5 percent of the total were female, and the median for the amount of start-up capital and number of months since start-up were ¥16.9million and 18.6 months, respectively.

[Insert Table 7 about here]

The analysed results are shown in Table 7. For either of the two cases there were no significant outcomes of post start-up success due to the start-up support of small business managers. This result shows that at the present point in time, there are no noticeable effects on the post start-up

success of a business that had received start-up support from small business managers. This is the same result as that of a number of studies about the connection between the hands-on type investment of US and European venture capital firms and the success of the business (MacMillan, Kulow and Choylian 1989, Fredriksen, Olofsson and Wahlbin 1990). This point could show that the capacity of small business managers to provide start-up support is not necessarily sufficient. Or it could also show that opportunities to meet with entrepreneurs who could utilize their potential are limited.¹⁶ In the previous case, the acquiring and improvement of the individual supporters' support skills becomes an issue. But in the latter case, through a better organized structure for gathering information and a better organized matching process, perhaps it is possible to create an improvement.

6. Concluding Remarks

This paper sought to demonstrate the possibility of small business managers acting as latent informal investors to support business start-ups. Specifically, using the data from the *Survey of Business Start-up Support by Small Business Managers* in 1999, we sought to verify the following: (1) What types of small business managers actually provide business start-up support? (2) Within those managers, what types of managers provide financial support to business start-ups? (3) What types of managers have an intention to provide business start-up support in the future? In addition, using the data from the above survey as well as from the *New Business Start-up Survey* in 1999 (as data for the businesses that were invested in), we also sought to verify whether the business start-up support provided by small business managers has an effect on the success probability of the supported

¹⁶ Another reason is the formulization of the model. For example, it is possible that the performance index on which the model was formulized was not sufficient. However, when another index, dummy variable whether business is in the black used by Harada (2003) as well as in the 1999 survey, was a dependent variable, no significant results could be obtained for the two types of business start-up support.

business after start-up.

The results of the probit estimation showed that small business managers whose age is younger, of relatively larger small businesses that had received support for their own business start-up, were more likely to provide business start-up support. However, in relation to financial support, it was shown that there was a strong tendency to support different business types or family or relatives' start-ups over start-ups that were of the same type as that of the manager and could utilize their experience and know-how. Furthermore, it was shown that there was a tendency for managers' intentions to provide business start-up support in the future, to be the same as their current level of start-up support. These results suggest that the creation of a start-up support network centered on small business managers who are currently active in business and are also relatively young, and feel grateful for the support they received when they were a start-up, will lead to benefits not only for the directly supported business but also, in the long term, it will contribute to the spread of start-up support through the supported company. However, at the present time, small business managers who had received start-up support did not achieve better results after start-up. This suggests that for a country like Japan where the informal venture capital market is still being developed, there is a need for informal investors to improve their individual support skills. Although there is an abundance of research that analyses the performance of businesses that receive formal venture capital investment, there is insufficient research into the performance of the businesses that receive informal venture capital investment. It is clearly necessary for future research to compare and analyse the performance indicators of businesses who have received informal investment and those who provide angel support.

Of course we can also consider that the performance of the business receiving the investment is not just an issue of the skills of informal investors, but it is also affected by the problem of matching investors with suitable businesses. It is therefore necessary to have a more

organized approach to the matching process as well as to things like the improvement in quality and quantity of information for informal investors and business start-ups. Certainly at the present time the small business manager's support is mostly non-financial. Even in cases where financial support is provided, it is normally with the expectation of making a capital gain, which is a clear distinction from US and European informal investors. Furthermore, in Japan the development of a network to connect informal investors with business start-ups has only been happening for a relatively short time. Compared with networks like the Angel Capital Electronic Network (ACE-Net) in the US and the Business Angel Networks (BANs) in the UK that are diverse and operate on a national level, Japan's network is perhaps 10 to 15 years behind (Ace and Tarpley 1998, Mason and Harrison 1997, Harrison and Mason 1996, Mason and Harrison 1997). However, for countries with a bank-based financial system, the US and UK type of informal investing are not necessarily the most suitable approach. As we have seen in this paper, even in Japan with its bank-based financial system, the support of business start-ups by small business managers is of a scale that cannot be ignored. Therefore in the future, if the creation of an informal investors network that reflects Japanese characteristics progresses and if the growth of the markets for harvesting continues, we can then speculate that small business managers with an intention to engage in start-up support will provide start-up support more like that of the US and UK type of informal investors. Whatever the case, for countries that, unlike the US and the UK, have a bank-based financial system, it is not only necessary to aim to expand the pool of latent informal investors, but also to continue research on small business managers' activities. If we keep in mind that informal investors are extremely diverse, we can, through the promotion of research on the role of small business managers as latent informal investors, offer meaningful suggestions to countries whose informal venture capital markets are still in the early stages of development.

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Appendix

[Insert Table about here]

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Table 1 Formal Venture Capital Investments in Japan (Oct. 2000-Sep. 2001)

Investment Stage	No.	%	Amount (100 million yen)		Average
				%	(1million yen)
Start-up	13	0.6	4.1	0.4	31.2
less than 5 years	730	36.0	564.8	50.0	77.4
5-10 years	637	31.4	275.2	24.3	43.2
10-15 years	318	15.7	110.2	9.7	34.6
Over 15 years	330	16.3	176.2	15.6	53.4
Total	2028	100.0	1130.3	100.0	55.7

Number of responses is 53.

Source: Venture Enterprise Center (2002).

Table 2 Definition of Explanatory Variables

Explanatory variable	Definition	Mean	
		Overall	With support experience
MANAGER_AGE	Small business manager's Age	50.3	45.6
GENDER_FEMALE	A dummy variable where if the manager is female=1, male=0	6.8	5.3
FIRM_SIZE	Total number of employees	7.2	11.2
FIRM_AGE	Years since establishment	16.6	12.8
<i>Industrial Category</i>			
MANUFACTURE	Manufacturing=1, other=0	15.8	13.3
WHOLESALE	Wholesale=1, other=0	8.0	9.3
RETAIL	Retail=1, other=0	18.4	13.3
FOOD	Food and drinking=1, other=0	7.6	7.3
CONSTRUCTION	Construction=1, other=0	19.2	18.7
SERVICE	Service=1, other=0	31.0	38.0
RECEIVED_SUPPORT	A dummy variable where if the business received support at the time of start-up=1, if not=0	38.8	50.0
BUSINESS_GOOD	A dummy variable where if the business conditions in that industry are good=1, if they are not good=0	-	35.3
SAME_INDUSTRY	A dummy variable where if the supported business is of the same industry as the supporter=1, if different industries=0	-	66.7
<i>Relationship with the Supported Entrepreneur (Type)</i>			
EMPLOYEE	The supporter's company's former director or employee=1, other=0	-	15.3
FAMILY	Manager's family or relative=1, other=0	-	8.0
FRIEND	A third person introduced through an acquaintance=1, other=0	-	14.7
OTHERS	Other=1	-	62.0
<i>Relationship with the Supported Entrepreneur (Length)</i>			
YEAR1	Less than one year=1	-	13.3
YEAR2-9	2-9 years=1	-	41.3
YEAR10	Over 10 years=1	-	45.3
<i>Distance to the Supported Business</i>			
SAME_CITY	Same city or county=1	-	51.3
SAME_PREFECTURE	Same prefecture=1	-	34.0
DIFFERENT_PREFECTURE	Different prefecture=1	-	14.7
Sample size		1995	150

Table 3 Start-up Support by Small Business Managers (Probit Model)
 Dependent Variable: have provided start-up support in the last 5 years=1

	Coef.	t-value	Sig.
Constant	-0.6961	-2.41	*
MANAGER_AGE	-0.0230	-3.93	**
GENDER_FEMALE	-0.0706	-0.38	
FIRM_SIZE [=log (number of employees+1)]	0.1920	4.40	**
FIRM_AGE	-0.0060	-1.09	
RECEIVED_SUPPORT	0.2242	2.57	*
MANUFACTURE	-		
WHOLESALE	0.1402	0.76	
RETAIL	-0.0448	-0.28	
FOOD	-0.0530	-0.27	
CONSTRUCTION	0.0111	0.07	
SERVICE	0.1423	1.04	
Log likelihood	-498.4		
MacFadden R-squared	0.0638		
Sample size	1995		

* significant at 5%

** significant at 1%

Table 4 Financial Support by Small Business Managers (Probit Model with Sample Selection)

Equation 1. Dependent variable: have provided financial support=1

	Coef.	t-value	Sig.
Constant	-0.1611	-0.23	
SAME_INDUSTRY	-0.5442	-2.09 *	
BUSINESS_GOOD	0.5930	2.49 *	
EMPLOYEE	0.3610	1.03	
FAMILY	1.1304	2.32 *	
FRIEND	0.5281	1.22	
OTHERS	-		
YEAR1	-0.3803	-0.88	
YEAR2-9	-		
YEAR10	0.0700	0.26	
SAME_CITY	0.2570	1.00	
SAME_PREFECTURE	-		
DIFFERENT_PREFECTURE	-0.2150	-0.58	

Equation 2. Dependent variable: have provided start-up support in the last 5 years=1

	Coef.	t-value	Sig.
Constant	-0.6957	-2.38 *	
MANAGER_AGE	-0.0232	-4.09 **	
GENDER_FEMALE	-0.0716	-0.38	
FIRM_SIZE [=log (number employees+1)]	0.1963	4.55 **	
FIRM_AGE	-0.0056	-1.03	
RECEIVED_SUPPORT	0.2175	2.26 *	
MANUFACTURE	-		
WHOLESALE	0.1343	0.69	
RETAIL	-0.0438	-0.27	
FOOD	-0.0584	-0.28	
CONSTRUCTION	0.0069	0.05	
SERVICE	0.1422	1.04	
ρ	-0.1370		
Log likelihood	-586.5		
Samle size	1995		

* significant at 5%

** significant at 1%

Table 5 Intention to Provide Start-up Support in the Future (Probit Model)
 Dependent variable: have intention to provide start-up support in the future=1

	Coef.	t-value	Sig.
Constant	0.5677	2.84	**
MANAGER_AGE	-0.0117	-2.86	**
GENDER_FEMALE	-0.1295	-1.07	
FIRM_SIZE [=log (number of employees+1)]	0.1829	5.43	**
FIRM_AGE	-0.0063	-1.72	
RECEIVED_SUPPORT	0.4095	6.49	**
MANUFACTURE	-		
WHOLESALE	0.3113	2.35	*
RETAIL	-0.0525	-0.51	
FOOD	0.1431	1.05	
CONSTRUCTION	0.2267	2.20	*
SERVICE	0.1452	1.54	
Log likelihood	-1167.1		
MacFadden R-squared	0.0504		
Sample size	1922		

The responses that they would actively like to provide support and they would consider providing support if the conditions were right are taken as being have intention to provide start-up support in the future.

* significant at 5%

** significant at 1%

Table 6 Effect of Small Business Manager's Support on Supported Business

1. Supported Business's State of Operations (%)

	Overall	Financial Support	Non-financial support only
Going well	40.5	40.7	40.4
Not going well	6.1	8.5	4.5
Already closing down or changing industry	3.4	5.1	2.2
Cannot be evaluated at the current time	44.6	39.0	48.3
Do not know	5.4	6.8	4.5
Total	100	100	100
Sample size	148	59	89

2. Effect of the Support on the Supported Business

	Overall	Financial Support	Non-financial support only
There was a positive effect	28.7	19.7	34.8
There was a negative effect	12.0	14.8	10.1
There was no real effect	59.3	65.6	55.1
Total	100	100	100
Sample size	150	61	89

Table 7 Support by Small Business Managers and the Performance after Start-up (Probit Model)

Dependent variable: Current monthly business level exceeds pre start-up monthly business level target=1

	Coef.	t-value	Sig.	Coef.	t-value	Sig.	Coef.	t-value	Sig.
Constant	-0.1867	-0.76		-0.1951	-0.78		-0.1685	-0.68	
ENTREPRENEUR_AGE	-0.0112	-2.85	**	-0.0112	-2.85	**	-0.0111	-2.82	**
GENDER_FEMALE	-0.2418	-1.99	*	-0.2421	-1.99	*	-0.2450	-2.01	*
STARTUP_CAPITAL [log (start-up capital)]	0.0965	2.54	*	0.0965	2.54	*	0.0954	2.51	*
FIRM_AGE (months since start-up)	0.0128	3.93	**	0.0128	3.93	**	0.0127	3.90	**
MANUFACTURE	-			-			-		
WHOLESALE	-0.0902	-0.49		-0.0912	-0.49		-0.0913	-0.49	
RETAIL	-0.2056	-1.20		-0.2062	-1.20		-0.2010	-1.17	
FOOD	-0.3625	-2.10	*	-0.3620	-2.09	*	-0.3632	-2.10	*
CONSTRUCTION	0.0198	0.10		0.0190	0.10		0.0217	0.11	
SERVICE	-0.1044	-0.67		-0.1043	-0.66		-0.1021	-0.65	
GENERAL_SUPPORT	-			0.0149	0.20		-		
FINANCIAL_SUPPORT	-			-			-0.0812	-0.95	
Log likelihood	-803.5			-803.5			-803.1		
MacFadden R-squared	0.0274			0.0274			0.0279		
Sample size	1262			1262			1262		

* significant at 5%

** significant at 1%

Appendix

Intention to Provide Start-up Support in the future (Ordered Probit Model)

Dependent variable: have intention to provide start-up support in the future

	Coef.	t-value	Sig.
MANAGER_AGE	-0.0107	-3.03	**
GENDER_FEMALE	-0.1099	-1.03	
FIRM_SIZE [log (number of employees+1)]	0.1436	5.01	**
FIRM_AGE	0.0000	-0.01	
RECEIVED_SUPPORT	0.3485	6.37	**
WHOLESALE	0.2448	2.15	*
RETAIL	-0.0975	-1.07	
FOOD	0.1437	1.22	
COSTRUCTION	0.1469	1.63	
SERVICE	0.1287	1.56	
Estimated Limit Points			
γ_1	-1.8944	-10.49	**
γ_2	-0.5294	-3.02	**
γ_3	1.6396	9.14	**
Log likelihood	-1741.84		
Sample size	1922		

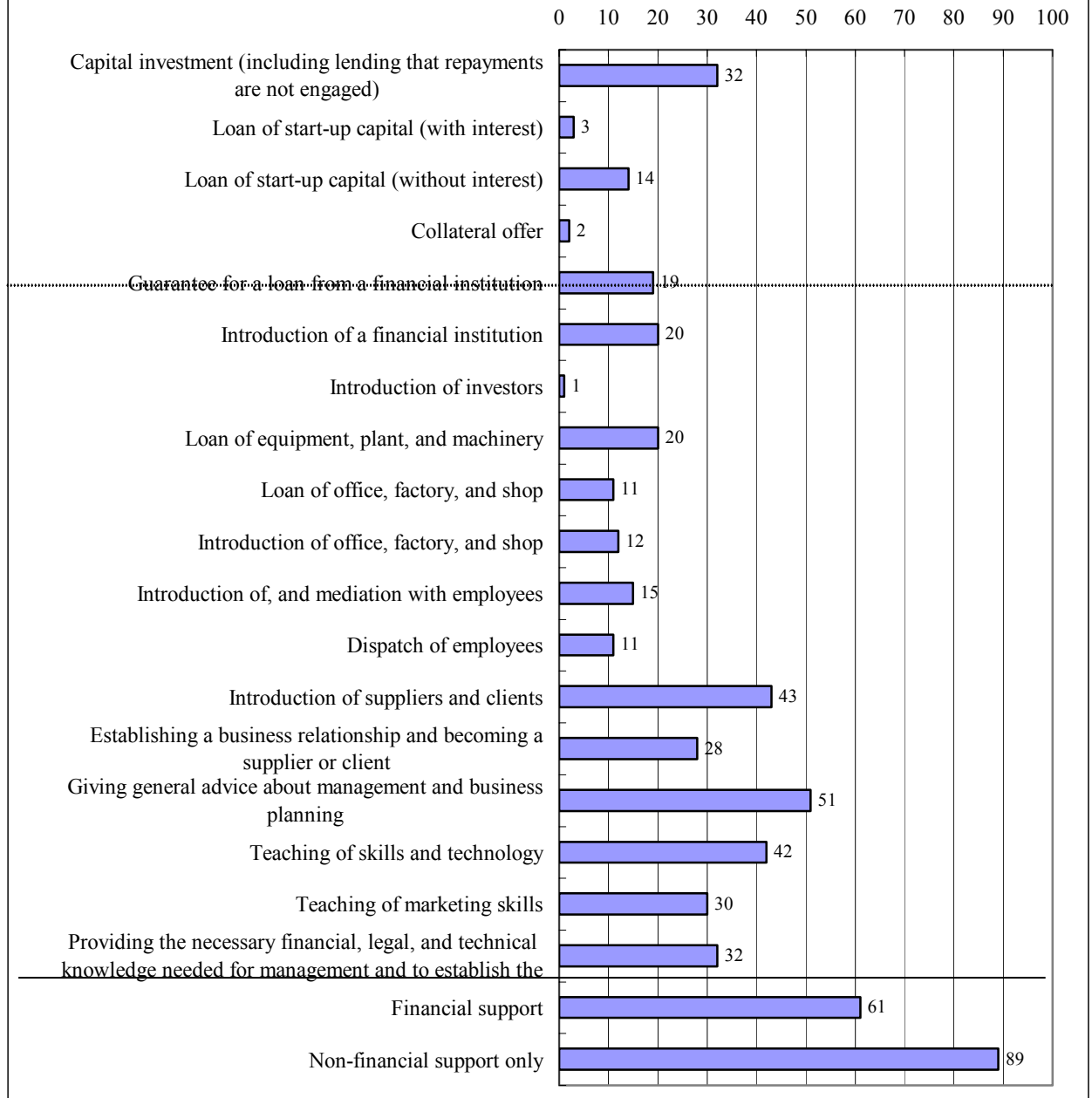
* significant at 5%

** significant at 1%

Distribution for the dependent variable

Value	No.	%
0. Absolutely don't want to	80	4.16
1. Not interested in support	569	29.6
2. Would consider if conditions are good	1184	61.6
3. Would actively like to	89	4.63
Total	1922	100

Figure 1 Start-up Support by Small Business Managers
(multiple answers by 150 small business managers)



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