RATIO

Ratio Working Paper No. 255

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Startups, Financing and Geography– Findings from a survey*

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Abstract:

This paper investigates the importance of bank loans for the financing of startups and how location matters for expansion plans and financing. We will show that there has not been sufficient attention paid to legal form when distinguishing between the external and internal financing of startups. The focus will be on the corporate form of business and the implications of this legal form for what can be considered external financing. In the analysis of how location matters, we will draw upon the literature about agglomeration and knowledge spillovers.

The two main questions posed are: How does the corporate form matter for what can be considered the external financing of startups, and how does location matter for expansion plans and financing? To provide empirical answers to these questions, both survey data and registry data have been used.

The survey data are from a questionnaire sent out to startups listed in the files of the Swedish Jobs and Society Foundation. We looked at corporations founded during the period 2009-2013 that family firms in terms of ownership structure. The survey indicated that bank loans are rare and had to be backed up with personal assets used as collateral and personal guarantees of repayment for the majority of the firms who had used bank loans. Essentially, the entrepreneur personally takes most of the business risk. Bank loans have, to a large extent, the character of internal financing.

Combining registry data with the qualitative data from the survey, we used regression analysis to further study differences due to location. The regression analysis showed that the degree of urbanization matters for plans for expansion. In the three most urbanized areas, the startup firms had plans to expand their business both at home and abroad. In the other urbanized areas, the focus was on expansion at home.

1. Introduction

The lack of startup capital is a major obstacle for entrepreneurs who want to start a new business. In a recently published article, using a sample of startups from 2004, Robb and Robinson (2014) argue that startups in the US rely more on outside debt financing through bank loans than is commonly thought. Our study complements Robb and Robinson's (2014) but uses empirical data for new corporate firms in Sweden that were founded after the financial crises in 2007. We find that bank loans are not an important source of finance, and we add to their study by drawing attention to the fact that the definition of outside debt financing depends on the legal status of a firm. A corporate startup differs from other legal forms in his respect since there is a separation of the wealth of the firm and the owners (Hansmann et al 2006 and Kraakman et al 2009). In addition earlier research about financing of startup[3], we claim that location is important to consider in analyses of finance and the performance of startups.

An important aspect of the analysis of financing and performance is that location matters, as Rodríguez-Pose and Crescenzi (2008) express in the title of their paper "Proximity still matters in the location of economic activity". There is extensive literature on geographical knowledge spillover and regional growth. (For an overview, see, e.g., Döring and Schelling (2004).) Inspired by the increasing research that examines closeness and knowledge spillovers in regions, we will investigate whether regional location has any effects on the financing and expansion plans of startups.

The aim of the paper is thus to fill two perceived gaps in the literature viz. the legal implication of the corporate form for external financing and the implication of location for financing and expansion. The research questions are: How does the corporate form matter for what can be considered the external financing of startups, and how does location matter for expansion plans and financing?

The discussion of the implications of corporate form for external financing is based upon a law and economics analysis of what makes the corporate form different from other legal forms and results from a questionnaire sent solely to new Swedish firms of a corporate form. All responding firms are family firms. In the questionnaire, we ask questions about financing

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[3] See Table 1 in section 2.1.1 for an overview of earlier research.

of the startup, difficulties perceived in applying for bank loans and the extent to which personal collateral and guarantees were necessary to get a bank loan.

To fulfill the second aim of the paper, to analyze the effect of location on financing and expansion plans, the survey data are complemented with detailed firm data from Bureau van Dijk´s Amadeus database. Information about expansion plans are from the questionnaire, whereas financial data originate both from the questionnaire and Amadeus. A division into three OECD-defined functional regions is thereby made.[4] The three function regions are denoted predominantly rural, intermediate and predominantly urban. Owner characteristics are used as control variables in a regression analysis of how regions matter for finance and expansion.

One primary finding in our paper is that a majority of the startups in our sample do not use bank loans. A bank loan is used by only 19.3 percent of the firms. Furthermore, in response to a question of personal collateral and personal guarantees, 68 percent of the respondents said that it had been a requirement for obtaining the loan. As will further developed in the paper, these responses underline our critique that what in earlier research has been characterized as an external source of credit financing is, to a large extent, not an external source. It is instead an internal source of finance provided by the owners using their own assets to finance the startups. According to our study, banks do not want to take the risk of lending to startups. In contrast to many earlier studies based on US data (Berger and Udell, 1998, and Robb and Robinson, 2014), we find that bank financing is not important for corporate startups. The information asymmetry gap between banks and entrepreneurs is not bridged. Banks are extremely risk adverse in their lending decisions.

A second primary finding is that expansion plans differ geographically between rural, intermediate and densely populated urban regions. Firms in densely populated urban regions are more prone to expansion abroad, whereas intermediate regions are more focused on expansion on the home market. Furthermore, bank loans are more frequently obtained by firms in rural than in urban areas.

To sum up, the present study contributes to the literature on the financing of startups by concentrating on how the corporate form of startups matters for the distinction between external and internal financing. Our study finds that the financing is of an internal character.

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[4] OECD is an abbreviation for The Organization for Economic Co-operation and Development.

By being dependent on internal finance, the startup fits into characteristics used to define family firms (concentrated ownership and no separation between owner and manager). The study also contributes by looking at how location and entrepreneurial character matter for expansion plans and finance. The opaque information about the profit opportunities that characterize new firms seem to be able surmountable in rural areas, according to our results. This is an area for future research.

Associated with transfer of information and knowledge between firms is also the result that being in an urban location makes the startups more prone to expand their business. In more densely populated urban areas, the expansion plans include expansion abroad. In other words, the expansion of family business startups seems to be influenced by the nature of knowledge spillovers in regions. Borrowing from the field of regional economics can in this sense increase our knowledge of family business startups (Rodriquez and Basco 2011)

The study is divided into four different sections. In the next section, we will discuss the theoretical framework that we will use and earlier research. In the third section, we present the methodology and results from the survey and regressions. Finally, section 4 concludes the study.

2. Theoretical framework

2.1 Startups and Financing

This part provides a theoretical background on the analysis of the responses to a questionnaire sent out to startups. Information about the questionnaire and analyses of the answers are provided in section 3.1.

2.1.1 Financing and the double trust dilemma

Schumpeter (1947) identified innovations as a factor that eases the constraints on production and consumption and labeled the persons initiating the changes in constraints as entrepreneurs. The innovators were new firms with new innovative ideas. As was also noticed by Schumpeter, entrepreneurs need capital to pursue innovations; therefore, the financing of

innovations becomes critical for economic growth. The key economic challenge is determining how to combine new ideas and capital such that successful innovations and growth are promoted. Sustained growth primarily emanates from innovative business ventures. Entrepreneurs with innovative ideas need to be connected with financiers.

However, the financing of innovations has to overcome what Cooter and Schäfer (2012) in a recent book have called "the problem of double trust". The financier wants assurance that the investment is sound, and the entrepreneur wants to make sure that business ideas are not stolen. A common issue for all firms is determining how to overcome this double trust problem where financiers are concerned about getting invested money back and entrepreneurs are concerned about the protection of business ideas.[5]

The root of the problem is asymmetric information about the qualities of the entrepreneur and the business ideas and the qualities of the financier. There is a fear that the other party will take advantage of private information, behave opportunistically and take the money or steal the business idea. Both parties have to be induced to convey trustworthy information about quality to each other.

Due to the double trust problem, financing solutions vary as firms grow large (see Berger and Udell, 1998 and Cooter and Schäfer, 2014). For a startup with a new business idea, the financing problem is severe. There is no historical record to fall back on when establishing contact with a financier. To safely inform financiers about the value of new ideas is difficult. The only way to obtain financing is, in many instances, to turn to family and friends. Cooter and Schäfer (2012) call this relational financing.

The information impactedness is a term used by Oliver Williamson (1975) to describe a situation in which the parties entering into a transaction both have considerable private information. The relationship between a startup firm and a financier has that character. The information about the profit opportunities of the startup is opaque. There is no history of the firm, and business plans have to be transmitted in a trustworthy and clear way (see Berger and Udell (1998) and Peterson and Rajan (1994)). In line with the transaction cost analysis used by Williamson (1975), the high transaction costs caused by information and the fear of

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[5] The double trust problem can also be denoted as a moral hazard problem because it refers to post contractual incentives to take advantage at the other party's expense.

opportunism make financing from people other than owners problematic. A vertical integration type of financing with financing provided by owners (inside financing) is favored because of the transaction problems.

The double trust problem outlined makes outside equity financing (i.e., financing provided by people other than the owners) particularly difficult. An outside provider of equity financing will require rather extensive information about the business idea and profit opportunities and require control, which represents a potential threat that the entrepreneur will not reap the profits of the firm. The entrepreneur who just started a company is likely too anxious to maintain control to realize her/his business idea (see, e.g., Melin & Nordqvist, 2007).

Bank loans are, from this perspective, more attractive because the bank only has a claim to the nominal amount of the loan and interest on the loan. However, the bank wants to be assured that these nominal amounts are paid in due time. Collateral and personal guarantees are ways for the entrepreneur to make the bank trust the repayment of loans and interest. Hence, a prerequisite is often the existence of collateral (and personal guarantees) as safeguards for bank loans. Often, a startup of corporate form does not have the required collateral as a backup for a bank loan. Instead, personal assets have to be used as safeguards for bank loans.

2.1.2 The corporate firm and outside financing

The firm as a separate legal person is important in our paper. The strongest type of separate legal person is the corporate form of business. A corporation is a separate legal person that can own property and sign binding contracts (see, e.g., Kraakman et al 2009). An implication of this is that it is the firm (the judicial person), not any physical persons, that owns assets. This strong form of legal personality is a prerequisite for the limited liability and perpetual life and profit maximization features that characterize the corporation as a legal form of business.

Partnership offers a much weaker separation between legal and physical persons, and sole proprietorship is the weakest one, with the identity of the firm as a physical person. A partnership firm is a legal person, but it is not a separate legal person from the owners in the same sense as for a corporation. The responsibility for contractual claims on the firm ultimately rests with the owners in a partnership. The third legal form, sole proprietorship, is not a legal person at all. The firm is from a contractual point of view identical to the owner.

That the firm is a legal person is one of three important aspects of the corporate form of business. The other two are the limited liability of shareholders and the transferability of ownership of shares (Hansmann et al 2006 and Kraakman et al 2009). That the firm is a legal person implies that the assets of the firm are shielded from the owners' personal creditors, and limited liability, in turn, shields the assets of the owner from the firm's creditors. The third aspect, the transferability of ownership of shares, depends on the first two by making the personal wealth of a new owner irrelevant as long as the share price is paid. In this way, ownership can be made impersonal, and thereby, a large amount of risk capital be accumulated. However, this third aspect, the transferability of ownership of shares, is not as important for startups as for firms in need of capital at later stages of their development.

The fact that corporations are characterized by a double shielding where the assets of a firm are shielded from the creditors of the owner and the assets of the owner are shielded from the firm's creditors has implications for the characterization of bank loans as external or internal financing. If the supply of financing from the owner is considered internal financing, all bank loans with assets of the owner as collateral or the wealth of the owner serving as personal guarantee are internal financing. The bank has given the loan to the owner and not to the firm as a separate legal person.

2.1.3 The firm as a nexus of contracts and financing alternatives

A firm can be viewed as a web of contractual relations (Jensen and Meckling, 1975). It is a legal entity, and it can, just like a physical person, enter into binding agreements (contracts) with other physical and legal persons. From this perspective, the firm can be seen as a "nexus of contracts" that coordinates financial investors, suppliers of intermediate goods, services and labor and customers in the production of goods and services. Figure 1 shows the firm from such a contractual perspective. (Contracts refer here to both formal and informal agreements.) It is a simplified stylized depiction of the firm as a legal person, production unit and nexus of contracts. Outside the figure are the authorities (national and communal) that supply a necessary supporting infrastructure of public goods, such as a legal system and a transportation network.

On the financial side of the firm, there are lenders (investors) with fixed claims contracts (e.g., banks). In contrast to shareholders, they have specified claims on the firm in terms of mortgage

plans, maturity and interest claims. If the firm cannot meet these fixed claims, it can be forced into liquidation/bankruptcy. The remuneration that lenders (and also suppliers of inputs) can obtain is then dependent on the value of assets for other than the bankrupted (liquidating) corporation. Fungible assets with a well-functioning second-hand market are valuable to others and can therefore serve as collateral for loans. Consequently, firms that own such assets can, to a larger extent than other firms, use these loans as a source of finance (Williamson, 1988).

Figure 1:   The firm as a nexus of contracts[6]
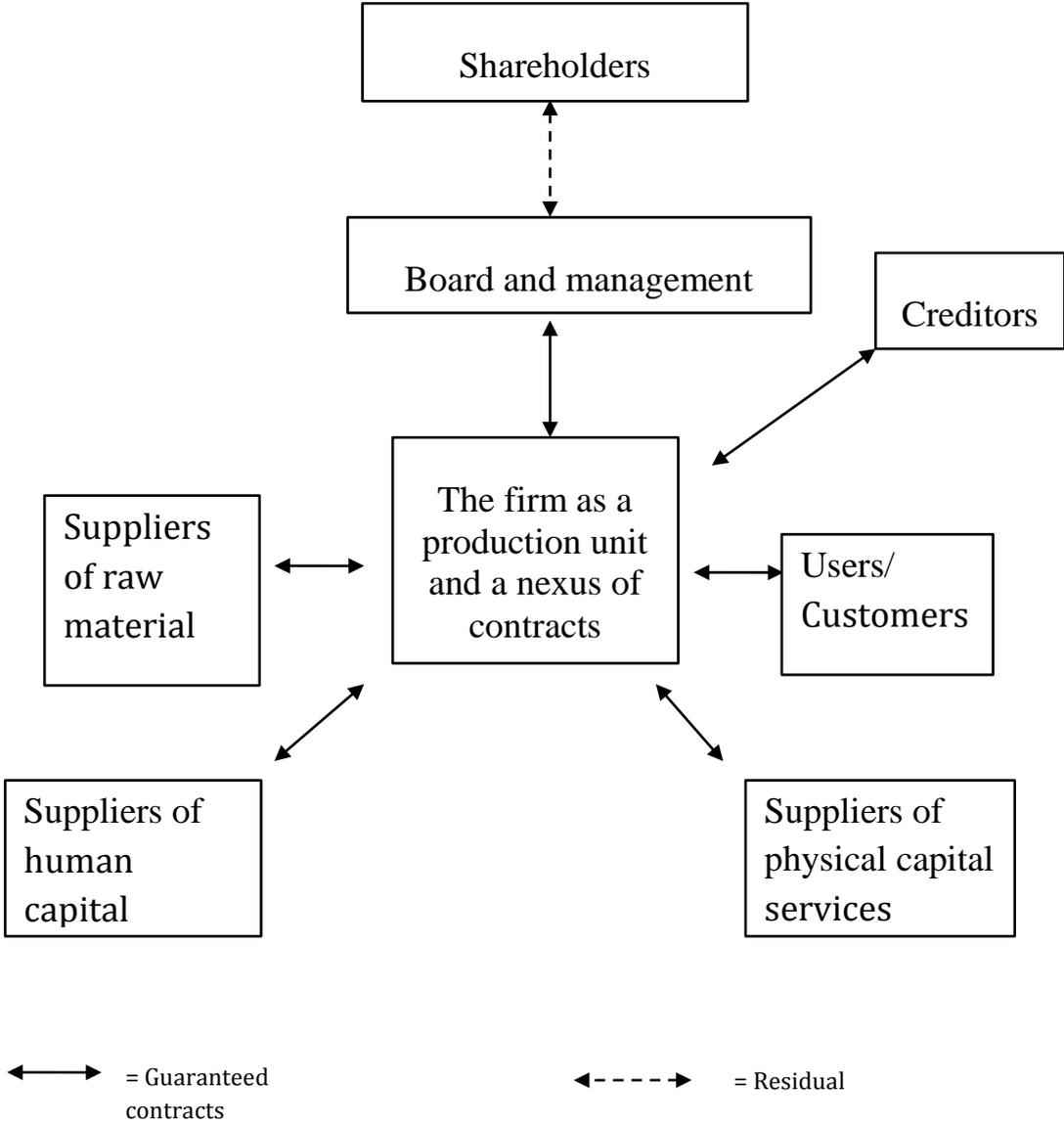
[6] The figure is inspired by Ståhl (1976) and Bjuggren and Palmberg (2009)

A startup firm's contractual relationship with suppliers of goods and services and with employees in figure 1 is of interest from a financial perspective as sources of alternative forms of financing. Handling cash-flows are, in addition to the financing of assets, important for the survival and development of a startup. To avoid situations of financial distress that can result in liquidation, the cash-flows have to be synchronized so that bills can be timely paid (see Wruck 1990). If the result of a financial distress situation is that the value of the assets of the firm are not considered large enough to cover creditors' claims, the firm can be forced into liquidation (see, e.g., Bjuggren 1995).

The nexus of contracts that constitutes the firm is sensitive to different types of disturbances. An obvious example of such a disturbance is bankruptcy. Both a bankruptcy of the firm itself due to solvency problems and bankruptcies amongst suppliers and customers can result in the destruction of valuable asset specificities. These problems have been described by, among others, Williamson (1988) and Bjuggren (1995).

The financial needs of a startup can, to some extent, be met by adjusting the relationships with suppliers, employees and customers and taking a closer look at the composition of assets. These types of strategies are called financial bootstrapping and are defined by Winborg and Landström (2000, p. 238) as "the use of methods to meet the need for resources, without relying on long-term external finance". In accordance with Winborg and Landström (2000), the need for financing assets can be reduced by having used equipment instead of new, borrowing equipment from other firms and lending equipment to other firms, leasing equipment, running the business at home, sharing premises and equipment with other businesses and minimizing the capital invested in stock.

In relation to suppliers and customers, the need for external financing can be alleviated by bartering, coordinating purchases with other businesses, offering discounts for cash payment, receiving advance payment from customers, using factoring, charging interest on overdue payments from customers, choosing customers who pay quickly and buying on credit. The cost for labor can be reduced by hiring personnel for shorter periods and sharing employees with other businesses. The owner can personally also contribute by temporarily withholding her own salary and sometimes using her own credit cards. The use of financial bootstrapping hence boils down to reconsidering the contractual relations with the shareholder (owner), employees, suppliers and customers, as shown in figure 1.

2.1.4 Empirical evidence

There are several studies on the financing of startups. Table 1 provides a summary of earlier studies of importance for this paper. A couple of the earlier studies are descriptive (Berger and Udell, 1998 and Robb and Robinson, 2014). Many of the others use multivariate analysis, as we do, with a dichotomous dependent variable using of tobit, logit, OLS and/or probit as statistical methods. An early study is Storey (1994). As we do in our study, he looks at the prevalence of bank loans. The personal characteristics of the founder of the startup and the legal status of the firm are used as explanatory variables. He finds no importance of personal characteristics, with the exception of qualified education, for getting bank loans. Legal status matters but only in the sense that corporations (private limited companies) have more bank loans. Mortgages as collateral are among the explanatory variables, but their importance is insignificant, and they are no way to determine whether mortgages are from a corporate startup.

Another often cited early study is Berger and Udell (1998). It is a descriptive study that is famous for a discussion of how financing changes in firms in different stages of their development from startups to public listed firms. In contrast to the perceived wisdom, they find that startups, to a large extent, are externally financed. The dominant form of external finance is bank loans. These bank loans are, to a large extent, backed up by safeguards of personal assets used as collateral and personal guarantees. All data in Berger and Udell (1998) are from a survey, the National Survey of Small Business Finances. Book values are used dating from 1993. No special distinction is made between the legal statuses of the firm (i.e., between sole proprietorship, partnership and corporations) in the analysis of the financial structure.

Two studies that use leverage defined as debt divided by assets as a dependent variable are by Cassar (2004) and Colombo and Grilli (2007). They find, respectively, that size of assets increases leverage and that the existence of many owners decrease leverage. Colombo and Grilli (2007) also find for high-tech firms in Italy that few startups use bank loans. This finding contrasts with the general picture of US startups provided by Berger and Udell (1998) and Robb and Robinson (2014). Both find that there are plenty of bank loans available for startups.

Table 1: A selection of previous studies about the financing of startups

Study	Country	Sample	Financial dependent variables	Control variables	Method	Main results	Main limitations
Storey (1994)	UK	Survey of 337 startups 1979 and 1990	Use of bank loan	Personal characteristics of the founder Legal status	Multivariate analysis Logit	Bank lending unrelated to most personal characteristics Corporations borrow more	No regional perspective
Berger and Udell (1998)	USA	Balance sheet data from 1993			Descriptive analysis	Startups primarily financed by debt among which bank debt dominates	No distinction between legal statuses of the firm No regional perspective
Cassar (2004)	Australia	Survey of 292 startups from 1996, 1997 and 1998. Later reduced to 193 startups	Leverage (debt/assets) and bank financing	Dummy for incorporated firm Asset size Industry controls Expansion plans Owner characteristics: Legal status	Multivariate analysis Tobit, OLS and Logit (Sample was reduced to 193 startups when owner characteristics considered)	Size of assets (total and fixed) positively significant for leverage and bank financing Legal organization not significant Owners characteristics not significant	The regional effect of the use of bank loans not considered The difference in character of bank loans to corporations and other legal forms not considered
Colombo and Grilli (2007)	Italy	386 high-tech Startups Survey and register-data	Leverage (debt/assets) Total startup capital Bank loan	Mother company Owner characteristics	Multivariate analysis Tobit and OLS	Existence of mother company and work experience positive for size of startup capital Few firms use bank loans Lower leverage if many owners	Not clear if the firms are corporations The regional effect of the use of bank loans not considered.
Cosh, Cummings and Hughes (2009)	UK	2,520 SMES in 1996-7 Median startup year 1983 Survey (response rate 25%)	Dummies for: External finance sought External finance obtained Bank finance sought Bank finance obtained	Firm characteristics as size and profit margin Dummy for legal status of the firm Owner characteristics Industry characteristics Planned growth objectives (higher value for higher planned growth)	Multivariate analysis Probit and Tobit	Growth objectives positively significant for applying for external finance and bank loan Corporations apply more for external finance Their data do not suggest a shortage of external capital	Does not capture the financial situation close to the startup date No regional perspective
Robb and Robinson (2014	USA	3418 firms surviving the 2004-2007 period (The Kaufman Firm Survey	Ratios of financing to total capital	Owners characteristics	Multivariate analysis	Female ownership negative relation to outside equity Age positively related to outside debt Work experience negatively related to outside debt	Not clear if the firms are corporations The regional effect of the use of bank loans not considered
Study	**Country**	**Sample**	**Financial dependent variables**	**Control variables**	**Method**	**Main results**	**Main limitations**
Gartner, Frid and Alexander (2012)	USA	1,214 startups Register data	Personal sources External sources	Firm size (expected revenue after 1 year)	Multivariate analysis Logit and OLS	More like to acquire external funding if higher levels of	The regional effect of the use of bank loans not considered

Study	Country	Data	Dependent variables	Independent variables	Method	Results	Weaknesses
		and inter-views		Dummy for industry (0 for service and 1 for asset-intensive industry) Dummy for legal status Dummy for registered business Owner characteristics Net worth		revenue, incorporated, legally registered, higher levels of education and net worth	The difference in character of bank loans to corporations and other legal forms not considered
Robb and Robinson (2014	USA	4,928 startups in 2004 (The Kauffman Firm Survey)			Descriptive analysis	Startups primarily financed by debt among which bank loan dominates	No distinction between legal statuses of the firms No regional perspective
Coleman, Cotei and Farhat (2014)	USA	4,928 startups in 2004 (The Kauffman Firm Survey)	Dummies for use of debts and personal equity Leverage (debt/assets)	Firm size assets and sales Owner characteristics Net worth Geographical regions	Multivariate analysis Bivariate probit model	Firm characteristics (asset size and net worth) and owner characteristics (work experience and ethnicity) explain the debt equity decision in the startup year No significance of location for debt-equity decision	The difference in character of bank loans to corporations and other legal forms not considered The geographical dimension to explain growth is not analyzed

A British study that finds a shortage of external capital for new firms by is Cosh, Cumming and Hughes (2009). They use data from 1996-1997. The median startup year of the firms in the data is 1983. The firms are, in other words, rather old compared to the earlier referenced studies. The dependent variables for applications of and received external financing have the character of dummies. Having high growth objectives and being a corporation have a positive effect on seeking external capital. Another study with dummies for external financing and personal equity is by Coleman, Cotei and Farhat (2014). They found for the US that firm characteristics such as asset size and net worth, along with ownership characteristics such as work experience and ethnicity, explained debt-equity choices.

A recently published similar study using US data is by Robb and Robinson (2014). They use data from a survey, the Kauffman Firm Survey, which tracks nearly 5000 firms founded in 2004. They follow these firms during the period 2004 to 2011. No distinction between legal statuses is made in the data analysis. They find an important role for banks in providing capital to startups. However, Gartner, Frid and Alexander (2012) find in their study of US nascent entrepreneurs that only 19.8 percent of the financing was bank loans.

The last column in Table 1 shows what we consider main limitations in the light of the aims of this paper. Common to all articles with exception of Coleman, Cotei and Farhat (2014) is that there is no regional perspective. However, they do not study the impact of location on growth, which is one of our aims. Several articles have legal status as an explanatory variable. But no article use legal status to explain differences in character of bank loans to corporations, sole proprietorship and partnership, which is the other aim of this article.

2.2 Startup, financing and geography

One of the papers listed in Table 1 (Coleman et al 2014) had geographical region as an independent variable to explain the debt-equity decision of startups. They found no significance for geographical region as a determinant of debt-equity. Geographical region is also used in this paper as an explanatory variable. The focus is not only on debt-equity but also on expansion plans and bank loans. Three different strands of theories within economic geography and regional economics serve as framework for our study of how location matters for the expansion and financing of startups.

The first strand of theories originates within the field of geography, spillovers and growth. Two early seminal papers in this field are by Krugman (1990) and Romer (1990). Krugman (1990) stresses the importance of the concentration of economic activities to understand how growth differs between regions, and Romer presents a model of endogenous growth where spillovers of knowledge were an important ingredient. Bosma et al (2008) investigate in an empirical paper how agglomeration effects have affected startups in the Netherlands. In contrast to our study, they look at how the rate of startups is affected by agglomeration. Brewton et al (2010) study how resilience to negative unforeseen circumstances differs between family firms in rural and urban areas. In contrast to these two papers, we look at how expansion and financing are affected by startups already in place. Our study gets inspiration from a number of papers that have been published on the topic of agglomeration, productivity and exports. Examples of three recent studies are Greenaway and Kneller (2008), Koenig (2009) and Antonietti and Cainelli (2009). They all find a positive connection between export and agglomeration economics. Expanding non-codified knowledge of how to proceed is important. Based on their research, a positive relationship between population density and plans for expansion is expected. The hypotheses are that startups in urban regions will

primarily consider expansion at home, whereas startups in more densely populated metropolitan urban areas also plan expansion abroad.

The second strand of theories is about how banks in regionalized networks can overcome the problems of information impactedness and opportunism (Pollard, 2003). This paper is, in this aspect of regional accessibility to bank loans, inspired by a paper by Backman (2013). Based on how proximity can matter, she studies the relationship between startups and local access to banks. She uses data from Statistics Sweden from 2010 and finds that startups in rural areas are more dependent on presence of local banks than startups in urban areas. In light of these two studies, it can, in this study, be expected that firms in predominantly rural areas should be more dependent on bank loans and have a capital structure with a larger proportion of debt relative to equity. An earlier descriptive study of SMEs by Berggren and Silver (2010) also finds that bank loans are more important as a source of finance in small municipalities. They use survey data from 459 firms. Firms located in small towns with populations in the interval 20,000 to 50,000 inhabitants and municipalities with less than 20,000 inhabitants stated that their most important external financiers were banks. The explanation offered was that banks are essentially the only external financial source available in more sparsely populated regions. Based on their empirical works, the hypothesis in this paper is also that bank loans are more available in rural areas.

A third strand of theories discusses how the firms shall be depicted in economic geography. Taylor and Asheim (2001) discuss different concepts of the firm as an introduction to a special issue of *Economic Geography*. In the same issue, Maskell (2001) comes to the conclusion that the competence view of the firm is the most suitable for economic geographers. The competence theory is, as Taylor and Asheim (2001) demonstrate, akin to what is called the resource-based view of the firm. The competencies of a startup are, to a large extent, embedded in the ownership's characteristics (see Coleman et al 2013). In this paper, the ownership characteristics will be used as control variables in the analysis of how location influences the financing and expansion of startups.

3.   Methodology and analysis

3.1 The survey

The time period investigated in our study is 2009 to 2013. During this period, there were 272 376 startups in Sweden. The majority of these startups had sole proprietorship. The number of firms with the corporate form of business was 82 809, i.e., 30 percent of all startups. Startups of the corporate form increased from 2010. The increase can be explained by the decrease of the legally required minimum equity from SEK 100 000 to 50 000, which was introduced 2010.

An organization with the purpose of giving free advice to startups is the Swedish Jobs and Society Foundation (NyföretagarCentrum). We used their membership register in our survey. In 2012, there were 9400 startups listed with the Swedish Jobs and Society Foundation, i.e., approximately 13 percent of all startups that were founded in Sweden in that year. Of these 9400 startups, 3000 were corporations. The Swedish Jobs and Society Foundation helped us by providing the e-mail addresses of corporation startups listed with them.

A survey was sent to 2500 corporations introduced from 2009 to 2013 out of which 244 answered the questions in the survey, i.e., approximately 10 per cent (see Table 2). The majority of the answers received were from corporations introduced in 2010 and 2011. Most firms belong to the service sector (43 percent). Manufacturing and construction firms comprised less than 19 percent of the sample. The dominance of the service sector in the survey is in accordance with the statistics for all of Sweden.[7]

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[7] The only official source showing corporate startups is from the Swedish Agency of Growth Policy Analysis 2014 (Tillväxtanalys). Looking at their data from 2010, 2011 and 2012 the percentage of the service sector (health care excluded) grow from 37 percent (2010) to 49 percent (2011) and to 53 percent (2012) i.e. on average 46 percent which is close what we have in our sample. As the service sector is the one with less of fixed assets that can serve as collaterals we think that our sample is not so wrong.

Table 2 Startup year for the surveyed corporations from 2009-2013 and business characteristics

Startup year:	2009	2010	2011	2012	2013	
Number of startups:	10	72	102	17	12	
percentage	4.7 %	33.8%	47.9%	8.0%	5.6%	
Industry:	Manufacturing	Construction and Real Estate	IT, Data and technology	Health care	Retailing	Other Service
Number of startups:	22	19	18	25	18	119
Percentage:	10%	8.6%	8.1%	11.3%	8.1%	43%

The respondents (founders) had, on average, 21.5 years of working experience (see Table 3).[8] Table 3 further reveals that 63 percent of the respondents were male and 85 percent were born in Sweden. The mean age was 47 years with a spread between 23 and 69 years. A majority had studied at the university level and had an academic degree. Slightly more than half of the entrepreneurs had no earlier experience of starting a business. Almost 28 percent had experience from one earlier startup and 13 percent, from two earlier startups. Experience from more than two earlier startups was rare.

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[8] The questionnaire did not make it possible to separate working experience in general from working experience in the startup sector.

Table 3   Business owner demographics

Characteristics:	Percentage:	Characteristics:	Percentage:
Male	62.9	Education:	
Female	37.1	Primary school	4.5
		Secondary school	25.3
Born in Sweden	85.2	Studied at University	11.4
Born abroad	14.8	Studied at university and university exam	53.9
	Age:	Doctor exam	4.9
Mean age	47		
Max age	69	Previous start ups:	
Minimum age	23	0	52.0
Years of previous working experience:*	Number of years:	1	27.6
		2	13.0
Mean	21.5	3	2.4
Max	50	4	.4
Minimum	0	5 or more	4.4

Note: *The questionnaire did not make it possible to separate working experience in general from working experience in the startup sector

Corporate ownership characteristics:

The questionnaire was sent out to the founder of each startup. The respondent was often also the CEO. Furthermore, the respondent was, in the majority of the cases, the sole owner or a shared owner with another person. All firms were a closely held firm according to the Swedish 3:12 rules. The 3:12 rules mandate that for firms in which four or fewer owners control more than 50 percent of the ultimate voting rights, special tax conditions apply. Bjuggren et al (2011) has used this tax rule to estimate the prevalence of family firms in Sweden. With access to the number of owners and knowledge of whether a firm uses 3:12 rules, they can state whether a private firm has a concentration of more than 50 percent of votes for one owner. In the tax definition of an owner, family members are included. Most commonly in our survey, there was one owner of the startup (70 percent of cases). Using the

same criterion as Bjuggren et al (2011), with one family owning more than 50 percent of the votes, we could conclude that 100 percent of the startups are family firms.

3.1.1 Results

Financing characteristics

Looking at financial sources, founder equity dominates as a financial source (see Table 4). Equity from family and friends is rare and amounts to a small percentage of financing when used. Business angels and venture capital are non-existent at the startup time. There are also only a few instances where these actors appear afterwards. Government subsidies are rather rare. Turning to debt financing, bank loans and founder loans dominate but are not as prevalent as founder equity. Loans from government and family and friends are less frequent.

Table 4   Finance sources

The startup year:		During the last two years (2012 and 2013):			
Funding source:	Percentage for all firms	1-5 % of total financing	6-20% of total financing	21-100% of total financing	Number of firms answering
Founder equity	100	9	23	162	194
Equity from family and friends	1.3	4	3	1	8
Business angels	0.4	3	0	1	4
Venture capital	0	4	3	0	7
Govt. subsidy	0.9	7	3	3	13
Founder loan	10.0	4	16	24	44
Loan from family and friends	5.2	8	9	7	24
Bank loan	14.4	5	9	33	47
Govt. loan	4.8	6	8	12	26
Other sources	3.8	6	2	6	14

This result of a dominating role for founder equity in the financing of startups is in stark contrast to the findings of two earlier US studies (Berger and Udell, 1998 and Robb and Robinson, 2014) and a study of the UK (Cosh et al, 2009). They stressed that access to bank loans was not a bottleneck in the financing of startups. Instead, they found that credit from financial institutions dominated as a source of finance. Our study with Swedish data shows that bank loans are really not an important source of finance. The founder loan is almost of equal magnitude.

However, there are alternatives to long-term financing to handle the financing operations of a firm. These alternatives, presented in relation to our nexus of contracts, are called bootstrapping and can be used to mitigate financial risk. In Table 5, a dichotomous scale present the prevalence of bootstrapping methods. It turned out that saving on assets by running the business from home was common. Also fairly common was sharing premises with others. Handling cash flows by withholding one's own salary and using one's own private cards were also common. More than 30 percent of respondents also used assignments (credits) as a way to handle cash flow and saved on assets by sharing equipment with other businesses.

Table 5 **Bootstrapping (dichotomous scale) expansion (number of firms and percentage of firms within parentheses)**

Method:	Not used	Used	Number of firms answering
Barter instead of buying/selling goods	174 (80.2)	43 (19.8)	217
Offer customers discounts of paying cash	206 (94.9)	11 (5.1)	217
Buy on consignment (credit) from suppliers	143 (66.2)	73 (33.8)	216
Withhold own salary for some period	37 (17.0)	181 (83.0)	218
Use own private credit card for business expenses	80 (37.0)	136 (63.0)	216
Obtain capital via assignments in other businesses	138 (64.2)	77 (35.8)	215
Obtain payment in advance from customers	173 (79,7)	44 (20.3)	217
economic geography	210 (96.8)	7 (3.2)	217
Use interest on overdue payment from customers	176 (81.1)	41 (18.9)	217
Deliberately choose customers who pay quickly	176 (81.5)	40 (18.5)	216
Use routines to minimize capital invested in stock	156 (72.6)	59 (27.4)	215
Run the business completely from home for a period	76 (35.0)	141 (65.0)	217
Share premises with others	123 (56.7)	94 (43.3)	217
Share employees with other businesses	187 (86.6)	29 (13.4)	216
Share equipment with other businesses	137 (63.4)	79 (36.3)	216

Bank financing experiences

What explains our result that bank loans are not so common in the financing of startups? As noted, this result deviates from earlier findings in the US and UK. A question in our questionnaire about the experiences startups have had when applying for bank loans can provide a hint. It is worth noting that this was an open-ended question in the survey with no pre-determined alternatives. In response to a question about the perceived difficulties of getting bank loans, 84 startups answered that they had had difficulties.

In total, 47 of 244 respondents received bank loans (19.3 percent of the firms) but not without problems.[9] Table 6 shows the number and percentage of the 47 firms that use bank loans who have answered the questions about the difficulties in applying for bank loans. Of this firms, 53 percent reported that they had previously been denied bank loans or abstained from applying because of perceived difficulties, whereas 43 % had not been denied bank loans. Sixty-eight percent had had to put up personal collateral and personal guarantees to obtain bank loans.

Table 6   Difficulties in applying for and obtaining bank loans

Questions:	Number and percentage of firms answering Yes	Number and percentage of firms answering No	Number and percentage of firms that did not want to answer	Total number of firms answering the question (firms that use bank loans)
Have you ever been denied bank loans or abstained because of perceived difficulties?	25 (53 %)	21 (45 %)	1 (2%)	47
Have you had to put up personal collateral (e.g., your house) as a safeguard for a bank loan to be used as a funding source in your company?	32 (68 %)	14 (30 %)	1 (2 %)	47
Has it been necessary to put up a personal guarantee of repayment as a safeguard for a bank loan to be used as a funding source in your company?	32 (68 %)	13 (28 %)	2 (4 %)	47

Table 7 shows the most commonly mentioned challenges in applying for bank loans for the 47 firms that use bank loans. It should be noted that this was an open-ended question in the survey with no pre-determined alternative. The requirements of collateral and personal guarantees were the problems most cited in applying for bank loans. In other words, as noted in the theoretical framework, these are requirements that more or less make the idea of the corporate form obsolete. The shielding and separation of owners' and firms' wealth do not work. Furthermore, it is noticeable that the interest rate was mentioned as a stepping stone.

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[9] Gartner, Frid and Alexander (2012) has a similar result for nascent entrepreneurs in USA. They find that only 19.8 percent of the total financing consisted of bank loans.

Table 7   The largest challenges in applying for bank loans

Answers:	Number and percentage:
The requirements on collateral	12 (25.5 %)
The requirements on personal guarantees	6 (13 %)
The bank does not understand the business idea	4 (8.5 %)
The interest rates and terms of credit	3 (6.5 %)

Plans for expansion and financing

A question of expansion plans (Table 8) and the financing of these plans (Table 9) revealed that a majority of the firms had plans for expansion. Only 30 percent had no plans. As much as 27 percent of the firms even had plans for expansion abroad. The financing of these plans showed once again that funder equity and founder loans were the most probable sources for these plans (Table 9). Bank loans were also a probable source (but not of the same magnitude). Equity and loans from family and friends are a not at all probable source of finance. In other words, this type of relational finance is out of the question. Furthermore, venture capital and funding from business angels are not considered options.

Table 8   Plans of expansion

Answers:	Percentage
Expansion in Sweden	31.7
Expansion abroad	4.4
Expansion both in Sweden and abroad	22.5
No	30
Do not know	11.5

Table 9   **Choice of financial source in case of expansion (number of firms and percentage of firms in parentheses)**

Funding source:	Not at all probable	Not probable	Probable	Very probable	Do not know	Answers	χ^2
Founder equity	6 (4.2)	14 (9.7)	37 (25.7)	**83(57.6)**	4 (2.8)	144	$\chi^2 = 151.35$
Equity from family and friends	**58 (51.8)**	25 (27.3)	15 (14.6)	1 (1.0)	4 (3.9)	103	$\chi^2 = 102.39$
Business angels	34 (30.9)	16 (14.5)	26 (23.6)	21 (19.1)	13 (11.8)	110	$\chi^2 = 12.65$
Venture capital	**40 (37.4)**	19 (17.8)	20 (18.7)	15 (14.0)	13 (12.1)	107	$\chi^2 = 21.74$
Govt. subsidy	34 (30.4)	17 (15.2)	20 (17.9)	24 (21.4)	17 (15.2)	112	$\chi^2 = 8.98$
Founder loan	26 (23.0)	19 (16.8)	23 (20.4)	**40 (35.4)**	5 (4.4)	113	$\chi^2 = 28.2$
Loan from family and friends	**57 (51.8)**	30 (27.3)	12 (10.9)	7 (6.4)	4 (3.6)	110	$\chi^2 = 88.08$
Bank loan	25 (19.2)	20 (15.4)	**51 (39.2)**	28 (21.5)	6 (4.6)	130	$\chi^2 = 40.999$
Govt. loan	**35 (31.0)**	19 (16.8)	33 (29.2)	19 (16.8)	7 (6.2)	113	$\chi^2 = 23.55$
Other sources	32 (40.5)	5 (6.3)	7 (8.9)	7 (8.9	28 (35.4)	79	$\chi^2 = 43.21$

Remark: Critical values are $\chi^2_{4;.05} = 9.488$ and $\chi^2_{4;.01} = 13.277$. This indicates that relations in all rows except those for business angels and government subsidy are significant at the 1 percent level.

Summary

Information impactedness and difficulties creating trust are likely to make external financing difficult for entrepreneurs. The statistical results from our survey confirm that picture. Less than 20 percent of the startups received bank loans. Other types of external financing, such as that received from venture capital and business angels funding, are essentially non-existent. In

addition to the usual balance sheet types of financing bootstrapping, means such as withholding salary, using private credit cards and running the business at home were used to handle the financing.

The corporate form implies a separation of personal and firm assets. For startups, the shielding of private assets did not work. The corporate veil was pierced. Two thirds of those who received bank loans had to pledge personal assets as a security, which reduces bank loans for the legal person, the corporate startup, to a financial source of low importance.

In the survey, there was also a future-oriented question about expansion plans (at home and abroad) and the financing of these expansions plans. Even in this case, bank loans were not considered amongst the most probable sources of finance (even though, it in this case, at least it was considered a probable source).

3.1   Startups, financing and geography

3.2.1 Data sources

In this section, the survey is complemented with Amadeus data to determine whether location matters for financing and development. Amadeus is a database published by Bureau van Dijk. It contains information on over 18 million public and private companies in Europe. The database has a good coverage of Swedish corporations and provides information about location and standardized annual reports. The company name stated by the respondents in the survey was used in search of location data. We looked at the last available annual report in Amadeus for location and quantitative financial data (2013 for firms with a fiscal year running from January to December and for 2012 in other cases).

Difficulties locating the surveyed firms in Amadeus and the selection of the thriving firms, in the sense of not being bankrupt and reporting positive sales figures, decreased the number of observations to 192 firms (compared to the 244 firms in the survey). Because the purpose of this part of the study is to analyze the growth expectations and financing of startups, we disregarded firms in a bankruptcy state (because of negative shareholder funds), firms that were part of a group and firms with no sales. The focus is on thriving firms. With these

constraints, the number of firms studied is further reduced to 144. The merging of the survey data and the Amadeus data will, in addition to location and financial data, also allow us to investigate how entrepreneur characteristics can influence development plans and financing.

3.2.2 Functional regions

When studying the geographical dimension of the financing and growth of startups, it is useful to look at the different functional regions of a country. Karlsson (2007) offers a review of the research on functional regions. Referring to Johansson (1998), he writes that "The basic characteristic of a functional region is the integrated labor market, in which inter-regional commuting as well as intra-regional job search and search for labor is much more intensive than the inter-regional counterparts" (Karlsson, 2007 p. 4). Concepts such as agglomeration, cluster, functional region and industrial districts are, according to Karlsson, used interchangeably. The use of function regions in economic analysis has, from this perspective, a long history. One of the classical economists in the field is Alfred Marshall (1920). He writes about the advantages of a pooled labor market, the sharing of inputs and information spillovers within an industrial district.

The concept functional region has been operationalized. Based on work by OECD and Eurostat, there exists a geographical division of Sweden into 72 functional regions (The Swedish Agency of Growth Policy Analysis (Tillväxtanalys), 2011). One criterion used for this division is that in a functional region, it takes less than 45 minutes to commute to a central place with more than 50 000 inhabitants. Based on population density, there is a further division of functional regions into predominantly rural, intermediate and predominantly urban. In a predominantly urban region, there is a central place with at least 500 000 inhabitants, and in an intermediate region, there is a central place with at least 50 000 inhabitants. The remaining areas are classified as predominantly rural areas. In most cases, the central place is a city. However, in some cases, it can be numbers of cities situated close to each other (see The Swedish Agency of Growth Policy Analysis (Tillväxtanalys), 2011). Using this classification, there are 3 predominantly urban regions (Stockholm, Gothenburg and Malmö), 29 intermediate areas and 40 predominantly rural areas. Sweden is a very urbanized country with only approximately 15 percent of the population in predominantly rural areas and almost 50 percent in the three predominantly urban areas.

The 144 independent thriving startups in our sample are distributed among the FA regions with 11 (8%) in rural areas, 42 (29%) in intermediate urban areas and 91 (63 %) in predominantly urban areas (i.e., metropolitan areas in Sweden). The startups are, in other words, more prevalent than the share of the population in the densely populated urban areas, which contain approximately 50 percent of the Swedish population

3.2.3 Data and model

The growth variables used in the analysis will be plans of expansion in Sweden and abroad. The financial variables to be explained are the prevalence of bank loans today, difficulties in obtaining a bank loan, and financial structure, represented by solvency. These are the dependent variables to be explained. Solvency is quantitative data based on the last available annual report (2013) from Amadeus, whereas the others are qualitative data from the survey. The explanatory variables in focus to explain plans of expansion and finance are the regional variables: rural, intermediate urban and predominantly urban areas. There are dummies for urban and intermediate areas. The signs of these areas indicate how they differ from the predominantly urban areas. The regional variables are supplemented with a number of control variables that are used to explain the growth plans and financing of the startups. These control variables are owner characteristics such as gender, birth place (Sweden or abroad), the age of the entrepreneur, education level and number of earlier startups. The profit margin and industry dummies are also used as control variables. (See Table 10 for a description of the variables.) Amongst the owner characteristics in Table 4, there was also earlier working experience. This variable is not included here due to the high correlation with the age of the entrepreneur (see Correlation Matrix, Table A1 in the appendix).

Table 10   Description of variables

Variable	Description	Source
Bankloantoday	Dummy that equals 1 if bank loan today and zero otherwise	Survey
Deniedbankloan	Dummy that equals 1 if denied bank loan or abstained from searching bank loans and zero otherwise	Survey
Solvency	Shareholder funds divided by total assets	Amadeus
Exp	Dummy that equals 1 if expansion plans only in Sweden and zero otherwise	Survey
Expabroad	Dummy that equals 1 if expansion plans abroad and/or expansion both Sweden and abroad, zero otherwise	Survey
Birthplace	Dummy that equals 1 if born abroad and zero if born in Sweden	Survey
Gender	Dummy that equals 1 if woman and zero if male	Survey
Age	Age of the founder of the startup	Survey
Numberofstartups	Number or earlier startups	Survey
Rural	Dummy that equals 1 if in a predominantly rural region and zero otherwise	Amadeus and The Swedish Agency of Growth Policy Analysis
Intermediate	Dummy that equals 1 if in an intermediate region and zero otherwise	Amadeus and The Swedish Agency of Growth Policy Analysis
Profitmargin	EBIT (earnings before interest and tax) divided by turnover	Amadeus
Industry dummies	Dummies for (1) Manufacturing, (2) Construction and Real Estate, (3) IT, Data and Technology, (4) Health Care, (5) Retailing and (6) Consulting	Survey

Table 11 presents the summary statistics for our selection of thriving startups. The low frequency of bank loans (20.8 %) and the fact that as many as 29.5 percent of the startups have been denied bank loan can be observed. Furthermore, there is comparatively low frequency of startups in rural areas (7.6%). The most popular industry is consulting. The portion of women is 40 percent amongst the thriving entrepreneurs, and more than 60 percent have a college degree (academic exam).

Table 11   Summary Statistics

Performance Dummies:	Bankloan-today	Denied-bankloan	Exp	Expabroad		
No. of obs.	144	132	144	144		
Mean	.208	.295	.319	.188		
Explanatory Dummies:	Birthplace	Gender	Rural	Intermediate	Acadexam	
No. of obs.	143	144	144	144	144	
Mean	.133	.403	.076	.292	.639	
Industry dummies:	Manufac-turing (1)	Construc-tion (2)	IT, data technolo-gy (3)	Health Care (4)	Retailing (5)	Consul-ting (6)
No. of obs.	144	144	144	144	144	144
Mean	.090	.083	.069	.125	.041	.33
Quantitative variables:	Solvency	Age	Numberof-startups	Profitmargin		
No. of obs.	144	144	144	144		
Mean	.460	42	.590	.031		
Std.Dev.	.270	10.1	.949	.523		

To explain how growth plans, access to bank loans and capital structure are affected by location and other control variables, the following type of equation is used:

Outcome variable = f(Entrepreneur Characteristics, Location, industry, profit margin)   (1)

The different outcomes to be explained are (1) the prevalence of bank loans (bank loan today), (2) why firms are denied bank loans, (3) the plans to expand at home and abroad and (4) the capital structure in the form of solvency. Three different hypotheses related to economic geography will be tested. First, we want to see whether the type of FA region where a firm is located has an effect on growth and finance. According to the new geography literature about agglomeration, referred to above, it is hypothesized that the more densely populated a region is, the higher is the propensity to expand the business. Intermediate urban areas can, according to this literature, be expected to be more concentrated on expansion at home, whereas densely populated areas have more of an orientation towards expansion abroad through export (Hypotheses 1 and 2).

The second is a hypothesis inspired by Backman (2013) and Berggren and Silver (2010). It holds that the information barrier for a bank loan is lower in rural areas. Hence, we also test whether firms in rural area to a larger extent depend on bank loans as an external financial source (Hypothesis 3). Third, based on the competence view of the firm advanced by economic geographers such as Maskell (2001), it is assumed that entrepreneurial characteristics are useful in a geographical analysis like such as ours

Industry and profit margin are used as control variables. The type of industry can affect expansion through the nature of tradable goods and services and affect the possibility to borrow. Banks can be expected to look both at the presence of collateral and the business future a certain industry represents. Profit margin is a factor that influences all outcome variables. The possibility of obtaining a bank loan, expansion and capital structure are likely to be positively affected by profit margin.

3.2.4   **Regression Results**

For each of the six outcome variables (expansion at home, expansion abroad, bank loan, bank loan denied, solvency and gearing ratio), a regression was run with entrepreneur characteristics, area location, industry dummies and profit margin as explanatory variables. As shown in Tables A1 to A5 in the appendix, three different models were used. Explanatory variables in the first model were, other than location, only entrepreneur characteristics. The second model also included industries as control variables, and in the third model, profit margin was added as a control variable.

When the dependent (outcome) variable was a dummy, both OLS (ordinary least square) and marginal probit estimations were used. OLS with a binary dependent variable is to be interpreted as a linear probability model. As in some of the studies described in Table 1, a probit model is useful in cases of a binary dependent variable. We chose to use a marginal probit model, which allowed us to estimate the effect of an increase in a variable such as a shift from a rural to an intermediate location. The parallel use of the two statistical methods is likely to say something of the robustness of the results if coefficients, significance and sign do not change significantly.

As seen from Tables A2 to A6, there were no significant changes between the different models and the estimation technique used. (An exception is the case of solvency in Table A6;

the introduction of profit margin made the effect of rural area and age on solvency insignificant.) In Table 12 below, we have included the model with all control variables for each of the outcome variables. For each of the binary outcomes, the results that use the marginal probit technique are chosen.

A novelty of this study is the use of location as explanation of expansion plans and finance. Looking at expansion at home and abroad in the second column, there are significant differences for the intermediate FA region compared to the densely populated Stockholm, Gothenburg and Malmö areas. Firms in the intermediate region have expansion plans that focus only on the domestic market, and expansion abroad is also negative for this region compared to the three most densely populated areas. These results are in accordance to what can be expected according to the agglomeration literature (Hypotheses 1 and 2). Firms in rural areas seem to rely more on bank loans than firms in other areas, supporting our Hypothesis 2.

For ownership characteristics as control variables, there are earlier studies with which to compare our results (see Table 1). Five different variables that mirror personal characteristics were used. Being born abroad or Sweden did not make any difference in the five regressions. Female entrepreneurs had lower solvency than men. Profitability is, as can be expected, important for profitability. The number of startups is negatively related to bank loans. Entrepreneurs with a history of many startups are more also often denied or abstain from applying for bank loans, which can explain why bank loans are less important in these firms. It would be interesting to study these earlier startups. Perhaps there is a history of bankruptcies, or they more own funds from earlier successful startups. One indicator of the latter direction is the significant relationship between the number of startups and expansion plans.

Like Storey (1994), we find that use of bank loans cannot be explained by the other owner characteristics birthplace and gender. However, in our study, age had an effect on being denied or abstaining from searching for a bank loan. Being of age was a negative factor, but this negative effect decreased as age increased. Cassar (2004) finds that leverage (which is the inverse of our solvency measure) cannot be explained by ownership characteristics. However, we find that gender matters. Women have more debt in relation to assets. Robb and Robinson (2010) find that women have less outside equity in relation to assets, which might be interpreted as a similar result. Education does not matter in our study, but it matters in the study of Gartner et al (2012) and Coleman et al (2014)

Startups in the construction industry had difficulties with bank financing, and IT and data firms did not have expansion plans at home. Health care firms seemed to have good relations to banks and planned to expand at home. The service firms were somewhat surprisingly not denied bank loans as often as firms in other industries.

The most interesting result from the regressions is, as we see it, that urbanization matters for expansion plans. This appears to us as a new area for studying family startups. The results are highly significant.

Table 12 **Summarizing excerpts from the regression tables A1-A5 in Appendix A**

Method:	Marginal probit	Marginal probit	Marginal probit	Marginal probit	OLS
Variables:	Expansion	Expansion abroad	Bank loan	Bank loan denied	Solvency
Birthplace	-0.219	-0.110	-0.124	0.090	0.072
	(0.138)	(0.097)	(0.105)	(0.116)	(0.068)
Gender	0.053	-0.088	-0.003	0.129	-0.104**
	(0.088)	(0.062)	(0.061)	(0.083)	(0.048)
Age	-0.031	0.019	0.006	0.081**	-0.021
	(0.030)	(0.028)	(0.026)	(0.035)	(0.015)
Age^2x10^2	0.020	-0.025	-0.048	-0.098***	0.025
	(0.032)	(0.030)	(0.120)	(0.038)	(0.016)
Acadexam	0.055	-0.015	0.032	-0.111	0.028
	(0.091)	(0.069)	(0.070)	(0.087)	(0.046)
Rural	0.112	-0.048	0.251**	-0.077	-0.103
	(0.176)	(0.125)	(0.105)	(0.123)	(0.082)
Intermediate	0.329***	-0.261***	0.040	0.129	-0.026
	(0.092)	(0.084)	(0.076)	(0.102)	(0.051)
Numberofstartups	0.084**	0.035	-0.088**	0.116***	-0.018
	(0.039)	(0.028)	(0.043)	(0.041)	(0.020)
Profitmargin	0.321**	-0.039	-0.072	-0.087	0.158***
	(0.134)	(0.045)	(0.050)	(0.080)	(0.035)
Industry 1	0.135	-0.068	-0.025	0.179	-0.112
	(0.183)	(0.122)	(0.129)	(0.168)	(0.078)
Industry 2	0.266	-0.045	-0.166**	0.452***	-0.103
	(0.194)	(0.159)	(0.073)	(0.169)	(0.067)
Industry 3	-0.240***	0.073	-0.113	-0.116	0.071
	(0.078)	(0.152)	(0.109)	(0.164)	(0.090)
Industry 4	0.253*	-0.152*	0.313**	0.113	0.046
	(0.150)	(0.091)	(0.157)	(0.150)	(0.066)
Industry 5	0.034	0.133	0.325	0.058	-0.195
	(0.174)	(0.213)	(0.215)	(0.181)	(0.153)
Industry 6	-0.029	-0.142*	-0.119	-0.185**	0.060
	(0.106)	(0.082)	(0.075)	(0.092)	(0.058)
Constant					0.895**
					(0.362)
Observations	143	143	143	131	143
R-squared					0.303

Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1
(For the OLS regressions, the standard errors are robust.)
Remark: Outlier med profitmargin = - 3.4 is excluded

4   Concluding remarks

Innovations are the primary factor behind growth, according to Solow (1957). To realize innovative ideas, entrepreneurs need financing. The entrepreneurs with the brightest new ideas are not necessarily the ones with wealth that allows for self-financing. There is also a risk factor to consider. To have to use one's own wealth for collateral and guarantees to finance a startup built on innovative ideas requires an increased personal financial risk. Hence, access to external financing and risk mitigation are important for the realization of a business idea.

With external financing, a double trust problem has to be solved. The entrepreneur must be assured that the financier can be trusted with sensitive private information. At the same time, the financier must be confident that invested money is not wasted. For the entrepreneur, the corporate form of business is attractive from the perspective of mitigating economic risk. The wealth of the entrepreneur can, at least in theory, be separated from the wealth of the firm. Bank loans are also attractive because the stealing of ideas is less of a problem than it is with other forms of external financing.

However, the drawback for a new firm is that the bank simultaneously must be certain that money lent out is paid back. One way for the bank to be assured of getting money back with an interest rate is to demand safeguards in the form personal collateral and personal guarantees. A consequence is that the idea behind the corporate form of business is thereby compromised. The separation of personal assets and firm assets is blurred. Bank loans to finance business activities are not given to the legal person, the corporation, but instead to the owner. Seen from that perspective, authors such as Robb and Robinson (2014) are wrong in their assertion that bank loans are not a problem for startups.

An important finding from our survey is that the shielding properties of the corporate form cannot be used. A relatively large proportion of the respondents that were granted bank loans had problems; either they were initially denied bank loans, or that they had to use personal collateral and personal guarantees to obtain a loan. Hence, the results suggest that bank financing does not seem to be a financing option for the majority of Swedish startups. Personal wealth is a pre-requisite to obtain bank loans, and is at least as important for firms that do not use bank loans.

Adding a geographical dimension, for a reduced sample of thriving startups, we find that location matters for expansion plans. Clustering makes firms more inclined to contemplate expansion. Firms in intermediate urban regions plan more expansion at home, whereas firms in the three most densely populated regions, Stockholm, Gothenburg and Malmö, to a larger extent plan to expand their business to foreign markets. There is also geographical difference in bank financing with bank loans more frequent in rural regions.

We consider the most interesting finding from our regressions to be that urbanization matters for expansion plans. This appears to us as a completely new area for study of startups. The results are highly significant. It can, of course, be objected that our sample is small. The response rate in our survey was quite low. However, in light of earlier research on firms in urbanized areas, the results make sense. We are looking forward to further research on how location matters for startups. A data base like the Kauffman Firm Survey with 5000 startups could perhaps also be used for research about location and growth. The database have been used in different published articles as Robb and Robinson (2014) and Coleman, Cotei and Farhat (2014) (see section 2.1.4). It is possible for others to get access to the database.

In response to the questions posed in the abstract, we can summarize our findings that personal wealth is the most important financing source. Almost all financial risk is born by entrepreneurs. The use of bootstrapping in mitigating risk takes primarily the forms of withholding one's own salary, using private credit cards, and running the business at home. The alternative to bank loans is personal savings. Very few firms in our sample rely on relational financing from families and friends and on external financing from non-bank sources. Location matters for expansion plans; firms in the three most urbanized regions are more prone to expanding their businesses to foreign markets.

The challenge for policy maker is to create incentives for external financiers to invest in startups and find ways to bridge the information barrier between external financiers and startups. One way to raise the interest of external financiers to invest could be to make return on such investments temporary tax exempt.

Authors´ Note:

Michel Elmonizo Laufer has been responsible for the survey.

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APPENDIX A

Table A1   Correlation matrix of explanatory variables

	Gender	Nation-ality	Age	Acad-exam	Workex-perience	Numberof-startups	Rural	Inter-medi-ate
Gender	1							
Nationality	-0,072	1						
Age	-0,101	-0,042	1					
Acadexam	0,028	0,119	-0,033	1				
Work-experience	-0,113	-0,060	0,896	-0,154	1			
Numberof-startups	-0,063	0,062	0,139	0,026	0,200	1		
Rural	0,030	0,042	0,066	-0,056	0,023	0,042	1	
Intermediate	-0,153	-0,157	0,036	-0,376	0,122	-0,077	-0,185	1

Table A2   Regression with Exp (expansion at home) as dependent variable

	OLS			Marginal probit		
Model Variables	(1)	(2)	(3)	(1)	(2)	(3)
Birthplace	-0.092	-0.143	-0.143	-0.106	-0.185	-0.219
	(0.107)	(0.105)	(0.104)	(0.127)	(0.134)	(0.138)
Gender	0.049	0.038	0.033	0.050	0.039	0.053
	(0.080)	(0.083)	(0.082)	(0.083)	(0.090)	(0.088)
Age	-0.027	-0.035	-0.030	-0.022	-0.037	-0.031
	(0.027)	(0.028)	(0.029)	(0.029)	(0.031)	(0.030)
$Age^2 x10^2$	0.019	0.027	0.021	0.013	0.027	0.020
	(0.028)	(0.030)	(0.030)	(0.030)	(0.033)	(0.032)
Acadexam	0.041	0.056	0.073	0.038	0.049	0.055
	(0.087)	(0.088)	(0.089)	(0.091)	(0.094)	(0.091)
Rural	0.060	0.046	0.101	0.061	0.053	0.112
	(0.148)	(0.153)	(0.163)	(0.158)	(0.161)	(0.176)
Intermediate	0.268***	0.285***	0.292***	0.269***	0.312***	0.329***
	(0.097)	(0.093)	(0.092)	(0.097)	(0.094)	(0.092)
Numberofstartups	0.068*	0.071*	0.070	0.071*	0.080*	0.084**
	(0.040)	(0.043)	(0.043)	(0.039)	(0.042)	(0.039)
Profitmargin			0.121**			0.321**
			(0.049)			(0.134)
Industry 1		0.092	0.111		0.105	0.135
		(0.145)	(0.146)		(0.164)	(0.183)
Industry 2		0.218	0.213		0.246	0.266
		(0.182)	(0.181)		(0.189)	(0.194)
Industry 3		-0.296***	-0.327***		-0.237***	-0.240***
		(0.108)	(0.112)		(0.078)	(0.078)
Industry 4		0.209	0.199		0.255*	0.253*
		(0.138)	(0.135)		(0.151)	(0.150)
Industry 5		0.016	0.033		-0.000	0.034
		(0.160)	(0.159)		(0.159)	(0.174)
Industry 6		0.007	-0.013		0.015	-0.029
		(0.103)	(0.102)		(0.109)	(0.106)
Constant	0.987	1.169*	1.058			
	(0.628)	(0.645)	(0.660)			
Observations	143	143	143	143	143	143
R-squared	0.118	0.186	0.202			

Robust standard errors in parentheses   Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1   *** p<0.01, ** p<0.05, * p<0.1

Table A3   Regression with Expansionabroad as dependent variable

	OLS			Marginal probit		
Model Variables	(1)	(2)	(3)	(1)	(2)	(3)
Birthplace	-0.097	-0.115	-0.114	-0.086	-0.109	-0.110
	(0.099)	(0.106)	(0.108)	(0.096)	(0.096)	(0.097)
Gender	-0.110	-0.109	-0.107	-0.095	-0.090	-0.088
	(0.071)	(0.074)	(0.074)	(0.063)	(0.063)	(0.062)
Age	0.028	0.029	0.027	0.024	0.020	0.019
	(0.022)	(0.023)	(0.024)	(0.027)	(0.027)	(0.028)
$Age^2 x 10^2$	-0.036	-0.036	-0.034	-0.032	-0.027	-0.025
	(0.025)	(0.026)	(0.026)	(0.030)	(0.030)	(0.031)
Acadexam	-0.035	0.011	0.005	-0.046	-0.010	-0.015
	(0.068)	(0.071)	(0.072)	(0.067)	(0.068)	(0.069)
Rural	-0.061	-0.041	-0.063	-0.041	-0.032	-0.048
	(0.140)	(0.137)	(0.146)	(0.124)	(0.120)	(0.125)
Intermediate	-0.214***	-0.233***	-0.235***	-0.251***	-0.258***	-0.261***
	(0.063)	(0.066)	(0.066)	(0.083)	(0.084)	(0.084)
Numberofstartups	0.042	0.045	0.046	0.029	0.034	0.035
	(0.039)	(0.041)	(0.040)	(0.028)	(0.028)	(0.028)
Profitmargin			-0.049			-0.039
			(0.065)			(0.045)
Industry 1		-0.051	-0.059		-0.060	-0.068
		(0.141)	(0.140)		(0.127)	(0.122)
Industry 2		-0.085	-0.083		-0.045	-0.045
		(0.159)	(0.159)		(0.160)	(0.159)
Industry 3		0.047	0.060		0.060	0.073
		(0.144)	(0.145)		(0.150)	(0.152)
Industry 4		-0.160	-0.156		-0.153*	-0.152*
		(0.112)	(0.112)		(0.092)	(0.091)
Industry 5		0.111	0.104		0.146	0.133
		(0.193)	(0.193)		(0.216)	(0.213)
Industry 6		-0.173*	-0.165*		-0.147*	-0.142*
		(0.092)	(0.093)		(0.082)	(0.082)
Constant	-0.159	-0.162	-0.116			
	(0.509)	(0.517)	(0.524)			
Observations	143	143	143	143	143	143
R-squared	0.109	0.156	0.160			

Robust standard errors in parentheses   Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1   *** p<0.01, ** p<0.05, * p<0.1

Table A4   Regression with Bankloan as dependent variable

Variables / Model	OLS			Marginal probit		
	(1)	(2)	(3)	(1)	(2)	(3)
Birthplace	0.019	-0.129	-0.129	0.017	-0.128	-0.124
	(0.103)	(0.114)	(0.117)	(0.094)	(0.105)	(0.105)
Gender	0.072	0.005	0.009	0.075	-0.009	-0.003
	(0.073)	(0.072)	(0.070)	(0.064)	(0.061)	(0.061)
Age	0.011	0.002	-0.002	0.019	0.009	0.006
	(0.024)	(0.024)	(0.025)	(0.026)	(0.025)	(0.026)
$Age^2 x10^2$	-0.016	-0.007	-0.002	-0.026	-0.015	-0.048
	(0.024)	(0.025)	(0.025)	(0.029)	(0.028)	(0.120)
Acadexam	0.021	0.069	0.056	0.016	0.046	0.032
	(0.078)	(0.078)	(0.078)	(0.074)	(0.070)	(0.070)
Rural	0.203	0.299*	0.256*	0.181*	0.280***	0.251**
	(0.143)	(0.152)	(0.150)	(0.106)	(0.106)	(0.105)
Intermediate	0.034	0.037	0.031	0.042	0.040	0.040
	(0.089)	(0.085)	(0.086)	(0.084)	(0.077)	(0.076)
Numberofstartups	-0.062**	-0.067**	-0.066**	-0.085*	-0.090**	-0.088**
	(0.025)	(0.027)	(0.027)	(0.044)	(0.044)	(0.043)
Profitmargin			-0.095			-0.072
			(0.068)			(0.050)
Industry 1		-0.039	-0.054		-0.021	-0.025
		(0.159)	(0.161)		(0.137)	(0.129)
Industry 2		-0.196**	-0.193*		-0.178**	-0.166**
		(0.099)	(0.098)		(0.076)	(0.073)
Industry 3		-0.157	-0.133		-0.134	-0.113
		(0.132)	(0.131)		(0.105)	(0.109)
Industry 4		0.252*	0.260*		0.300*	0.313**
		(0.139)	(0.141)		(0.155)	(0.157)
Industry 5		0.304	0.291		0.344	0.325
		(0.211)	(0.217)		(0.212)	(0.215)
Industry 6		-0.146	-0.130		-0.133*	-0.119
		(0.089)	(0.087)		(0.077)	(0.075)
Constant	0.049	0.265	0.352			
	(0.565)	(0.579)	(0.591)			
Observations	143	143	143	143	143	143
R-squared	0.069	0.183	0.197			

Robust standard errors in parentheses   Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1   *** p<0.01, ** p<0.05, * p<0.1

Table A5   Regression with Deniedbankloan as dependent variable

	OLS			Marginal probit		
Model \ Variables	(1)	(2)	(3)	(1)	(2)	(3)
Birthplace	0.156	0.069	0.069	0.166	0.094	0.090
	(0.122)	(0.121)	(0.126)	(0.119)	(0.110)	(0.116)
Gender	0.091	0.105	0.109	0.092	0.124	0.129
	(0.082)	(0.079)	(0.078)	(0.080)	(0.084)	(0.083)
Age	0.059**	0.055*	0.053	0.088**	0.082**	0.081**
	(0.029)	(0.031)	(0.032)	(0.036)	(0.035)	(0.035)
$Age^2 x10^2$	-0.072**	-0.068**	-0.065*	-0.106***	-0.100***	-0.098***
	(0.030)	(0.032)	(0.033)	(0.040)	(0.038)	(0.038)
Acadexam	-0.167*	-0.100	-0.112	-0.177**	-0.094	-0.111
	(0.091)	(0.092)	(0.091)	(0.089)	(0.088)	(0.087)
Rural	-0.021	-0.047	-0.080	-0.015	-0.062	-0.077
	(0.129)	(0.109)	(0.118)	(0.136)	(0.128)	(0.123)
Intermediate	0.096	0.074	0.072	0.126	0.129	0.129
	(0.101)	(0.101)	(0.101)	(0.098)	(0.103)	(0.102)
Numberofstartups	0.085**	0.101***	0.100***	0.088**	0.116***	0.116***
	(0.036)	(0.036)	(0.035)	(0.037)	(0.041)	(0.041)
Profitmargin			-0.075			-0.087
			(0.082)			(0.080)
Industry 1		0.182	0.174		0.195	0.179
		(0.164)	(0.165)		(0.166)	(0.168)
Industry 2		0.345**	0.352**		0.441**	0.452***
		(0.173)	(0.172)		(0.173)	(0.169)
Industry 3		-0.154	-0.131		-0.142	-0.116
		(0.172)	(0.169)		(0.158)	(0.164)
Industry 4		0.098	0.109		0.088	0.113
		(0.152)	(0.151)		(0.150)	(0.150)
Industry 5		0.100	0.092		0.065	0.058
		(0.187)	(0.190)		(0.186)	(0.181)
Industry 6		-0.185*	-0.167*		-0.202**	-0.185**
		(0.102)	(0.099)		(0.096)	(0.092)
Constant	-0.842	-0.796	-0.740			
	(0.693)	(0.745)	(0.756)			
Observations	131	131	131	131	131	131
R-squared	0.129	0.246	0.253			

Robust standard errors in parentheses   Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1   *** p<0.01, ** p<0.05, * p<0.1

Table A6   Regression with Solvency as dependent variable

Model	(1)	(2)	(3)
Variables	Solvency	Solvency	Solvency
Birthplace	0.054	0.073	0.072
	(0.067)	(0.075)	(0.068)
Gender	-0.081*	-0.097**	-0.104**
	(0.047)	(0.049)	(0.048)
Age	-0.032*	-0.027*	-0.021
	(0.018)	(0.015)	(0.015)
Age^2x10^2	0.037**	0.033**	0.025
	(0.019)	(0.016)	(0.016)
Acadexam	0.045	0.007	0.028
	(0.050)	(0.049)	(0.046)
Rural	-0.194**	-0.174*	-0.103
	(0.087)	(0.089)	(0.082)
Intermediate	-0.047	-0.034	-0.026
	(0.058)	(0.054)	(0.051)
Numberofstartups	-0.011	-0.016	-0.018
	(0.022)	(0.022)	(0.020)
Profitmargin			0.158***
			(0.035)
Industry1		-0.137	-0.112
		(0.089)	(0.078)
Industry 2		-0.097	-0.103
		(0.069)	(0.067)
Industry 3		0.110	0.071
		(0.092)	(0.090)
Industry 4		0.061	0.046
		(0.067)	(0.066)
Industry 5		-0.217	-0.195
		(0.149)	(0.153)
Industry 6		0.087	0.060
		(0.061)	(0.058)
Constant	1.113***	1.041***	0.895**
	(0.411)	(0.362)	(0.362)
Observations	143	143	143
R-squared	0.117	0.220	0.303

Robust standard errors in parentheses
*** $p<0.01$, ** $p<0.05$, * $p<0.1$