



XLème Colloque de l'ASRDLF

Convergence et disparités régionales au sein de l'espace européen

Les politiques régionales à l'épreuve des faits

Bruxelles – 1, 2 et 3 Septembre 2004

FINANCIAL CONSTRAINTS, FINANCIAL INSTITUTIONS AND ENTREPRENEURSHIP: LOOKING FOR REGIONAL DISPARITIES

Jean Bonnet★ Sylvie Cieply★ Marcus Dejardin ★

★CREM-CAEN, UMR CNRS 6211, Faculté de Sciences Economiques et de Gestion de Caen, esplanade de la Paix, 14032 Caen, Cédex, France.

bonnet@econ.unicaen.fr

cieply@iupba.unicaen.fr

★CREW, Faculté des Sciences économiques, sociales et de gestion, Facultés Universitaires Notre-Dame de la Paix Rempart de la Vierge, 8 B-5000 Namur.

marcus.dejardin@fundp.ac.be

Abstract:

This article deals with the financial constraints new French firms are confronted with. With a data basis on new French firms, we are able to build indicators for the different financial constraints small firms can have to manage. In particular, we can distinguish the classical credit rationing from others financial impediments like the self-constraint which translates the fear of manager to ask for credit to banks. After having analyzed the global situation of French new firms, we identify interregional differences concerning the exposition of new firms to financial constraints. We shed a light on the very specific position of the capital region Île-de-France.

Keywords: Financial constraints, Credit rationing, Proximity, Regions.

JEL: G21, D82, R19.

1- Introduction

For more than 15 years, a huge theoretical and empirical research program has studied the question of the nature of financing system on an international standpoint. This research program deals more precisely with two questions. The first one deals with the differences in the way firms are financed in the most developed countries (Mayer, 1988, Hacketall, Schmidt, 2003). A controversial debate is in progress on this question¹. The second strand of literature accepts the idea of an imperfectly harmonized system of financing and looks for the reasons why financial systems should differ (La Porta, Schleiffer and Vishny, 1997) and for the consequences of these differences on growth (King and Levine, 1993, Levine, 1997). Thus, the question of how financial systems could differ on an international viewpoint is clearly admitted as an important question and is clearly integrated in the vast empirical literature on corporate governance.

Although studying the financing patterns of firms on an international perspective is well admitted, the question of differences at the regional level has been quite completely eluded in the literature concerning the most developed countries. In fact, this question is only analysed in the context of the United-States and Italia. Until the “Riegle-Neal Interstate Banking” and the “Branching Efficiency Act” in 1994, the USA had been characterised by a very decentralised banking system as the 1927 “McFadden Act” specifically prohibited intrastate branching by allowing a national bank to branch only within the city in which it is situated and the ability of a bank holding company to own and operate banks in more than one state. For Italia, the argument is different as the law, in particular the Banking Law, is perfectly unified. The argument for interregional differences is often based on the importance of cultural aspects, a quite mythic cult for proximity and the importance of trust and interpersonal links. For these countries, some empirical researches have been launched to know if and how local financial patterns matter². The authors put into light the significant contribution of local indicators. In this article, we analysed this question within the French context.

¹ On the one hand, Mayer (1988) and Corbett and Jenkinson (1996), using flow of funds data, do not find any difference in the way firms are used to financing themselves. In these articles, authors contest the old and famous typology between bank based financial system and market based financial system. On the other hand, Hackethall and Schmidt (2003) underline some statistical problems in the method used by Mayer and followers. A new treatment of data by Hackethall et Schmidt (2003) existence of differences between the financing patterns of firms at least in Germany, Japan, France and the United-Kingdom. This last analysis has been recently contested in a paper written by Corbett, Edwards, Jenkinson *et alii* (2004).

² For instance, Jayaratne and Strahan (1996) analysed this question for the US and Guiso, Sapienza and Zingales (2002) for Italia.

We use the database SINE that gives us information *at an individual level* on the financing policy of young firms when they are created and during the first four years of their life. In particular, the use of this data allows considering the question of financial constraints new firms should have to cope with when they look for external finance.

The microeconomic background is so the seminal work of Stiglitz and Weiss (1981), who demonstrated, by considering informational asymmetries and agency problems, that equilibrium can emerge with a rationing on the credit market. In this analysis, the riskiest firms should be redlined; they are excluded from the credit market. As the risk of exit and default is higher for new firms, these firms can be supposed to suffer more than the others from credit rationing. The same result is put into light for the equity market (Hellman and Stiglitz, 2000, Hellman, 1995) so that small firms, and especially new firms, can be said to suffer from an external financing gap even in the most developed countries.

On a theoretical standpoint, the rationing of small firms on the market of external financing is clearly established (Berger, Udell, 1998, Psillaki, 1995). The empirical treatment of this question is more difficult because available data on financing are extracted from balance sheets and economists must cope with a problem of over determination of variables. Some surveys have been launched to deal with the question of credit rationing. They stress the scarce situation of new firms (Cieply, Grondin, 1999). In this article, we use the database SINE to build indicators of finance gap for new firms. We analyse the results not only at the micro level but at the regional level too. The objective is indeed to answer the question if local finance matters in France. In the following section, this question is analysed theoretically and the French situation is analysed more precisely. The third paragraph introduces the data and the method of treatment. The fourth gives the results.

2- Should local patterns of the French financing system matter in the financing of new small firms?

In this section, we look for the arguments *pro* and *contra* the potential influence of local financing patterns on the financing of small firms and especially of new firms (2.1.). We then analyse more precisely the situation of the French financial system to identify the hypothesis that would guide our empirical work (2.2.).

2.1.- Why could local patterns of financing system matter ? : the theoretical background

2.1.1.- The importance of local patterns : the “ pro ” arguments

Lending to small firms is closely bound to the ability of banks to gather information on these firms. In a survey carried out on bankers in France (Cieply, Grondin, 1999), we observe that, when bankers cannot collect enough information on small firms, they prefer, in more than 75% of cases, to limit their supply of credit than using other devices like increasing interest rates or asking for new warranties³. The solution to avoid credit rationing is thus to increase the flow of information from firms to bankers.

As bankers are outsiders, their access to information is not statutory favoured. Two situations are so possible: either the information is given to banks by firms or this information is “in the air” and can be integrated in a diffuse way by bankers. The former is the “hard” information; the latter is the “soft” one according to Stein (2002). The “hard” information concerns all financial accounts and formalised information as legal statute, formal agreements and all other reporting devices. The “soft” information is not formalized at all and is based on the reputation the firm and his owner – manager can acquire on the product market.

According to Hauswald and Marquez (2003), the quality of information, and particularly of signals, tends to decrease in distance as soft information is supposed to vanish. Thus, informational asymmetries can be supposed to increase when the distance between lenders and firms is growing. As a consequence, credit rationing should be higher for firms whose informational system is more opaque and less rich in “hard” information (Stein, 2002), in particular new firms.

As a result, when the financing of new firms is concerned, the relevance of geographical distance in the management of credit should be mentioned. By improving the transfer of “soft” information between lenders and borrowers, proximity should allow the decrease of informational asymmetries which are responsible for the collapse of the credit market for new firms. According to this argument, the rationing of new firms should increase with the level of centralisation in the banking sector. A high level of centralisation corresponds indeed to a low intensity delegation system; in this system, only hard information can be transferred from local desks to decision centres (Liberti, 2003).

³ The result was clearly different when bankers were asked about their behaviour when they observe an increase of small firms’ risk. In this case, they asked for new warranties or/and they charge a higher interest rate on credit.

To sum up, proximity should improve the financing pattern of small firms as they can be supposed to suffer from informational asymmetries: this is the “Church Tower Principle” (Carling and Lundberg, 2002). According to this principle, geographical proximity between borrowers and lenders matters in the management of credit risk. However, we must take in minds that proximity is not always perceived as improving the financial situation of firms. Proximity can indeed build barriers to entry in the credit market so that the price of credit can be higher because of the pre-existing relationships (Sharpe, 1990, Rajan, 1992). Information sharing may indeed serve as a collusive device which can soften competition (Bouckaert, Degryse, 2004). As the problem of new firms is more the access to credit market than the cost of loan, we only consider, in this paper, the favourable effect of close relationship between banks and firms. For the moment, in our demonstration, relationship is associated strictly with proximity. However, the technological revolution which has taken place for more than 10 years in the sciences of information could have softened this link

2.2.2.- The irrelevance of local patterns : the “contra” arguments

Since the technological revolution, the cost for transferring information has decreased so that “information is available at substantially lower costs now than it used to be” (Buch, 2002, p.2). The result might be the increase of distance between bankers and their customers.

In the international banking lending area, Buch (2002) demonstrated the declining importance of distance in the United-States. Petersen and Rajan (2002) find quite the same result when the domestic banking lending is analysed: the geographical distance between banks and their borrowers has indeed been increasing over time in the U.S. The case of the United-States is very specific insofar as the Riegle-Neal Interstate Banking and Branching Efficiency Act of 1994 has allowed full nationwide banking across the country, regardless of state law⁴. Degryse and Ongena underline this trend result not only in the United-States but in Belgium too. Carling and Lundberg (2002) put into light quite the same result in Sweden. In these countries, banks tend recently to lend across larger distance.

⁴ This Act has indeed radically modified the legal environment of the American banking sector. Before it, the McFadden Act, signed in 1927, specifically prohibited intrastate branching by allowing a national bank to branch only within the city in which it is situated. For 1994, The Banking law had limited the ability of a bank holding company to own and operate banks in more than one state. The Riegle-Neal Interstate Banking and Branching Efficiency Act has resulted in increased consolidation and concentration in the banking industry. While the United States had 14,399 banks in 1940, the country has fewer than 9,000 banks today. However, while consolidation among banks has certainly been the trend, the number of branches in the U.S. has steadily increased.

Moreover, Petersen and Rajan (2002) underlined the fact that small firms use new tools to communicate and transfer message on a more impersonal way. According to these results, small firms cannot be too closely associated with soft information as they begin to use the same impersonal information as large firms. These authors put into light too that this increase in distance for banking relationships cannot be associated with a fall in credit to small firms. On the contrary, they are in favour of a better access to credit of small firms : “Our findings also suggest that the natural credit market faced by small firms may be growing steadily in size” (Petersen, Rajan 2002, p. 2535). With the development of new cheaper ways of communicating, the American banking system makes its productivity increase and the ability of employees to treat information increase too. Quite the same result is obtained by Carling and Lundberg (2002). These authors find no support for the existence of the “Church Tower Principle” on the Swedish corporate banking system between 1994 and 2000; they could not find “any evidence that the information asymmetry increased with distance” nor they found “any evidence that the bank acted as if it was the case”, this is to say decide to reduce their supply of credit to small firms. What was the situation in France in the middle of the nineties ?

2.2.- The French situation

In the French context, the question of the influence of proximity (or distance) on the access to credit of small firms has not yet been studied. This question could even been considered without any interest as the French banking system appears to have been built under the principle of an equal access of French citizens to banking services, in particular after the banking law of 1945 which decided the nationalisation of a significant part of the French banking sector.

However, the French financial system has radically changed for twenty years. On the one hand, since 1986, French banks have been largely become private. On the other hand, the mergers and some other restructuring measures make the local banking sector disappear. Quite all banks are now integrated in the network of some large banks. Some keep a regional approach for their activities; this is certainly the case of the mutual banks and, for example, of the CIC, which sold lots of local or regional banks. Some others tend to centralise their approach ; they organise the turnover of bankers within a national program (Quack, Hildebrandt, 1996) and they use more and more common tools to decide if they distribute credit or not. Thus, the concentration of the French banking system has significantly

increased. How could this evolution influence the nature of relationships between banks and their borrower ? Has the distance between them rather increased or decreased?

To answer to this question, we can consider at least 3 points:

- The first is about the use by bankers and firms of electronic tools to communicate together.
- The second is the importance of proximity for banks when decision to lend or not is concerned.
- The third is the analysis of available statistics on the density of banking activity in France.

2.2.1.- The use of electronic tools by bankers and small firms

In the United-States, Petersen and Rajan (2002) put into light the increase of distance in lending because of the use by bankers and their customers of electronic tools to communicate together. According to them, these new tools have begun to be used since the middle of the nineties and could be considered as available for everyone for several years ago. In France, customers should have used these tools since the beginning of the new century. In several banking group, the development of these new tools which are also new products to sell to firms is became a new centre of profits. This trend seems really new. In a survey carried out in 1998 on a sample of 35 French bankers, new electronic tools were not mentioned as being intensively use (Carluer, Cieply, Grondin, 2000). The way to communicate was rather traditional and was based essentially on phone, except at the beginning of the relationships when appointments in the firms and in the banks are common or when difficulties arise. So, as we study the situation of French new firms between 1994 and 1999 we cannot retain the hypothesis of an increasing use of electronic tools and so a decrease in the importance of proximity when the financing of small firms is concerned.

2.2.2.- The importance of proximity for the French banking system

Although mergers make the concentration of the French banking sector increase, banks appear always to look for proximity. Mutual banks, which represent a highly significant part of the market of credit to small firms, are organised with few hierarchical levels to ensure that the decisions concerning credit is taken locally⁵. Moreover, the system of decision in

⁵ To sum up, we can in general distinguish 3 hierarchical levels : the local one for most of decisions concerning customers whatever their nature (firms or consumers), the regional for the riskiest decisions concerning customers and the national level which is a political representation and a refinancing structure for the banks.

mutual banks associates customers, who are members of the comity of credit; this situation can create an intellectual proximity between banks and firms. Finally, mutual banks organise the turnover of employees on the regional dimension so that soft information can always be keep in minds. Commercial banks tend admittedly to be more centralised than mutual bank with a national organisation of labour and a hierarchical organisation but they try to decentralize themselves. They create new tools to manage risk credit at the decentralized level and, as mutual banks; they tend to make the power of delegation increase. According to the result of a survey, Carluer, Cieply and Grondin (2001) underline the existence of between 2 and 6 levels of delegation in French banks and, for each level, the range of power could very different. This survey puts into light too the fact that their delegation power have significantly increased for more than 10 years.

Thus, except for new firms, which need a large amount of funds, like, for example, buyouts or new technological firms, the decision to lend to small firms stays a local decision. Are however firms equal within the French areas when they need loans?

2.2.3.- The repartition of banking counters in France

Thus, when organisational tools are under review, the nature of the banking system reveals no clear trend concerning the existence of significant differences in the expected distribution of firms that suffer from credit rationing between French regions. At first sight, commercial bank is more distant than mutual banks: the former collects essentially financial data whereas the latter uses on-going device as account reporting. However, the latter asks more often information by phone than the former (Abdesselam, Cieply, Le Pape, 2001). Moreover, as mutual banking is very well established on the French credit market, we cannot sustain the hypothesis of differences concerning the ability of a small firm to access to credit in function of their localisation.

As existing studies do not give us clear idea about the question if local finance really matters in France, we can reckon indicators of banking presence in each region. A measure of financial development in region could be the number of counters or the amount of credit to firms (individual status or society) by inhabitant or by squared kilometre (sqkm). We reckon these indicators with statistics of the year 1994 as Sine gives us information about the new firms that were created during the first semester of the year 1994. Theses statistics are given for all French regions in the following tables.

	ID 1	ID 2	ID 3	ID 4	ID 5	ID 6
	counters/sqkm	counters/inhab.	credit VCF/sqkm	creditVCF/inhab.	creditsoc/sqkmcr	créditsoc/inhab.
ALSACE	16.75	0.08	135.80	0.67	447.66	2.20
AQUITAINE	2.84	0.04	56.34	0.81	96.72	1.40
AUVERGNE	2.09	0.04	44.70	0.88	53.88	1.07
BOURGOGNE	2.26	0.04	47.41	0.92	69.68	1.36
BRETAGNE	5.36	0.05	138.16	1.32	168.83	1.62
CENTRE	2.59	0.04	53.67	0.87	84.84	1.37
CHAMP.ARD.	1.92	0.04	59.05	1.12	127.71	2.42
CORSE	0.90	0.03	31.15	1.04	38.16	1.28
FR-COMTE	2.94	0.04	51.44	0.75	89.71	1.31
ILE-DE-FR.	37.19	0.04	498.31	0.55	6236.11	6.84
LANGUEDOC	3.28	0.04	59.97	0.74	88.98	1.10
LIMOUSIN	1.94	0.05	35.90	0.85	41.01	0.97
LORRAINE	4.73	0.05	57.81	0.59	118.26	1.20
MIDIPIYREN.	2.28	0.04	53.49	0.97	75.96	1.38
NORD - PDC	10.84	0.03	171.48	0.53	376.06	1.17
BASSE-NORM	3.39	0.04	84.51	1.05	98.74	1.23
HAUTE-NORM	4.88	0.03	99.79	0.69	168.87	1.17
PAYS-LOIRE	4.80	0.05	92.11	0.94	160.71	1.65
PICARDIE	3.14	0.03	73.76	0.77	108.43	1.14
POITOU	2.68	0.04	64.30	1.03	106.67	1.70
P.A.C.A.	6.06	0.04	80.39	0.57	186.37	1.33
RHÔNEALPES	5.63	0.04	82.44	0.65	240.59	1.89
average	5.84	0.04	94.18	0.83	417.45	1.67
standard deviation	7.64	0.01	94.63	0.20	1273.59	1.18

Table 1 : The banking density in France in 1994. Source : BbF, 1995 and INSEE, 1995. Own computations.

First, we observe that the French banking system is quite homogeneous when we study the banking presence or the banking activity per inhabitant. Secondly, huge differences between regions can be stressed when counters and credits are analysed in relation with the number of squared-kilometres of the region. Some regions are clearly more financial intensive than others. For example, the regions Île-de-France and Alsace followed by Bretagne, Nord-Pas-De-Calais, PACA and Rhones-Alpes are more banks intensive than the regions Corse, Auvergne and Bourgogne. Can this low banking activity by squared-kilometre be associated with a higher credit rationing? The next sections deal with this question.

3. The influence of local finance on financial constraints: methodology and results

We rely on the SINE data to try to ascertain and empirically test the influence on local finance on the probability to be less or more financially constrained. These data give us information on the financing policy of young firms when they are created and when they face eventually financial problems two years later. We construct classes that are representative of credit rationing and variables that are representative of an *a priori* index of high intensive relationships with the different potential financial partners.

3.1.- Data and variables

The survey (Sine 94-1) was conducted by the French National Institute of Statistical and Economic Studies⁶ in 1994 and takes into account 30 778 firms which had been set-up or taken over during the first half of 1994 and which had survived at least for one month. The sample⁷ is originally representative of the total population of entrepreneurs which was of 96 407 new firms (it is a compulsory survey which obtained a 98,8 % rate of reply). In this survey, new firms are identified on the basis of their registration in the “Système d'Informations et de Répertoire des Entreprises et des Etablissements” (SIRENE repertory⁸). The units, under review, belong to the private productive sector in the fields of industry, building, trade and services. This survey identifies qualitative data surrounding entrepreneurship and, more precisely, it contains variables related to the entrepreneur, to the context and to the environment of entrepreneurship.

A second survey carried out in 1997 (Sine 94-2) gives us information about the status of the same firms (closed down or still running; when closed down⁹, the date of the discontinuance of activity is known). In 1997, 15 550 firms were still running and replied to the second survey. They represent, after corrections¹⁰, 43 507 firms. For the firms that are still running, this survey also explores the financial behavior of the firm during the last two years and the financial problems they faced. On the basis of this second survey, we construct classes of credit rationing and classes of financial confidence

3.2. The construction of variables

The classes that are representative of credit rationing are constructed with the combination of questions from both the first survey of 1994 and the complementary survey of

⁶ Insee (Institut National des Statistiques et des Etudes Economiques).

⁷ The sample was built by randomly drawing out samples from the 416 (2x8x26) elementary strata. These strata are classified according to the origin (start-up or takeover: 2 modalities), the branch (8 modalities) and the localization (22 French regions plus 4 overseas *départements*). The data basis must then be used with the correction of a weight variable (the reverse of the draw rate per branch, per region and per origin).

⁸ Yet economic “activations” and “reactivations” are excluded from the surveyed sample. Economic “activations” correspond to units which do not have any activity and which decide to exercise one. Economic “reactivations” correspond to units which had stopped their activity and which start up again. They only deal with individual entrepreneurs –craftsmen or shopkeepers-. Financial and agricultural activities and the French units established abroad are set aside as well.

⁹ Closed down firms correspond to a cancellation of the registration of the firm from the SIRENE repertory (Information and Registration System of Firms and Plants). They may be voluntary or involuntary (failures) in the proportion of around 4/5 to 1/5. Some of these firms may be taken over; so we included them in the group of survival firms. Consequently, the total cessations of activity which will be considered in the empirical part are constitutive of an entrepreneurial failure in the case of new firms.

¹⁰ From now on, we shall reason only about corrected firms.

1997. The first questions, extracted from Sine 94-1, give us information about the asking for banking loan by firms before their setting-up and the decision of banks (either to lend or not to lend). The other questions are extracted from the second survey of 1997 and take into account the financial problems the firm faced the last two years. By considering the survey of 1997, we only consider the situation of firms which were established in 1994 and which were still alive in 1997. This methodological choice allows us not to consider as rationed firms that were “lame ducks” and that were identified as bad firms by bankers. A good discrimination process, which consists not to lend to bad firms (firms that will quickly die) should not be considered as a rationing process.

Four modalities of the variable “financial constraint” can be distinguished:

1. The modality “No rationing” is compounded of two kinds of firms. The first ones asked for banking loan and got acceptance for it. The second ones did not ask for banking loan and did not face financial problems during 1996-1997.
2. The modality “Self constraint” concerns firms that did not ask for banking loan but should have asked for it as they faced financial constraints during 1996-1997.
3. The modality “Weak constraint” groups together firms that did ask for banking loan and got acceptance for it but they faced financial problems during 1996-1997.
4. The modality “Strong rationing” gathers firms that did ask for banking loan and were refused for it in 1994.

The variables that are representative for financial relationships are constructed with the combination of several questions of 1997 regarding the financial management policy of the cash requirement and the financial management policy of the investments and the inter-firm financial cooperation links in 1994. Four variables are constructed.

- The first one is the *high intensive relationships with banks*. Firms in this class are the ones that manage cash requirement by overdrafts or banking loans and the ones that finance investments by loans.
- The second one is the *high intensive relationships with “3F” or proximity finance* (Family, Friend and “Fools” (Ang, 1991)). Firms in this class are the ones that manage their cash requirement and finance their investments by private resources (from the manager, from its relatives or from his existing associates).

- The third variable is the *high intensive relationships with external finance providers*. Firms manage their requirement and/or finance their investment by increasing equities.
- The last variable is about financial links between enterprises (*high intensive relationships with other firms*). Strong financial links of cooperation with other firms are identified in 1994 and firms manage financial difficulties during 1996-1997 by increasing terms of payments.

3.3.- Methodology

To study the importance of financial constraints and the nature of financial relationships new firms develop, we just refer to descriptive analysis of the results we obtain for the modalities of the variable “financial constraint” and for the 4 variables that describe the nature of financial relationships. The interrelations between the modalities of the variable financial constraint and the nature of relationships are studied by observing the results of the crossed table between them.

The difference in financial constraint between French regions is analysed with logit models. These models estimate the probability to be financially constrained. Endogenous variables are each modality of the variable financial constraint. The exogenous variables are dummy variables representative of the French regions. Considering the heterogeneity of our population, we take into account control variables that are representative of the new firm and of the profile of the entrepreneur (annex 1).

4- Results

By driving this research, three results could be underlined. First, financial constraints exist and are, above all, induce by firms themselves who do not anticipate their financial needs or who are afraid of asking for credit to banks (4.1.). Secondly, banks stay the main partner to provide finance to firms and any dependency path cannot be identified when the access to banking loans is concerned (4.2.). Thirdly, we observe differences concerning the intensity of financial constraints between French regions (4.3.).

4.1.- The diversity of financial constraints

The tables of the annex 2 put into light the diversity of the financial constraints new firms can suffer from.

The rationing hypothesis concerns 29.33% of the sample. More precisely, only 3.26% suffer from a strong credit rationing; only 1143 firms, relative to the global sample of 35115 firms, were redlined. 14.76% don't receive all the loans they asked for; these 5183 new firms suffer from a weak credit rationing. Finally, 21.22% do not ever asked for a loan although they need external financing; these firms are supposed to auto constrain themselves.

This hierarchy is kept when only innovative sectors are taken into account¹¹. In this case which concerns 1170 firms, 691 firms, this is to say 59.06% of the sample, are not concerned with credit rationing; when all new firms are concern this proportion was quite the same as 60.77% of firms either obtained credit when they asked for or did not need any external financing. The strong rationing is higher for innovative firms (5.3%) whereas the weak rationing is less developed (8.12%). The auto pressure is more important because 27.52% of the sample is concerned.

4.2.- The nature of financial relationships and theirs links with financial constraints

The tables of the annex 3 underline the importance of bank and proximity (owner, his family, friend and associates) in financing the growth of new firms. The other potential providers of funds (outsiders and other firms) are quite unimportant as less than 1% of our sample develops high intensive relationship with them.

When we only consider innovative sectors, the frequency of high intensive banking relationships decreases whereas the frequency of high intensive relationships with proximity investors, outsiders and other firms tend to increase. However, these frequencies for the last two external suppliers of finance do not go over 5%.

Then, the correlation between the hypothesis of financial constraints and each indicator of the financial relationship are reckoned. The signal effect of access to external financing is identified from the substitution effect between access to loans and access to other sources of external financing. If the signal effect is dominant, the access to credit should increase and the occurrence of rationing should decrease as the intensity of financial relationships grows. If the substitution effect is dominant, the reverse relationships should be identified. This relation is observed with the Chi-square test between the different level of

¹¹ The innovative sectors are those identified by the INSEE as the most innovative ones in France.

financial constraints and the nature of financial links between firms and all the potential providers of finance (banks, outsiders, friends, family, associates or the entrepreneur himself and other firms). The study of specific links between financial pressure and banking relationships allows us to analyse the occurrence of a path dependency concerning redlining.

When all firms are taken into account, the high intensive relationships with banks during the two years after the establishment act are not dependant with the absence of credit rationing which is bound in part with the lack of access to credit of new firms. On the credit market, no acquired position can be identified. When firms want to obtain more credit, they must demonstrate their quality to bankers. Moreover, firms that were financed by banks in the two years after their creation are less often classified as being not rationed. So, banks can finance firms, so that we defined them as being intensive in banking relationships, whereas, at the beginning of their life, they suffered from a credit gap. The same trend can be observed concerning the auto pressure and the weak financial constraint. Firms that constrained themselves on the credit market appear more than the average classified as developing high intensive relations with banks in the two year after their establishment. Firms that suffered from a weak financial constraint at the beginning appear often as being high intensive in banking relationships. These results underlined the fact that any path of exclusion can be identified on the credit market.

When we consider the relation between financial constraints and the relationships with family, friends, owners themselves and their associates, we find that the absence of constraint is significantly (5%) bound with less intensive relationships with these proximity investors. Credit rationing and self-constraint are bound with more finance coming form these proximity investors. So, we conclude from these results than banks and proximity investors are rather substitutable than complementary.

For the others providers of funds, we observe first no significant link between financial constraints and interfirms relationships and secondly very few interaction between financial pressures and outsiders.

4.3.- The regional differences in financial constraints

The results of the logit model show that significant differences exist between French regions. All the comparisons are done relatively to the situation of the region Île-de-France (Paris and its neighbourhood). In particular, the probability to be unconstrained is superior in all regions except in Limousin and Corse than in the referent region (Île-de-France) (table 2). The probability to be self-constrained is inferior in all regions except in Picardie and Limousin where results are

not significant and in Corse where the situation is reverse. The probability to suffer from a weak financial constraint is superior in all regions except in Picardie and Haute Normandie where results are not significant at 5% and in Auvergne and Provence-Alpes-Côte d'Azur (at 10%) where the weak financial constraint is weaker than in Île-de-France. Finally, the probability to be rationed (strong financial constraint) is inferior in 13 French regions than in Île-de-France.

Explanatory variable	No rationing	Self constraint	Weak constraint	Strong Rationing
Region	Parameter Estimate	Parameter Estimate	Parameter Estimate	Parameter Estimate
CHAMPAGNE-ARDENNE	0.2030**	-0.3249***	0.3127**	-0.7299**
PICARDIE	0.2238***	-0.1042	-0.0745	-0.6606***
HAUTE-NORMANDIE	0.4406***	-0.4685***	0.0688	-1.0203***
CENTRE	0.2875***	-0.6613***	0.4808***	-0.4774**
BASSE-NORMANDIE	0.2477***	-0.8562***	0.6242***	-0.1946
BOURGOGNE	0.3107***	-0.5493***	0.2449**	-0.2392
NORD-PAS-DE-CALAIS	0.3193***	-0.5171***	0.2554***	-0.2955*
LORRAINE	0.2038***	-0.6560***	0.5218***	-0.1140
ALSACE	0.3673***	-0.7056***	0.4973***	-1.1822***
FRANCHE-COMTE	0.2974***	-0.9014***	0.5655***	-0.1060
PAYS DE LA LOIRE	0.2781***	-0.8880***	0.5970***	-0.2849*
BRETAGNE	0.5488***	-0.9495***	0.2190***	-0.2797*
POITOU-CHARENTES	0.2365***	-0.6376***	0.4881***	-0.1679
AQUITAINE	0.0856*	-0.3255***	0.5103***	-0.5147***
MIDI-PYRENEES	0.0938*	-0.2520***	0.4148***	-0.6344***
LIMOUSIN	-0.1939*	-0.2173	0.8111***	-0.2065
RHÔNE-ALPES	0.2757***	-0.3397***	0.1467**	-0.4909***
AUVERGNE	0.7753***	-0.8266***	-0.3008**	-0.4660*
LANGUEDOC-ROUSSILLON	0.1078**	-0.2533***	0.3491***	-0.4885***
Provence-Alpes-Côte d'Azur	0.2706***	-0.2750***	-0.1244*	-0.1459
CORSE	-0.6526***	0.3774***	0.5504***	0.3628

Table 2 : Results of LOGIT for the variable credit rationing.

Lecturer of the table: for example a positive and significant coefficient indicates that the probability to be none constrained (first column) for the considered region is more important than the reference class (Île-de-France).
 ***, ** and * indicate significant at the 1%, 5% and 10% level, respectively.

Our interpretation of these results is that financial constraints are differentiated within French regions. In the region Île-de-France new firms suffer rather from strong rationing and self-constraint. In this region, the screening process is certainly more intensive as the competition between banks is fierce. We can in this case observe the effect of fierce competition in the banking credit. As competition is important, banking margins on good firms are low. As credit management is a portfolio management in each banking business center, bankers cannot share risks on new firms thanks to margin on good firms. In this area, the solution for bankers is so to ration credit to new firms. In other regions, weak financial constraints are stronger than in the region Île-de-France. New firms can be more easily financed: credit rationing is weaker. New

firms are less afraid of banking refusals; self-constraints are weaker too. However, the supply of funds by banks to new firms is limited either by the lack of expectations concerning their financial need by firms themselves or the difficulties for bank to finance growing firms.

5- Conclusion

To conclude, new firms suffer significantly from a lack of access to finance. The constraint is above all due to the fear of manager-owner to ask for credit. Strong rationing which corresponds to credit refusal by banks only matters for a very small part of financial constraint. Moreover these financial constraints can be differentiated according to the regions. In particular, the region Île-de-France appears to be very specific. In this region, strong financial constraint is superior whereas, in the other regions, the weak financial constraint is more frequent. According to us, these results could be explained at least partially by the different nature of the competition in the banking sector. In this case, the supply side of the credit market could be at the origin of financial constraints. In further researches, we will try to test this hypothesis and to confront it to an argument coming from the demand side of the credit market which takes into account the economic characteristics of the region in terms of rates of entrepreneurial activity and creations of value by entrepreneurship.

6- References

- ABDESSELAM R., BONNET J., LE PAPE N., (2004), "La création d'emplois par les créateurs et les repreneurs d'entreprises : quelles contraintes jouent dans les régions françaises?", en révision, *Cahiers d'Economie et de Sociologie Rurales*.
- ANG J. S. (1991), "Small business uniqueness and the theory of financial management", *The Journal of Small Business Finance*, vol. 1, n°2, pp. 1-13.
- BERGER A. N., MILLER N. H., RAJAN R.G., PERSERSEN M.A. AND STEIN J.C., (2004), "Does function follow organizational form? Evidence from lending practices of large and small banks", <http://www.kellogg.northwestern.edu/faculty.pertersen>
- BERGER A., UDELL G., (1998), "The economics of small business finance: the roles of private equity and debt markets in the financial growth cycle", *Journal of Banking and Finance*, 22, 613-673.
- BOUCKAERT, J., DEGRYSE H., (2004), "Softening Competition by Inducing Switching in Credit Markets", forthcoming in *Journal of Industrial Economics*.
- BLACK S.E. and P.E. STRAHAN, (2002), "Entrepreneurship and bank credit availability", *Journal of Finance*, 57, pp. 2807-2833.
- BUCH C.M., (2002), "Distance and international banking", Kiel Institute of World Economics.
- CARLING K. and LUNDBERG S., (2002), "bank lending, geographical distance and credit risk : an empirical assessment of the church tower principle", *Sveriges Risksbank working papers series n°144*, December.
- CARLUER C., CIEPLY S., GRONDIN M., (2001), "Perception et gestion bancaire du risque PME par le chargé d'affaires entreprise : l'exemple Rhône-Alpin", in : G. Chanel-Reynaud et E. Bloy (dir.), *La Banque et le risque PME*, Presses Universitaires de Lyon.
- CIEPLY S., GRONDIN M., (1999), "Expertise et contrôle des risques - P.M.E. par le chargé de clientèle entreprises : une alternative au rationnement", *Revue d'Économie Financière*, n°54, pp. 59-78.

CORBETT J., EDWARDS J., JENKINSON T., MAYER C., SUSSMAN O., (2004), "A Response to Hackethal and Schmidt (2003) 'Financing Patterns: Measurement Concepts and Empirical Results'", University of Oxford - Nissan Institute of Japanese Studies, University of Cambridge - Faculty of Economics and Politics, University of Oxford, Saïd Business School, University of Oxford - Saïd Business School and University of Oxford - Saïd Business School, *mimeo*.

CORBETT J., JENKINSON J., (1996), "The financing of industry, 1970-1989. An International Comparison", *Journal of the Japanese and International Economics*, 10, pp. 71-96.

DEGRYSE, H.A. AND ONGENA, S., (2002), "Distance, lending relationships, and competition", *discussion paper n° 16*, Tilburg University, Centre for Economic Research.

GUISSO L., SAPIENZA P., ZINGALES L., (2002), "Does Local Development Matter?", *CEPR Discussion Paper no. 3307*. London, Centre for Economic Policy Research.

HACKETHAL, A. AND R. SCHMIDT (2003), "Financing patterns: Measurement concepts and empirical results", *mimeo*, University of Frankfurt.

HAUSWALD R., MARQUEZ R. (2003), "Information Technology and Financial Services Competition" *The Review of Financial Studies*, 2003, Vol. 16, No. 3, pp. 921-948.

HELLMAN T.A., (1995), "A Unifying Theory of Credit and Equity Rationing in Markets with Adverse Selection", Stanford GSB Research Paper No. 1356.

HELLMAN T.A., STIGLITZ J., (2000), "Credit and equity rationing in markets with adverse selection", *European Economic Review*, 44, pp. 281-304.

JAYARATNE J., STRAHAN P. E., (1996), "The finance-growth nexus: evidence from bank branch deregulation", *Quarterly journal of Economics*, CXI, pp. 639-671.

KING R.G., LEVINE R., (1993), "Finance and Growth: Shumpeter might be right", *Quarterly Journal of Economics*, August, pp. 717-737.

LA PORTA R., LOPEZ-DE-SILANES F., SHLEIFER A., VISHNY R.W., (1999), "Law and Finance", *Journal of Political Economy*, 6, pp. 1113-1154.

LEVINE R., (1997), "Financial development and economic growth: views and agenda", *Journal of Economic Literature*, 35, pp. 668-726.

LIBERTI J. M., (2002), "Can a large organization decentralize its business activities? Evidence from small business lending in a large bank" *Working paper* (<http://home.uchicago.edu/~jmlibert/research.html>)

LIBERTI J. M., (2003), "Initiative, incentives and soft information how does delegation impact the role of bank relationship manager?", *mimeo*, London Business School, august.

MARQUEZ R., (2002), "Competition, adverse selection and information dispersion in the banking industry", *The Review of Financial Studies*, summer, 3, pp.901-926.

MAYER C., (1988), "New issues in corporate finance", *European Economic Review*, 32, pp. 1167-1188.

PETERSEN M., RAJAN R., (2002), "Does Distance still matter? The information Revolution in small business lending", *The Journal of Finance*, vol. LVII, n°6, December, 2533-2570.

PETERSEN M.A., (2002), "Information: hard and soft", January.
<http://www.kellogg.northwestern.edu/faculty.petersen/htm.working.htm>.

PSILLAKI M., (1995), "Rationnement du crédit et PME : Une tentative de mise en relation", *Revue Internationale P.M.E.*, vol. 8, n°3-4, pp; 67-87.

QUACK, S., HILDEBRANDT, S. (1996), "Les relations banque-PME en France et en Allemagne", *Banque*, juillet.

RAJAN R., (1992), "Insiders and Outsiders: The Choice between Informed and Arm's-length debt", *Journal of Finance*, 1992, Vol 47, pp 1367-1400.

RAJAN R., ZINGALES L. (1998), "Finance dependence and growth", *American Economic Review*, pp. 559-586.

SHARPE S., [1990], "Asymmetric information, bank lending and implicit contracts : a stylised model of customer relationship", *Journal of Finance*, vol. 45, pp. 1069-1087.

STEIN J., (2002), "Information production and capital allocation : decentralized vs. hierarchical firms", *Journal of Finance*, 57, pp. 1891-1921.

STIGLITZ J.E., WEISS A. (1981), "Credit rationing in markets with imperfect information", *American Economic Review*, vol. 71, n°3, pp. 349-410.

WALL H., (2003), "Entrepreneurship and the deregulation of banking", WP Federal reserve bank of Saint Louis.

ANNEXES

Annex 1: Control Variables

To take into account the observed heterogeneity of the population of new French firms, we also include several variables (control variables) representing the firm and the context of its setting-up: origin of the firm, branch of industry, financial public aid, start-up size, initial investment at the setting-up of the firm. The other variables which have been retained to characterize the entrepreneur are: sex, age, previous status, previous occupation, level of diploma, skills acquired during previous activity, length of the experience in the same branch of activity, size of the firm in which it was acquired, the belonging to an entrepreneurial “milieu”, the main motive for the creation, the present managing experience and the number of new firms setting up before.

Annex 2: The hypothesis of credit rationing

Credit rationing	Frequency	Percent	Cumulative Frequency	Cumulative Percent
No credit rationing	21338	60.77	21338	60.77
Self constraint	7451	21.22	28789	81.98
Weak constraint	5183	14.76	33972	96.74
Strong rationing	1143	3.26	35115	100.00

Table 1: Credit rationing in the population of firms still living in 1997

Credit rationing	Frequency	Percent	Cumulative Frequency	Cumulative Percent
No credit rationing	691	59.06	691	59.06
Self constraint	322	27.52	1013	86.58
Weak constraint	95	8.12	1108	94.70
Strong rationing	62	5.30	1170	100.00

Table 2: Credit rationing in the population of innovative firms still living in 1997

Annex 3: Credit rationing and financial relationships

	Frequency	Percent
High intensive relationships with banks	14726	41.79
High intensive relationships with 3F	3787	10.75
High intensive relationships with external finance providers	341	0.97
High intensive relationships with other firms	322	0.91

Table 3: Financial relationships in the population of firms still living in 1997

	Frequency	Percent
High intensive relationships with banks	341	29.15
High intensive relationships with 3F	168	14.36
High intensive relationships with external finance providers	50	4.27
High intensive relationships with other firms	58	4.96

Table 4: Financial relationships in the population of innovative firms still living in 1997

High intensive relationships with banks

		No	Yes	Total
Frequency Cell Chi-Square Percent Row Pct Col Pct	No credit rationing	13771	7567	21338
		154.02	213.25	
		39.22	21.55	60.77
		64.54	35.46	
		67.54	51.39	
	Self constraint	3844	3607	7451
		53.77	74.447	
		10.95	10.27	21.22
		51.59	48.41	
		18.85	24.49	
	Weak constraint	2131	3052	5183
		256.41	355.01	
		6.07	8.69	14.76
		41.12	58.88	
		10.45	20.73	
	Strong rationing	643	500	1143
		0.6435	0.891	
		1.83	1.42	3.26
		56.26	43.74	
		3.15	3.40	
Total		20389	14726	35115
		58.06	41.94	100.00
Frequency Missing = 31758				

Table 5: Cross table of high intensive relationships with banks with credit rationing in the population firms still living in 1997

High intensive relationships with external finance providers

		No	Yes	Total
Frequency Cell Chi-Square Percent Row Pct Col Pct	No credit rationing	21143	195	21338
		0.0071	0.7197	
		60.21	0.56	60.77
		99.09	0.91	
		60.80	57.18	
	Self constraint	7340	111	7451
		0.2024	20.639	
		20.90	0.32	21.22
		98.51	1.49	
		21.11	32.55	
	Weak constraint	5156	27	5183
		0.1061	10.816	
		14.68	0.08	14.76
		99.48	0.52	
		14.83	7.92	
	Strong rationing	1135	8	1143
		0.0085	0.8656	
		3.23	0.02	3.26
		99.30	0.70	
		3.26	2.35	
Total		34774	341	35115
		99.03	0.97	100.00
Frequency Missing = 31758				

Table 6: Cross table of high intensive relationships with external finance providers with credit rationing in the population firms still living in 1997

High intensive relationships with 3F

		No	Yes	Total
Frequency Cell Chi-Square Percent Row Pct Col Pct	No credit rationing	19368 5.7625 55.16 90.77 61.82	1970 47.671 5.61 9.23 52.02	21338 60.77
	Self constraint	6374 11.248 18.15 85.55 20.35	1077 93.049 3.07 14.45 28.44	7451 21.22
	Weak constraint	4613 0.0263 13.14 89.00 14.72	570 0.2179 1.62 11.00 15.05	5183 14.76
	Strong rationing	973 2.1417 2.77 85.13 3.11	170 17.717 0.48 14.87 4.49	1143 3.26
	Total	31328 89.22	3787 10.78	35115 100.00
Frequency Missing = 31758				

Table 7: Cross table of high intensive relationships with 3F with credit rationing in the population firms still living in 1997

High intensive relationships with other firms

		No	Yes	Total
Frequency Cell Chi-Square Percent Row Pct Col Pct	No credit rationing	21142 525E-8 60.21 99.08 60.77	196 0.0006 0.56 0.92 60.87	21338 60.77
	Self constraint	7384 0.0002 21.03 99.10 21.22	67 0.0257 0.19 0.90 20.81	7451 21.22
	Weak constraint	5126 0.0175 14.60 98.90 14.73	57 1.8879 0.16 1.10 17.70	5183 14.76
	Strong rationing	1141 0.0635 3.25 99.83 3.28	2 6.8628 0.01 0.17 0.62	1143 3.26
	Total	34793 99.08	322 0.92	35115 100.00
Frequency Missing = 31758				

Table 8: Cross table of high intensive relationships with other firms with credit rationing in the population firms still living in 1997