



# DISCUSSION PAPERS

DP/58/2007

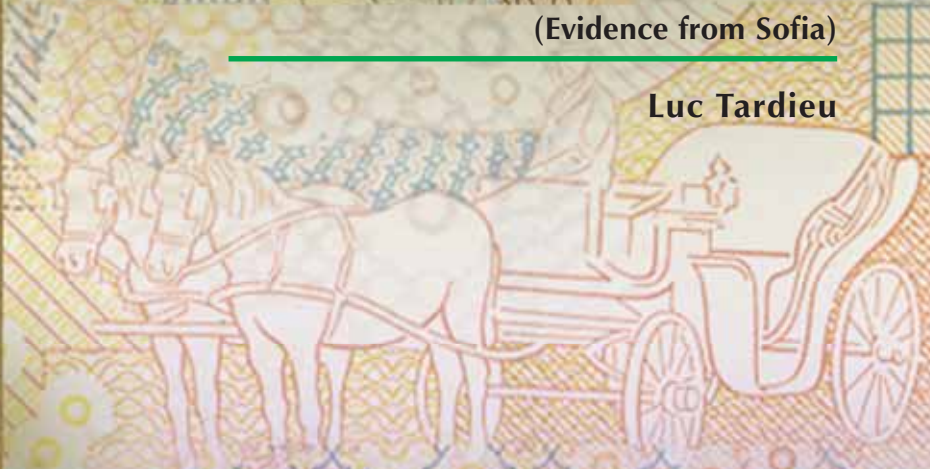


## Informal Sources of Credit and the "Soft" Information Market

(Evidence from Sofia)

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Luc Tardieu



**BULGARIAN  
NATIONAL  
BANK**





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March 2007

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**SUMMARY.** This study aims to show that the sources of credit for SMEs in Bulgaria are largely dominated by informal forms of credit – i.e. in the family, among friends, etc. – and that the intervention of bank loans comes later in the life cycle of businesses. Networks are thus the root of credit to SMEs.

If loans are not available through the banking system, individuals tend to look for loans through their network of relatives and friends. Using a hypothesis formulated by Black and Strahan (2002) and adapting it to the case of Bulgaria we show that it is the type of information required by the lender that influences the sources of credit used.

According to Black and Strahan (2002), large banks tend to rely on "hard" information (financial statements, balance sheets, etc.) whereas small banks tend to rely on "soft" information (personal relationships, opinions, projects, subjective valuations, etc.). As a result, large banks tend to favour large firms in their credit decisions because they are more transparent, information is more readily available and profitability thresholds are more easily met. The hypothesis predicts that large banks tend to favour "hard" information because it is easier to collect and to process, ratios can be computed, compared, and used as a basis for lending decisions.

This study shows that banks in the formal sector tend to rely on "hard" information (books of accounts, ratios, financial business plan, etc.) for their lending decisions. As most SMEs only have "soft" information to offer (face-to-face relationships, confidential information, informal business plans, etc.), they tend to turn to those who value such information: informal sources of credit such as family, friends, acquaintances, etc. Informal sources of credit thus represent a significant share of the financial basis of starting SMEs.

## Introduction

The development of the banking sector as well as the recent macro-economic stability in Bulgaria fostered credit. There are signs of a credit boom and all conditions for the development of credit to small and medium enterprises are met. Such a boom is the root of the future development of Bulgaria: with more than 99 per cent of small and medium enterprises,<sup>1</sup> representing 34.2 per cent of the value added, and 61.1 per cent of the turnover in private enterprises, they are the essential entrepreneurial force in the country.

The access of these firms to financial resources is the condition for the development of businesses through individual efforts on the market. The profitability of loans to big firms, the uncertainty of loans to small enterprises, and the inefficiencies of the legal systems are usually pinned down as the sources of the difficulties of entrepreneurs in finding financial resources. Such a situation may hamper the development of the private sector in Bulgaria but also, as this article will show, it maintains a part of the private sector in the informal economy.

This study aims at showing that the sources of credit for SMEs in Bulgaria are largely dominated by informal forms of credit – i.e. in the family, among friends, *etc.* – and that the intervention of bank loans comes later in the life cycle of businesses. Networks are thus the root of credit to SMEs. If loans are not available through the banking system, individuals tend to look for loans through their network of relatives and friends. Using a hypothesis formulated by Black and Strahan (2002) and adapting it to the case of Bulgaria we show that it is the type of information required by the lender that influences the sources of credit.

Using a sample of 149 firms in Sofia representative of the national sector composition of Bulgaria,<sup>2</sup> we studied the sources of credit of entrepreneurs and their opinion about the accessibility and efficiency of these various sources. The data show clear signs of the importance of informal sources of financing and of the fact that networks are used as a substitute for the banking sector which has high barriers to entrance to the credit market.

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<sup>1</sup>SME Report 2004, ASME.

<sup>2</sup>With a few adjustments, see the Annex.

## "Soft" Information and Informal Credit

Bulgaria has achieved macroeconomic stability only recently and it enjoyed a relatively steady growth (around 5 per cent) over the last few years. The introduction of the currency board in July 1997 stabilized prices and maintained the inflation rate at a relatively low level. Instability is thus no longer an explanation of banks' reluctance to lend money to SMEs. The answer has to be found elsewhere.

According to Black and Strahan (2002), large banks tend to rely on "hard" information (financial statements, balance sheets, etc.) whereas small banks tend to rely on "soft" information (personal relationships, opinions, projects, subjective evaluations, etc.). As a result, large banks tend to favour large firms in their credit decisions because they are more transparent, information is more readily available and profitability thresholds are more easily met. The hypothesis predicts that large banks tend to favour "hard" information because it is easier to collect and to process, ratios can be computed, compared, and used as a basis for lending decisions. Small firms cannot compete with big firms on such a market because they do not have the appropriate mass to offer competitive credit products. They must thus capture niches that large banks cannot have access to because of their exclusive reliance on "hard" information (Elyasiani and Goldberg 2004). To do so, they must invest in "soft" information, that is private, confidential knowledge acquired by face-to-face interaction (DeYoung et al. 2004). Empirical studies show that banks relying on such a form of information are sometimes more profitable than large ones.

In Bulgaria, the segmentation of the market does not follow the small banks – large banks dichotomy. More relevant is the difference between formal and informal sources of credit. Individuals who are looking for financial resources to start a business usually have to choose between formal sources such as banks or public institutions and informal sources such as family and friends. The hypothesis may thus be reformulated as follows: formal sources of credit tend to favour "hard" information and informal sources tend to favour "soft" information. As each decision-maker in the banking sector will have to justify his/her decision and as the environment is characterized by uncertainty, he/she will rely on "standard" methods using "hard" information. The responsibility for a wrong credit decision is thus attributed to a lack of luck or to a changing environment. therefore, if "soft" information is undervalued, those who have nothing else than "soft" information to establish the proof of their project's profitability will turn to those who may find such a form of information credible: family, friends, colleagues, etc.



Let us consider two markets: the market of loans based on "hard" information and the market of loans based on "soft" information. Banks prefer the former because it is perceived as less uncertain than the latter. However, if banks give up on the "soft" information market, those who only have "soft" information to convince potential lenders cannot have access to financing. This unsatisfied demand is then looking for financing and goes to those who are already used to rely on "soft" information. They may be able to rely on "soft" information for various reasons: (i) They may have already invested in a face-to-face relationship and thus already possesses the needed information, (ii) they may possess other more efficient means of enforcement than the legal system, or (iii) they may possess the means to monitor tightly the behaviour of the borrower.

(i) Family members, relatives and friends usually have already invested in face-to-face interaction. They have known the lender for a long time and do not have to invest time and efforts to anticipate his behaviour. The decision to lend financial resources or not can thus be taken with more information and its outcome is less uncertain than for those who have not yet invested in the interaction.

(ii) Family members, relatives, friends and members of the network possess means to enforce the contract through reputation effects. A default of payment may result in a reputation loss that can have disastrous consequences for the opportunistic borrower: the disruption of family ties and/or the impossibility to obtain anything at all from the network. Such family ties or network effects may prevent very efficiently the borrower from behaving opportunistically.

(iii) Family and relatives may be able to monitor the behaviour of the borrower because of spatial proximity or frequent interaction for a non-economic purpose. For example, parents may lend money because they know they will be able to monitor the way their money will be used.

As family, relatives, and friends may more readily accept to lend financial resources on the basis of "soft" information for the reasons mentioned above, entrepreneurs who have only "soft" information to convince potential lenders may turn to them to finance their business. In Bulgaria, lending decisions are made in a context of structural uncertainty (which is fading out with the achievement of macroeconomic stability), and banks tend to favour "hard" information. As a consequence, all those who do not have "hard" information to convince potential lender will turn to informal sources.

*Proposition 1:* Bulgarian SMEs are characterized by a large share of informal loans because they are more accessible.



This situation is even more obvious when loans are for the purpose of firm creation. As emerging firms usually do not have balance sheets or accounting documents to rely on, they are not able to exhibit the appropriate "hard" information to access formal sources of credit. The share of banks for initial credit is thus expected to be lower than in current credit and the share of informal credit is expected to be higher.

*Proposition 2:* The share of bank loans is lower for initial credit than for current credit.

## The Sample

The sample is composed of 149 firms based in Sofia of less than 100 employees. The sample contains 93 micro enterprises (less than 10 employees), 46 small enterprises (from 10 to 49 employees), and 10 medium enterprises (from 50 to 100). The sample composition had to reflect the size of the sector (measured by the number of employees). As the number of employees per sector in Sofia was not detailed for the different components of manufacturing, we simulated the composition of the "manufacture" category taking national statistics as a basis. We trimmed agriculture, mining and fishing from the sample as they are irrelevant to the conditions of a large town such as Sofia.

These sectors were then grouped in four categories of comparable sizes. "Trade and repair" was a "natural" category as it already counted 44 firms. "Construction" was grouped with "Transport and communication" making a category counting 26 firms. It seems relevant to group these two sectors since they both involve large initial investments and make them comparable regarding credit use. All types of manufacturing (listed in the Annex) were grouped in "Manufacture" which includes 44 firms. Last, "Education", "Health and social work", "Hotels and restaurants", and "Real estate and business activities" were grouped under the same title: "Real estate and services" which is constituted of 36 firms.

The different firm sizes were grouped in three categories: micro enterprises (less than 10 employees), small enterprises (between 10 and 49 employees), and medium enterprises (between 50 and 99 employees). This last category corresponds to a subdivision of the usual "medium enterprises" which ranges from 50 to 249 employees. However, as most enterprises in Bulgaria have less than 100 employees, we decided to use this (rather common) subdivision.<sup>3</sup> The size of the firms of the sample was left to random

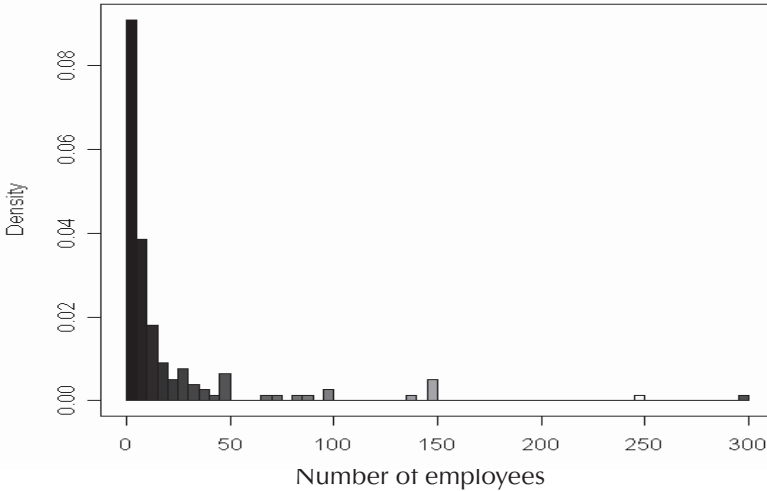
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<sup>3</sup>To highlight this subdivision, the usual group of "medium enterprises" (50 to 249 employees) is divided into "medium enterprises - 1" and "medium enterprises - 2".

selection as it would be necessary to increase the size of the sample if we wanted to account for firm groups. It is expected, however, that the random sampling reflects the actual size composition of Bulgarian firms.

Figure 1

**THE DISTRIBUTION OF FIRMS ACCORDING TO THEIR SIZE MEASURED BY THE NUMBER OF EMPLOYEES**



The data contain a rather large number of missing data on certain questions. The reason for that is twofold. First, the main subject of the questionnaire is credit and entrepreneurs are often reluctant to point at precise figures on that matter. The other reason is that given the number of loans from families, exact figures such as interest rates or guarantees are often unknown and sometimes simply irrelevant. This is confirmed by the fact that the number of missing answers is larger for micro enterprises than for small enterprises and medium enterprises – 1. If the only cause for missing data was the reluctance to point at exact figure, it should be more or less even in all the categories of size.

Questions on the health and growth of the sample's firms were introduced to get a more accurate description of the responding firms. The overall opinion of respondents is that their business increased slowly in the past five years and that their business is in good health (2.3 on a scale of 4). The answers to these two questions are normally distributed which means that there is no bias of situation (if a majority of the firms of the sample had answered that their firm was in a very bad situation, there would be a bias in the answers on credit that come later on in the questionnaire).

## Results

The questionnaire differentiates between initial credit and current credit. Initial credit is here understood as the credit that goes along the creation of the firm. Current credit is the credit currently running in the firm. 30 per cent of the respondents used initial credit and 41 per cent were currently using credit at the time of the questionnaire. The size of firms influences the use of initial credit as 50 per cent of medium enterprises and only 42 per cent of micro enterprises and 37 per cent of small enterprises used initial credit. The use of initial credit is roughly the same across sectors (39 per cent) with the exception of construction which stands ten points higher (50 per cent).

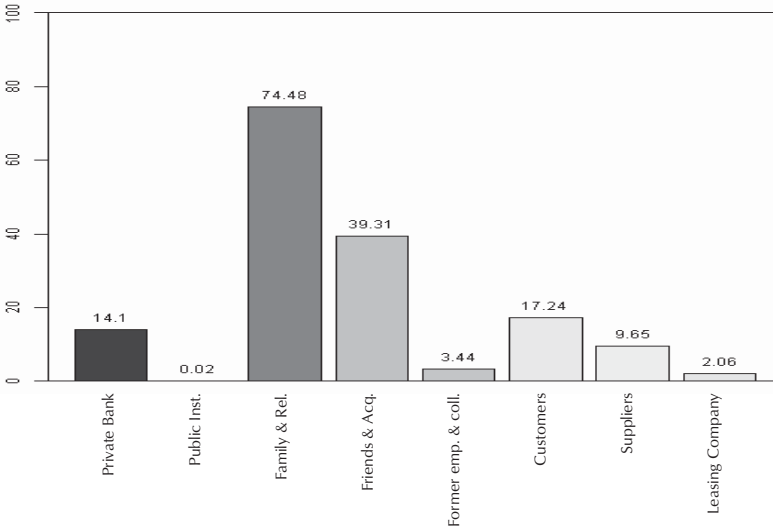
The difference between search and use of credit shows the level of demand and how it is satisfied by the market. These figures are independent from transient situations of the market as "initial credit" depends on the date of creation and "current credit" depends on the date of contracting the current credit. 48 per cent of the respondents searched for credit at the beginning of their activity, but only 41 per cent of all respondents found it, which means that 20 per cent of them did not find one. 56.57 per cent of the respondents are currently looking for credit. To the 20 per cent of those who searched for credit and didn't find any it we must add those who had to close their business because they could not find credit or for another reason. It is reasonable to think that the proportion of those who searched for but didn't find credit is more important than of those who had to close their business. The unsatisfied demand for financial resources is thus likely to be rather large which accredits the hypothesis that the market for credit is not saturated.

If the market is not saturated, following the "soft" information-based credit market hypothesis, the share of informal sources of credit should be important. Individuals who have only "soft" information to convince potential lenders should turn to informal sources of credit. As they perceive "soft" information as more credible they are more likely to accept lending money. This is confirmed by the shares of each sources of credit in the sample.

There was a difference, in the questionnaire, between sources of credit as non-alternative solutions (the respondents could check several boxes) and the main credit source. This distinction was available for initial credit and current credit for means of comparison. The shares for the different sources of credit are the main result of the study. The results for non-alternative sources of initial credit are given in figure 2.

Figure 2

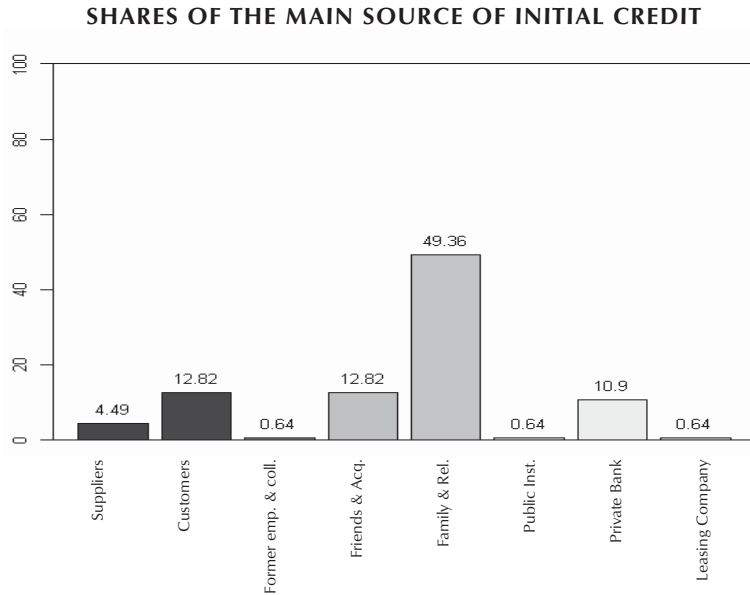
**PERCENTAGE OF EACH SOURCE OF INITIAL CREDIT**  
 (the total is more than 100 because the various sources are not alternative)



The share of those who used family and relatives among their sources of initial credit added to those who used friends and acquaintances amounts to 80.76 per cent of the respondents (those who used "family and relatives" or "friends and acquaintances"). The share of informal credit is thus rather large (except for "former employer and colleagues") and seems to confirm the fact that informal sources accept more readily to rely on "soft" information. Private banks represent a non-negligible share of the respondents but remains very low compared to informal sources.

When considering the shares of the main initial credit sources, the results go in the same direction. For 49.36 per cent of main credit "family and relatives" is the first source of credit; "friends and acquaintances" amount to 62.18 per cent of main initial credit. Informal credit thus represents two thirds of initial main credit sources assuming that "customers" is a formal source of credit.

Figure 3



The amount of the credit is significantly ( $p=0.008$  on a Welch two samples  $t$ -test after log transformation to comply with the normality assumption)<sup>4</sup> lower for family loans than for bank loans with a mean of BGN 58,875 for "family and relatives" and a mean of BGN 244,428 for "private banks". Informal sources of credit thus represent a larger share of loans than formal ones for initial credit and the amount of credit is significantly lower.

Current sources of credit exhibit a rather different pattern. Figure 4 shows the non-alternative use of the eight credit sources. "family and relatives", as a source of current credit, dropped down to 23.97 per cent, and "friends and acquaintances" to 10.74 per cent (against, respectively, 74.48 and 39.31 per cent for initial non-alternative credit sources, see Figure 2). "private banks", conversely, increased to 26.45 per cent. This double move seems to attest the hypothesis that existing firms have "hard" information to give to banks and don't need the informal sources of credit as much as before. Combined with the greater financial capacity of the formal sector, firms tend to reduce their use of informal sources of credit.

<sup>4</sup>Tested with a Shapiro-Wilk normality test (after log transformation): private banks  $w=0.9682$ ; family and relatives:  $w=0.9125$ .

Figure 4

**PERCENTAGE OF EACH SOURCE OF CURRENT CREDIT**  
 (the total is more than 100 because the various sources are not alternative)

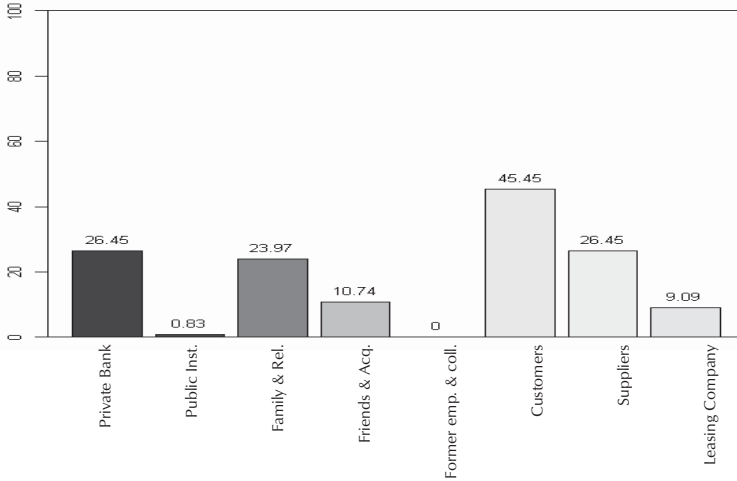
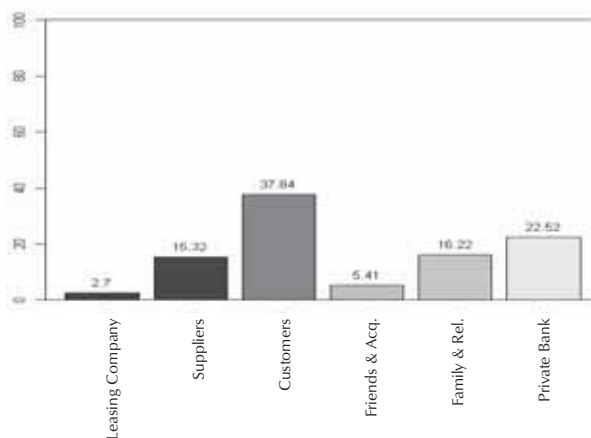


Figure 5, representing the main sources of current credit, follows the same pattern with informal sources decreasing to 16.22 per cent for "family and relatives" and to 10.74 per cent for "friends and acquaintances" and formal sources such as "private banks" increasing to 26.45 per cent. The share of informal credit sources thus decreases and other sources such as "customers and banks" increase so as to represent a share equivalent to that of informal sources. The share of formal sources of credit increases with the development of the firm.

Figure 5

## SHARES OF THE MAIN SOURCE OF CURRENT CREDIT



The difference between sources of initial credit and current credit can be explained in various ways: (i) firms tend to need more financial resources when aging and there are no appropriate credit products for micro enterprises starting up, (ii) new firms do not possess the appropriate information on credit sources, or (iii) firms that survive long enough to make a difference between initial credit and current credit are those that use private banks' loans. Let us consider these hypotheses one after the other.

(i) This first explanation can be rejected on the basis of the most often cited obstacle to obtaining credit. The questionnaire invited the respondent to rank the obstacles to obtaining credit among four propositions: the amount of required guarantees, the administrative requirements, the absence of an appropriate credit product, and the lack of information on credit. If the important share of informal credit is to be explained by the fact that banks do not supply micro credits, then, the lack of an appropriate credit product should rank high. However, only 9.48 per cent ranked the lack of an appropriate credit product as the biggest hurdle to obtaining credit, and 5.11 per cent ranked it as the second biggest obstacle.

(ii) The second argument can also be rejected. If young firms do not use private banks as a credit source because they don't possess enough information they should either mention the "absence of an appropriate credit product" or the "lack of information" as the biggest obstacle to obtaining credit. We see that they have not ranked high the "absence of credit products". As far as the "lack of information" is concerned, only 6.56 per cent of the respondents ranked it first, and only 8.75 per cent ranked it second.



The lack of information is thus not the reason why a few firms use private banks as a source of credit. It must be added that the firms in the sample are all located in Sofia where information on credit products and on banks is much easier to acquire. If the sample was composed of rural enterprises it would be expected that the lack of information on credit products would rank much higher. We would thus have to add the effect of the lack of information to the effect of "soft" information use by informal sources of credit.

(iii) The last argument deserves more attention. The increase in the share of banks using initial credit and current credit could come from the fact that the firms who use banking credit are more efficient. If the firms that use private banks as a source of credit survive better, the results of the study could be the same: a lot of firms would use "family and relatives" as a source of initial credit, but having a lower chance of survival, they would vanish and when examining current credit we would find more firms use "private banks" and less use "family and friends" as a source of credit. The questionnaire accounted for the differences in efficiency between sources of initial credit and sources of current credit. Respondents were asked to rate the accessibility and efficiency of the sources they used for initial and current credit. The results show that respondents considered that their initial credit (7.61)<sup>5</sup> was more efficient than their current credit (6.73). The Wilcoxon rank sum test with continuity correction confirms that the difference is statistically significant ( $p = 0.0071$ ).

The rating of obstacles to accessing credit reveals that the most often cited obstacles are the amount of guarantees (56.2 per cent of the respondents ranked it first, 23.35 per cent ranked it second), and the administrative requirements (27 per cent ranked it first, 43 per cent ranked it second). These two results are consistent with the scenario presented herein. As banks relying on "hard" information usually require guarantees that are proportional to the risk perceived, and as the risk perceived depends on the quantity of "hard" information, those who only have "soft" information to convince banks are likely to face a high level of guarantees. The ranking "administrative requirements", which presupposes "hard" information, also accredits our scenario.

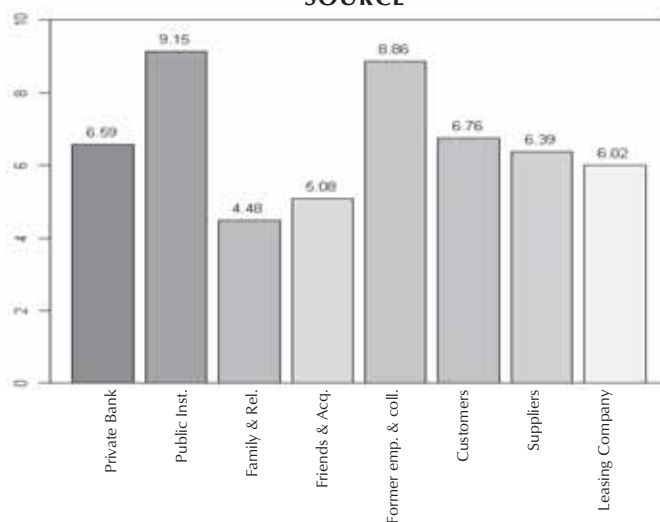
The rating of the different credit sources also attests the perception that respondents have various credit sources. Respondents were asked to rate the accessibility of the eight credit sources with 1 for very accessible and 10 for a highly difficult access. Figure 6 gives the average grade for each source of credit. The lower is the bar, the easiest is the access.

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<sup>5</sup> Respondents were asked to rate from 1 (very inefficient) to 10 (very efficient) the efficiency of their initial/current credit.

Figure 6

### AVERAGE GRADE FOR THE ACCESSIBILITY OF EACH CREDIT SOURCE



The results clearly show that informal sources of credit are perceived as more accessible than formal ones.<sup>6</sup> With a mean of 4.48, "family and relatives" are considered the most accessible source together with "friends and acquaintances" (5.08). "Private banks" and "public institutions" lag far behind with respectively 6.55 and 9.15. This is consistent with the fact that 43.79 per cent of the respondents consider that banks are either "less accessible" or "much less accessible" than other credit sources against 24.18 per cent who consider that they are either "more accessible" or "much more accessible" than other sources.

The large share of informal loans of Bulgarian SMEs in Sofia can thus be explained according to the scenario described in the introduction. The credit market is not saturated and banks thus tend to rely on "hard" information because it is easier to collect and process. The market of credit based on "soft" information is thus abandoned, and those who have only "soft" information to give in order to convince potential lenders to lend them money will look for other sources of credit. As they only have "soft" information they will turn to those who value such a form of information.

<sup>6</sup>The high score of "former employer and colleagues" can be attributed to the fact that borrowing from them is not part of the habits of Bulgarian entrepreneurs.

Family, relatives, friends, and acquaintances are more likely to accept "soft" information, either because they already possess it or because they may use it to enforce the contract.

Informal sources of credit are thus perceived as more accessible because they accept more readily to rely on "soft" information. This is confirmed by the rating of credit sources' accessibility. As a consequence, the share of informal credit is higher than the share of formal credit. More specifically, "family and relatives" and "friends and acquaintances" represent a much larger share of initial credit. The first hypothesis that informal credit sources represent a larger share than formal ones because they are perceived as more accessible is thus validated.

This share of initial credit is large for because newly created firms have less formal documents to attest their productivity and are less likely to obtain financing from private banks. This is confirmed by the larger share of private banks in alternative and main credit sources for current credit. The differences in the share of informal and formal credit sources between initial and current credit confirm the second hypothesis.

## Concluding Remarks

The two hypotheses presented at the beginning of this study were confirmed by the results. The share of informal credit sources is larger than the share of formal credit sources because individuals perceive them as more accessible. This pattern changes when considering current credit for which the share of informal credit sources falls drastically. These two elements concur to corroborate the scenario presented earlier: entrepreneurs having only "soft" information to promote their project turn to informal sources of credit. It is also important to note that the sample is drawn from population in urban areas for whom the price of accessing information on banks and public institutions is relatively lower than in rural areas. The share of informal sources of credit in rural areas is thus likely to be significantly higher.

The recent macroeconomic stability has fostered credit. Such a development is likely to rely on a small number of large firms because they possess the characteristics that banks are looking for. On the other hand, 99 per cent of the firms in Bulgaria are SMEs, accounting for one third of the value added. SMEs are thus the essential entrepreneurial force in Bulgaria. Therefore it is of prime importance that these firms have access to credit sources. This study showed that banks in the formal sector tend to rely on "hard" information (books of accounts, ratios, financial business plans, etc.) for their lending decisions. As most SMEs only have "soft" information to offer

(face-to-face relationships, confidential information, informal business plans, etc.), they tend to turn to those who value this type of information: informal sources of credit such as family, friends, acquaintances, etc. Informal sources of credit thus represent a significant share of the financial basis of starting SMEs. This study also showed that the share of informal sources of credit is significantly higher for initial credit than for current credit. This result indicates that once the firm has started, the owner is able to display information of the "hard" type in order to obtain credit through the formal channels. The informal sources of credit are thus more important for starting the business – i.e. at a time when it is just impossible to display "hard" information because the business has simply not started – than for current credit.

Considering the share of informal credit in the answers, the phenomenon is far from being negligible and should be considered as an essential element in the landscape of credit for business creation in Bulgaria. Policy-making should then take into account this relationship. For instance, family policy is likely to have an impact on firm creation: subsidies to large families, easier access to credit for housing or lower taxes are elements that may have unexpected effects on business creation through the channel of informal loans. An easier access to credit for housing may lead business creators to ask for that type of credit in order to have access to a financial basis that could also be used to start a business. Virtually any type of action that may affect families' financial resources is likely to have indirect consequences for the finances of a starting businesses.

Such linkages have not been studied yet from a macroeconomic viewpoint. Is there a statistical link between the purchasing power of households and the development of businesses? Or between the subsidies to households and firm creation? These questions deserve further development that may have strong implications for policy making.

## Annex

### Sector Composition of the Sample

Manufacture of food products, beverages and tobacco	8		
Manufacture of textiles and textile products	13		
Manufacture of leather and leather products	3		
Manufacture of wood and wood products	1		
Manufacture of pulp, paper and paper products, publishing and printing	1		
Manufacture of chemicals, products and man-made fibres	2	Manufacture	44
Manufacture of rubber and plastic products	1		
Manufacture of other non-metallic mineral products	1		
Manufacture of basic metals and fabricated metal products, except machinery	4		
Manufacture of machinery and equipment n.e.c.	4		
Manufacture of electrical and optical equipment	3		
Manufacture of transport equipment	1		
Manufacturing n.e.c.	2		
Trade and repair	44	Trade and repair	44
Education	1		
Health and social work	2	Real estate and services	36
Hotels and restaurants	8		
Real estate and business activities	25		
Construction	14	Transport, communications and construction	26
Transport and communications	12		
<b>Total</b>	<b>150</b>		<b>150</b>

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