Working Paper 1997/2

# Does bank size affect the relationship

# between

# entrepreneurs and their bankers?

by

Jan P. Warhuus, Southern Denmark Business School
Jonathan Levie, London Business School

Handelshøjskole Syd

# DOES BANK SIZE AFFECT THE RELATIONSHIP BETWEEN ENTREPRENEURS AND THEIR BANKERS?

Jan P. Warhuus, Southern Denmark Business School
Jonathan Levie, INSEAD

## ABSTRACT

The banking relationships of young growing manufacturing firms were explored in a multi-method study using a small sample (n = 11) of Danish firms. Deductive propositions based on economic and organisation behaviour theory were tested, and an inductive examination of both sides of the entrepreneur/banking relationship was conducted. The data do not strongly support associations predicted by the literature. A pattern-matching analysis of the data suggests an association between size of bank and a credit agreement (i.e. credit requested, approved, and accepted) for start-ups but not under growth or distress conditions. Small local banks appeared to take the local job-creating potential of a new venture into account. Limitations of the study and implications of the results for entrepreneurs, their bankers, and for further research, are discussed.

## INTRODUCTION

This paper explores the following research question: does bank size predict bank credit agreements for young growing firms? The question is prompted by two observations. The first observation is that the gestalt of entrepreneur/banker relationships is understudied in entrepreneurship research compared to venture capital relationships, yet banks are far more important providers of finance to entrepreneurial firms. While academics theorise why new ventures are not bankable (Peterson and Shulman, 1987), international research in Europe and the United States repeatedly finds that banks are the most popular source of institutional finance for new and growing ventures (Hinsdiek, 1985; Reynolds, 1993; Manigart and Struyf, 1995). In France, for example, a study of 20,000 one-year old ventures in 1986 found that banks were the single most im-

portant source of start-up capital in these firms, providing more capital even than the entrepreneurs themselves (Viennet, 1988).

The second observation which prompted this study is the varied and rapidly changing structure of national banking industries in Europe (Pohl and Freitag, 1994). Because banks are important to entrepreneurs as finance providers, changes in banking industry structure might affect new venture creation and growth. For example, if the entrepreneur/banker relationship differs according to bank size, then the disappearance (as in Denmark), or proliferation (as in Spain) of smaller banks in recent decades could significantly affect entrepreneurship.

There is as yet little research on the effect of structural change in national banking industries on the relationship between entrepreneurs and bankers. Anecdotal evidence suggests that entrepreneurs find it more difficult to raise credit from branch bank managers of nation-wide banks ("branch bankers") than from local bank managers ("local bankers") (EC, 1978, p. 235). This is supported by the results of two surveys of entrepreneurs' opinions of their banking relationship, one in Ireland which has a highly concentrated banking industry (SFA, 1986) and one in Denmark which has a more fragmented banking industry (Illeris, 1986). On the other hand, one might expect that the branches of larger banks can call on greater reserves of capital and in-house specialist expertise. This is an important consideration for resource-poor but fast-growing firms.

Research on the evolution of the Danish banking industry (Lomi and Levie, 1995) shows that although the number of Danish commercial banks was stable through the 1970's and 1980's at about 70, the population of specialist banks based in Copenhagen rose, the number of small rural banks declined, and the largest national banks increased their coverage across the nation. These changes, together with the importance of new and smaller firms in Danish industry (Christensen, 1989), suggest that Denmark represents a good research site for this study.

## THEORETICAL FRAMEWORK

In economic literature, banks are said to exist because their customers cannot afford to supply the necessary information about their financing needs to the open market (Swank, 1994, p. 213). This sets up the banking relationship as one which revolves around information transfer. However, it is also portrayed as one of control of assets. In principal-agent theory, for example, debt finance is seen as providing an incentive to the entrepreneur to engage in risky investments (Jensen and Meckling, 1976, p. 334). An alternative view, building on transaction cost theory, sees "plasticity of assets" in the entrepreneurial firm as a potential "moral hazard" problem for the banker (Alchian and Woodward, 1988, p. 72).

These perspectives portray a distrustful relationship which is held together by 'monitoring' (regular submission of accounts, etc.) and 'bonding' (collateral, loan recall triggers, etc.), the costs of which are imposed by the banker on the entrepreneur, in addition to any risk premium charged to cover possible losses. To reduce these costs, the economics literature recommends reducing the information asymmetry between the entrepreneur and the banker. It is argued that a close (i.e., information-rich) relationship between the enterprise and the bank "has the potential to provide the bank with a better understanding of the operating environment facing a particular business; a clearer picture of the managerial attributes of the owner and a more accurate overview of the prospects for the business" (Ennew and Binks, 1993, p. 484). This in turn should increase the chances of a credit agreement being reached with the bank (Sharpe, 1990, p. 1070). This deduction is rephrased in the null form as hypothesis 1:

Hypothesis 1    Ceteris paribus, the amount of information that a banker has on an entrepreneur's business does not positively predict a credit agreement.

The deduction suggests that a banker's reaction to funding requests from an entrepreneur might depend on how much information the entrepreneur provided to the banker prior to and at the time of the request. It might also depend on how much other information the banker had on the entrepreneur, the business, and its commercial environment. This in turn might depend on how the bank is structured (whether by business account or by product type, for example), and on the efficiency of internal information flows within the bank.

It is not clear from the economics literature whether a large or small bank setting is likely to provide the bank's decision maker with more information on a financing request. This economics-based information transfer approach is also inadequate for situations where decisions must be made under conditions of uncertainty. For example, adequate information on the prospects of the business is not available when first time entrepreneurs with unproven but high potential projects, or very young, fast-growing businesses, require finance. How can the entrepreneur transfer information about the prospects of the business when the situation is unprecedented? How do bankers react to situations of uncertainty? Might it vary by size of bank? To find answers to these questions, we turn to the organisation behaviour literature.

Weber (1968) and Merton (1968) found that large hierarchical organisations, to be effective, required reliability of response and strict devotion to regulations, and thus performance measurement of decision-makers was based on adherence to general rules. Merton proposed that this can lead to "overconformity" to the rules, in which means become ends and prevent "ready adaptation under special conditions not clearly envisaged by those who drew up the general rules" (p. 254). Assuming that large organisations tend to have more bureaucratic processes, this suggests that decision-making in a large bank may be 'normalized' (through strict adherence to credit-scoring systems, for example) and therefore be biased against special and unanticipated cases such as new high potential ventures. In smaller, less bureaucratic organisations, such as, perhaps, a small local bank, decision-making may be more situation-specific, and special cases may get at least a more considered hearing. Hypothesis 2 rephrases this deduction in the null form:

Hypothesis 2   Ceteris paribus, bank size does not negatively predict credit agreements with high potential ventures.

It is increasingly being realised that in bureaucratic organisations, the front-line decision-maker in bureaucracies has some discretionary power to interpret rather than just follow rules (Williams et al. 1980; Mattson, 1989). This raises two possibilities. First, the more centralized the decision making in a hierarchical organisation, the more marked its normalizing effect on its administrative environment, since fewer individuals are making the decisions and

exercising their own form of discretion. Thus, a bank (assuming it operates as a bureaucracy) where commercial loan decisions were centralized in head office might be expected to reject more unusual requests for finance, such as finance for new high potential ventures, than one where this function was decentralized. This deduction is rephrased in the null form as hypothesis 3:

Hypothesis 3 <u>Ceteris</u> <u>paribus</u>, centralization of credit decision-making processes does not negatively predict credit agreements for new high potential ventures.

Secondly, the decision-maker may use other cues in situations where the information needed to make rational decisions is incomplete or unavailable. In this regard, Pfeffer <u>et</u> <u>al.</u> (1976, p. 230) built on Festinger's theory of social comparison (1950, p. 273) to propose that "when uncertainty is high....the use of particularistic criteria, such as social similarity and social relationships, provides a means for making the decision and resolving the uncertainty". Perrow's (1979, p. 10) proposition is also relevant here: "competence is hard to judge, so we rely on familiarity". In sum, this line of theory suggests that, all other things being equal, a banker is more likely to fund a new high potential venture if he knows or knows of the entrepreneur before the request was made. This deduction is rephrased in the null form as hypothesis 4:

Hypothesis 4 <u>Ceteris</u> <u>paribus</u>, for bankers faced with a request for funding from a new high potential venture, familiarity with the entrepreneur does not positively predict credit agreement.

## RESEARCH METHODOLOGY

A multi-method small sample study was designed to conduct a preliminary test of the hypotheses deduced from the literature, and to perform an inductive exploration of the relationship between entrepreneurs and their bankers. This research design was chosen because of the lack of empirical studies on the effect of bank size on credit agreements. It was acknowledged that existing theory and constructs, though a useful entry point, might need to be refined prior to building a model and rigorously testing it with a large sample design.

Following the field study guidelines of Eisenhardt (1989), data was collected on a theoretical sample selected on the performance dimension. Specifically, eight Danish entrepreneurs of young (less than 15 years old) "successful" (profitable) firms which had grown to employ at least 50 by 1995 and which varied by age/size, type of manufacturing industry, and size/type of bank were selected. A large number of firms were identified and contacted using several database sources, and the first entrepreneur to fit the criteria and agree to be interviewed was selected. Then, three "struggling" (marginally profitable or unprofitable) entrepreneurs were selected. It was not possible to find "struggling" candidates in the larger firm or bank size categories[1], so this sample should not be considered an exact replication of the sample of profitable firms. This, the small sample, and the "survivor bias" inherent in the sample, may affect the results. These limitations are discussed further in the conclusions section. In figure 1, the position of each firm in 1995 on a size/age by original bank size/catchment area grid is marked with the capital letter (A to K) assigned to it for the purposes of this study. Firms I, J and K were the "struggling" firms.

*FIGURE 1*

*Position of sample firms by size/age in 1995 and size/catchment area of original bank*

| *Bank size/* | *Firm size/age/stability* | |
|---|---|---|
| *catchment area* | *small/young/unstable* | *large/older/stable* |
| *large/nation-wide* | D | G |
| *large/regional* | H | C |
| *small/regional* | | |
| *small/local* | K I  A  J          E | B F |

*Key: local = municipality; regional = one or more counties; nation-wide = all or almost all counties*

***The interviews with the entrepreneurs were semi-structured, in line with Marshall and Rossman's (1989) recommendations for interviewing elites, and the question guide was chosen to cover the issues raised by the hypotheses described above, but also to raise other issues the interviewees saw as relevant to the banking***

---

[1]

 Indeed, one firm employed only 40 employees, but because it was fast growing for its age and a partial reconstruction of a 50+ firm, it was included in our sample.

*relationship. The first author interviewed all subjects, took written notes, taped the interview as a backup to the written notes, and asked supplementary questions where necessary by phone. Interviews were also conducted (with the entrepreneurs' permission) with their bank managers. During the interviews with each banker, anonymous generalized profiles of one or two of the other firms in our sample, describing their situation at the times they required financing, were presented, and the bankers were asked to give their reactions to specific funding requests. It was only when a banker uninvited referred to a specific client, that questions were asked regarding this relationship. After the interview, the researcher compared the notes, the tape (in one case the tape failed, in another the banker wished to speak without being taped), and his own impression of the interview, and the interview was typed up.*

### Deductive study

To test the hypotheses using case study data, the pattern-matching method suggested by Campbell (1966; 1975) and refined by Vagneur (1995), was adopted. In this approach, each entrepreneur request/banker response process constituted a separate observation. Patterns across the observations in the sample were identified using pre-determined "indicator patterns" (Levie, 1995). Each indicator pattern represents a possible sequence of actions, or processes of behaviour, over time. Opposing or different pattern instances were also sought. An opposing pattern was the opposite of the indicator pattern. The researchers looked for "pattern instances" (i.e. examples of indicator patterns in the data) <u>within</u> each observation. Then, patterns <u>across</u> the observations were identified by analysing how the distribution of pattern instances and opposing pattern instances varied with the dependent variable (credit agreement). Finding an opposing or different pattern instance where a specific pattern instance is expected falsifies the null hypothesis. Where the null hypothesis is upheld, the extra information revealed by the patterns can be used to refine the emergent model.

### Pattern specifications

The indicator pattern specifications for each hypothesis are stated below. In each case, the dependent variable has two possible outcomes: credit agreement or no credit agreement. The stated indicator and opposing patterns are expected

patterns for no credit agreement on the null hypothesis. Expected patterns for credit agreement on the null hypothesis are the inverse of the stated indicator patterns.

| | |
|---|---|
| Indicator pattern 1: | High or equal level of information by the banker of the entrepreneur's business. |
| Opposing pattern: | Low level of information by the banker of the entrepreneur's business. |

| | |
|---|---|
| Indicator pattern 2: | Credit request to small bank. |
| Opposing pattern: | Credit request to large bank. |

| | |
|---|---|
| Indicator pattern 3: | Low or equal rate of deferral of decisions by the banker to a higher authority. |
| Opposing pattern: | High rate of deferral of decisions by the banker to a higher authority. |

| | |
|---|---|
| Indicator pattern 4: | Prior knowledge by the banker of the entrepreneur before the credit request. |
| Opposing pattern: | No prior knowledge by the banker of the entrepreneur before the credit request. |

## Hypothesis testing

In this study, while all "first attempts" to raise start-up finance are arguably independent, all other observations may be dependent on the outcome of the prior banker/entrepreneur interaction. For this reason, tests performed on start-up observations have been applied separately to first attempts and subsequent attempts, and the latter results interpreted with due caution.

Indicator pattern 1 required a ranking of observations by "level" of information. Four information sources were recognised: quantity of information transferred by the entrepreneur to the banker a) orally and b) in written form, and quantity (or "stock") of information already possessed by the banker on c) the entrepreneur and d) the business and its commercial environment. From the evidence provided by each entrepreneur, the level of information transferred to or

possessed by the banker was estimated independently for each of the four sources of information using a set of pre-determined classification rules on an ordinal scale (none, low, high). Then, with each information source weighted equally, the observations were ranked from highest to lowest on overall level of information. For start-up "first attempt" observations, the Mann-Whitney U test (corrected for ties) was used as a guide to whether the distributions of observations by level of information, when classified by credit agreement versus no credit agreement, were significantly different. This test was used because there was some evidence that values of the construct measure were not distributed normally in the population (see table 5 below).

Indicator pattern 2 required a ranking of bank size at the time of the credit request. Each bank in the sample was ordered according to its rank by size (largest first) in the total bank population for the year relating to the observation. Then the banks in the sample were ranked on the basis of their population-year rank. Banks were ranked for three different size construct measures (assets, loans, employees). The asset measure was used for tests, as this is the measure that the bankers interviewed referred to most often. Each construct measure produced the same ranking, except for one nation-wide bank, which was rated one rank higher than the largest regional bank on the employment measure. The Mann-Whitney U test was used because a Wilk-Shapiro test on the distribution of bank size asset measures for all start-up observations indicated a serious departure from normality ($T_3 = 0.7$ for n = 21).

No statistics test was necessary on hypothesis 3 (see below).

Vagneur's (1995) method was used to provide pattern matching tests for hypothesis 4. This technique can provide a set of independent tests of a set of propositions on one sample where both variables can take two values. In this technique, a count is made of indicator and opposing patterns found in the sample for each hypothesis. Goodness-of-fit tests are then applied to each distribution to assess if the pattern evidence suggests a significant association with the predictor. Because of the small sample sizes, Fisher's Exact test (Fisher, 1934) was used as a guide to the probability of the cross-observation pattern occurring in a random sample.

To compare the different bankers' views on factors affecting the entrepreneur-/banker relationship, a table was set up ranking each banker interviewed by bank size (assets) and size of the bank's catchment area from smallest to largest, criteria in addition to prescribed evaluation criteria mentioned by the bankers as relevant to their assessment of a request for finance, and our interpretation of the bankers' assessments of rejection rates for requests for finance for start-up, growth, and distress. The finished table was examined visually for emergent patterns of association between bank size and type, assessment criteria, and rejection rates. The association between credit agreement and bank type (local versus other) was tested using Fisher's exact test.

## Deductive results and analysis

### TABLE 1

Size and age of sample firms in 1995, with bank size and type at start-up and in 1995

| Firm | A‡ | B | C | D | E | F | G | H | I‡ | J‡ | K |
|---|---|---|---|---|---|---|---|---|---|---|---|
| start-up type | dn | p | dn | dn | dn | rc | rc | dn | dn | p | rc |
| Age (years) | 5 | 13 | 13 | 13 | 8 | 14 | 14 | 12 | 5 | 5 | 2 |
| Employment, 95 | 65 | 90 | 75 | 50 | 70 | 90 | 180 | 65 | 50 | 70 | 40 |
| Original Bank | s,lo | s,lo | l,rg | l,n | s,lo | s,lo | l,n | l,rg | s,lo | s,lo | s,rg |
| Current Bank† | s,lo | l,rg | l,rg | l,n | s,lo | l,n | l,n | l,n | s,lo | s,lo | s,rg |

Key:  dn = denovo start-up; p= purchase; rc = reconstruction by same entrepreneur
s = small; l = large; lo = local; rg = regional; n = nation-wide

† Several firms with high import/export rates had a (usually larger) second bank(s).

‡ Firms A, I and J had the same banker at startup.

### TABLE 2

Series of observations (entrepreneur/banker request/responses) per firm for start-up,
growth and distress periods

| Firm | Obs | A | B | C | D | E | F | G | H | I | J | K | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start-up: | 1 | s,lo | s,lo | l,rg | - | s,lo | s,lo | l,n | l,n | s,lo | s,lo | l,rg | 10 |
| | 2 | | | | | | | l,rg | l,rg | | | s,rg | 3 |
| | 3 | | | | | | | l,rg | | | | s,lo | 2 |
| | 4 | | | | | | | l,rg | | | | | 1 |
| | 5 | | | | | | | l,n | | | | | 1 |
| | 6 | | | | | | | l,n | | | | | 1 |
| | 7 | | | | | | | l,rg | | | | | 1 |
| | 8 | | | | | | | l,n | | | | | 1 |
| | 9 | | | | | | | l,n | | | | | 1 |

| Growth | 1 | s,lo | s,lo | l,rg | l,n | - | s,lo | l,n | l,n | s,lo | s,lo | s,lo | 10 |
| Distress | 1 | s,lo | - | l,rg | l,n | - | - | - | - | s,lo | s,lo | - | 5 |
| Total | | 3 | 2 | 3 | 2 | 1 | 2 | 10 | 3 | 3 | 3 | 4 | 36 |

Key: see table 1        Note: each within-firm series of observations ends with a credit agreement

TABLE 3

"First attempt" start-up observations ranked by banker's information level

| Observation number | Information level rank* | Bank size-/type | Bank size rank* | Known/ Unknown | Credit agreed |
|---|---|---|---|---|---|
| G1 | 9 | l,n | 10 | known | no |
| B1 | 9 | s,lo | 6 | known | yes |
| I1 | 9 | s,lo | 3 | known | yes |
| E1 | 6 | s,lo | 5 | known | yes |
| F1 | 6 | s,lo | 1 | known | yes |
| H1 | 6 | l,n | 9 | known | no |
| J1 | 4 | s,lo | 3 | known | yes |
| K1 | 2.5 | l,rg | 7.5 | known | no |
| A1 | 2.5 | s,lo | 3 | unknown | yes |
| C1 | 1 | l,rg | 7.5 | unknown | yes |

* Tied observations are assigned the average rank of the set of tied observations

TABLE 4

"Subsequent attempt" start-up observations ranked by banker's information level

| Observation number | Information level rank* | Bank size/type | Bank size rank* | Known/ Unknown | Credit agreed |
|---|---|---|---|---|---|
| H2 | 11 | l,rg | 3.5 | known | yes |
| K3 | 10 | s,lo | 1 | known | yes |
| G2 | 5.5 | l,rg | 2 | unknown | no |
| G3 | 5.5 | l,rg | 5 | unknown | no |
| G4 | 5.5 | l,rg | 3.5 | unknown | no |
| G5 | 5.5 | l,n | 9 | unknown | no |
| G6 | 5.5 | l,n | 11 | unknown | no |
| G7 | 5.5 | l,rg | 8 | unknown | no |
| G8 | 5.5 | l,n | 6 | unknown | no |
| G9 | 5.5 | l,n | 10 | unknown | yes |
| K2 | 1 | s,rg | 7 | unknown | no |

* The rankings are within-column rankings, and do not relate to rankings in table 3

TABLE 5

Information level of all start-up observations, by rank ( highest at top)

B1; G1; I1

E1; F1; H1; H2

J1

K1; A1

K3

G2; G3; G4; G5; G6; G7; G8; G9

K2; C1

TABLE 6

Observations for growth and distress, ranked by information level

| | Growth | | | | | Distress | | | |
|---|---|---|---|---|---|---|---|---|---|
| Obs. | Info. rank | Bank | Bank rank | Credit agreed | | Obs. | Info. rank | Bank | Bank rank | Credit agreed |
| A | 8.5 | s,lo | 3 | yes | | I | 4.5 | s,lo | 2 | yes |
| G | 8.5 | l,n | 5 | yes | | J | 4.5 | s,lo | 4 | yes |
| I | 8.5 | s,lo | 7 | yes | | A | 3 | s,lo | 5 | yes |
| J | 8.5 | s,lo | 9.5 | yes | | C | 1.5 | l,rg | 2 | yes |
| C | 6 | l,rg | 1 | yes | | D | 1.5 | l,n | 2 | no |
| H | 4.5 | l,n | 8 | yes | | | | | | |
| K | 4.5 | s,lo | 9.5 | no | | | | | | |
| D | 3 | l,n | 3 | yes | | | | | | |
| B | 2 | s,lo | 3 | yes | | | | | | |
| F | 1 | s,lo | 6 | yes | | | | | | |

## Hypothesis 1

The data in table 3 suggests that the null hypothesis 1 can not be rejected for "first attempts" at start-up. This was supported by a Mann-Whitney U test ($U =$ 9.5; p > 0.4). Combining all start-up observations and applying the correction for ties, credit agreements are somewhat associated with higher levels of information ($z = -1.75$; p = 0.04). Comparing the distribution of information levels for first and subsequent outcomes (see table 5), and ignoring all other factors, it does appear that bankers assessing subsequent attempts, which collectively had a 27% chance of a credit agreement, had somewhat lower information levels than first attempts, which collectively had a 70% chance of a deal. This result is however skewed by firm G having to "shop around" 8 banks. The data for growth suggest no association, but it must be borne in mind that bankers have at least some prior information on an on-going business customer, and therefore the construct measure used may not be fine-grained enough. For distress, the data do support the proposition, but there is only one case of no credit agreement. The entrepreneur in firm D, the only one in the sample who did not require bank finance at start-up, made little ongoing effort to inform the bank about his firm, and when he sought help but provided little information he was faced with "exceptional demands for collateral", which he took as a sign that he was not

trusted. Other entrepreneurs supplied more information consistently from start-up and were satisfied with the banker's responses even in times of distress.

## Hypothesis 2

A Mann-Whitney test suggested that entrepreneurs approaching smaller banks at start-up were significantly more likely to have credit agreements on their first attempt. ($U = 0.54$ with correction for ties; $p < 0.0167$). This did not hold for subsequent attempts ($U = 8.5$; $p > 0.25$ with rankings reversed to conduct the test). However, the test for first and subsequent attempts combined ($z = -2.68$ with correction for ties; $p = 0.008$) produced a significant result. The reason for these different results appears to be that the subsequent attempt sample contained only one small local bank. For both groups, all requests to small local banks were successful. It appears that a difference between small local banks versus other banks, rather than bank size per se accounts for the test results. However, the results do support hypothesis 2.

## Hypothesis 3

We found that all bankers stated their decision-making authority to be high. This represents an opposing pattern to that predicted by theory, and conflicts with the views of all except one of the entrepreneurs we interviewed. It also calls into question the deductive reasoning behind hypothesis 2. The larger banks have recently been through a phase of decentralization of decision-making authority following the mergers of 1990, and they may have given us relative rather than absolute measures. Nevertheless the data as it stands suggests that both theory, and the views of almost all the entrepreneurs we interviewed, were outdated.

## Hypothesis 4

Table 4, but not table 3, suggests visually that social familiarity may play some role in doing a deal. However, using Fisher's exact test, there were no significant associations in either the first attempt or subsequent groups between a credit agreement and being known to the banker beforehand. Therefore proposition 4 is not supported strongly by our data. Using Fisher's exact test, no

significant associations were found between small local and other banks and being known. This suggests that the results obtained for hypothesis 2 are not an indirect effect of differential familiarity by bank size.

<u>Inductive results and analysis</u>

TABLE 7

Adherence to prescribed evaluation criteria and funding request rejection rates - the banker's view

| banker | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| bank size | small | small | large | large | large | large | large | large |
| area | local | local | regional | regional | national | national | national | national |
| importance of familiarity | | | | | | | | |
| start-up | low | low | high | high | n.a. | low | high | high |
| growth | high | high | high | high | n.a. | high | high | high |
| distress | low | low | low | low | n.a. | low | low | low |
| importance of criteria other than prescribed | | | | | | | | |
| "local jobs" | high | high | high | no | n.a. | no | no | no |
| industry analysis | no | no | low | high | n.a. | high | high | high |
| business cycle | low | low | low | low | n.a. | low | low | low |
| rejection rates (all credit requests) | | | | | | | | |
| start-up | high | high | high | high | n.a. | high | high | high |
| growth | high | lower | lower | lower | n.a. | lower | higher | higher |
| distress | lower | lower | lower | higher | n.a. | higher | medium | medium |

TABLE 8

Association between bank catchment area and credit agreements

| | Start-up | | | Growth | | Distress | |
| | First attempts | Subsequent attempts | All attempts | | | | |
| Credit agreed | yes | no | yes | no | yes | no | yes | no | yes | no |
|---|---|---|---|---|---|---|---|---|---|---|
| nation-wide banks | 0 | 2 | 1 | 3 | 1 | 5 | 3 | 0 | 0 | 1 |
| regional banks | 1 | 1 | 1 | 5 | 2 | 6 | 1 | 0 | 1 | 0 |
| local banks | 6 | 0 | 1 | 0 | 7 | 0 | 5 | 1 | 3 | 0 |
| p value* | < 0.05 | | n.s. | | < 0.01 | | n.s. | | - | |

p value relates to Fisher's exact test on local versus all other banks.

n.s. = not significant at 5% level. The distress group had too few observations to run the test.

In interview, the bankers seemed to attach far greater significance to the exchange of information than the entrepreneurs. To them, such information gave them knowledge of their customers' activities and thus their need for banking products. They all sought similar information to conduct economic analyses, including profit and loss statements, balance sheets, cash flow statements, the entrepreneur's personal financial situation and needs, and information on products, markets and technologies. They all stressed the importance of management and product/market strategy and were wary of making decisions on the basis of financials alone. However, one or two meetings seemed sufficient to assess the person, in their view.

Table 7 shows that the bankers did not all agree on whether familiarity with the entrepreneur was an important influence in the funding decision. To the bankers in our sample, familiarity was not familiarity in the social sense but in the sense of a close, professional, working relationship. Both the small local and the large national bank managers volunteered the view that they would develop sufficient familiarity with the entrepreneurs from the initial meetings and from

references. Indeed, we found that the number of contacts between the entrepreneur and the banker was generally low.

All bankers stressed the important part that trust and belief in the abilities of the entrepreneur played in making their decision, especially the large regional which also had the most formalised evaluation criteria in the sample. However, table 7 shows that there were differences between bank types on factors affecting the credit assessment other than standard evaluation criteria. The local and small regional banks took the local economy into consideration in terms of the effect of their decisions on other accounts in the bank and the local economy in general, while the larger banks were concerned with competition and sectoral exposure issues. With the rare high potential project, as opposed to "the eighth pizza bar in town or the third hairdresser in the same street" (large bank banker), the job creation potential of the project weighed more heavily with the smaller banks. This would be one explanation for the significant pattern of distribution of credit agreements and no agreements at start-up by type of bank in table 8, and an alternative to the deductive reasoning behind hypothesis 2. Interestingly, the entrepreneurs did perceive that credit agreements varied by bank size. However most of them believed that this was because large banks took decisions on portfolio rather than individual analysis.

CONCLUSIONS

Overall findings

Our results suggest that the answer to the question "does bank size predict credit agreements for young growing firms?" seems to be: yes, for start-ups, in Denmark, but not for the reasons suggested by the theory we used, or by the entrepreneurs themselves. It may be easier to raise funds for a high potential start-up from a local bank than from a branch of a large bank, not because of centralized or normalized decision-making in the large bank, or because of social familiarity between local bankers and local entrepreneurs as theory predicted, but

because local bankers take into account the effect of a new venture on other accounts at the bank.

## Limitations

The small size of the sample limits the reliability of our conclusions. However, the sampling was carefully stratified to reduce bias. Though within each stratum the entrepreneurs were self-selecting, the final sample contained entrepreneurs with good and bad experiences in roughly equal measure. A surprising finding was the low level of "shopping around" by entrepreneurs in the sample. The stratification by bank size/type seems to account for this result. The lack of independence of some observations was taken into account in interpreting the results.

We did not employ third-party validated construct measures in this study. It is possible that the measure for information we used did not accurately represent the construct. In particular, the equal weighting of all four information sources could be disputed. However, our interviews with the bankers did not give us cause to change this procedure. Of the 21 start-up observations, there were 12 combinations (out of a possible 24) of the four information sources, suggesting the measure captured widely differing combinations of information. Also, the test employed rankings rather than interval or ratio scale data, thus reducing the need for fine-grained validity of the construct measure. Both researchers spent considerable time scrutinising the evidence before and after ranking. In some cases, entrepreneurs were contacted again to confirm disputed or missing data. Several commonly-employed size construct measures for bank size were tried, and all gave similar results. Another construct measure for familiarity, number of verbal contacts during the request/response period, was constructed and gave similar non-significant results.

The risk of Type I error (i.e. accepting an association when it should be rejected) was reduced by goodness-of-fit testing on the only variable showing significance (catchment area) in the sample of independent observations. Multiple independent interviews of bankers who ranged across the variable provided a plausible explanation for the result. The null hypotheses 1, 3 and 4 were upheld, which suggests a risk of Type II error (i.e. rejection when an association should be

accepted). Since highly significant results were obtained on another measure (catchment area), and this variable did not associate highly with information or familiarity as measured, it is possible that in a large sample with a better specified multivariate model, information and familiarity may be shown to have significant, if somewhat weak, effects.

Factors unique to Denmark, for example high levels of fixed asset financing by other specialist financial institutions, may make our results nation-specific. We intend to replicate this study in a region of another nation where bank sizes vary significantly, and also where centralization of decision-making within banks varies. Where decisions are made by a branch loan committee, for example, or by head office, very different results might be obtained.

## Implications

The finding that spin-off potential to the local economy is important to local banks is something the entrepreneur can exploit in making a proposal to a local or possibly small regional bank with a high local market share. With the decentralisation of decision-making in large Danish banks, it now seems possible for entrepreneurs to directly influence decision-makers. The banker's first few meetings with the entrepreneur appear to be crucial to his or her perception of the entrepreneur as someone who is both competent and trustworthy (we agree with Hedelin and Sjöberg, 1995, p. 89 on this point). Careful preparation for these meetings, and generous provision of relevant information by the entrepreneur, should help the entrepreneur's chances further.

The decline in number of local banks in Denmark, given their apparently significant role in backing new high potential ventures, should give concern to the industry and to regulatory authorities. The large Danish banks could redress the poor image among the entrepreneurs in our sample by communicating their decentralization of decision-making, if it is real, to their customers.

The theories we started out with have been useful but insufficient to explain our results. The economic model does not take into account the reliance of the banker on his sense of trust in the entrepreneur's capability to manage an evolving situation, while the classic bureaucratic ideal type is not relevant to

modern Danish large banks. The sociological concept of social familiarity may need to be reformulated for our purposes into a concept of professional familiarity, based on a two-way relationship of regular contact and sharing of information as a way of reducing risk and increasing mutual trust in conditions of uncertainty.

The results suggest an emergent model of entrepreneur/banker interaction as presented in Figure 2 below. It is intended to conduct a large scale survey with validated construct measures to test the emergent hypotheses in the model.

FIGURE 2

Model of entrepreneur/banker interaction
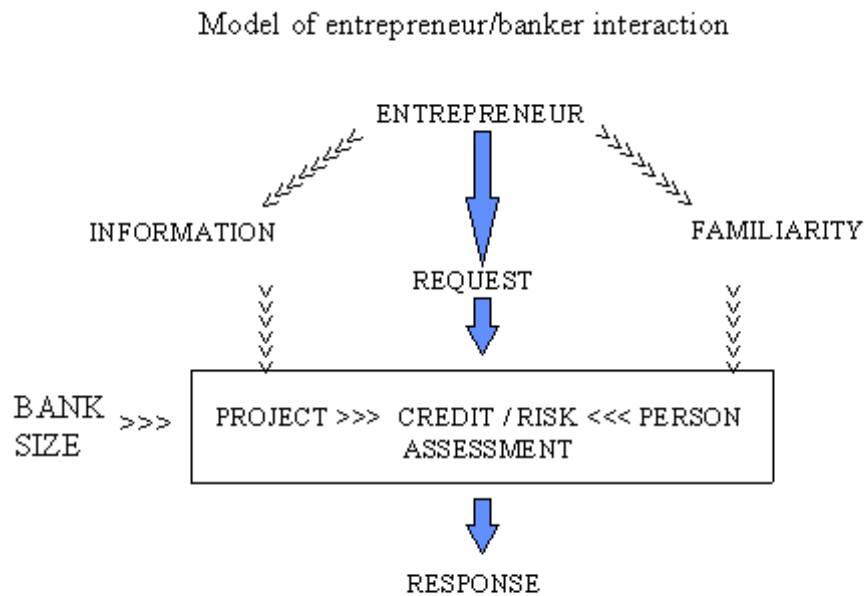
REFERENCES

Andersen, L., Levie, J. and Warhuus, J.P. (1995)  Does Bank Size affect the Relationship between Entrepreneurs and their Bankers? An exploratory study in Denmark.  In B. Green (ed.). Risk Behaviour and Risk Management. Stockholm: Stockholm University.

Alchian, A.A. and Woodward, S. (1988) The firm is dead; long live the firm. Journal of Economic Literature 16:(65-79).

Campbell, D.T. (1966) Pattern matching as an essential in distal knowing. In: Hammond, K.R. (ed.). The Psychology of Egon Brunswick. New York: Holt, Rinehart and Winston. pp. 81-106.

Campbell, D.T. (1975) Degrees of freedom and the case study. Comparative Political Studies 8:178-193.

Christensen, P.R. (1989)  Denmark - The role played by small and medium-sized enterprises (SMEs) in a Major Process of Economic Restructuring. Aarhus: Dept. of International Business, The Aarhus School of Business. Mimeo.

Eisenhardt, K.M. (1989) Building Theories from Case Study Research. Academy of Management Review 14 (4): 532-550.

Ennew, C. and Binks, M. (1993) Financing entrepreneurship in recession: does the banking relationship constrain performance? In N.C. Churchill et al. (eds.) Frontiers of Entrepreneurship 1993, Massachusetts: Babson College, Babson Park pp. 466-480.

European Commission (1978) Small and medium-sized enterprises - a report, conclusions and recommendations in respect of their financing. Brussels: European Commission.

Festinger, L. (1950) Informal Social Communication. Psychological Review 57:271-282.

Fisher, R.A. (1934) Statistical Methods for Research Workers. London: Oliver and Boyd.

Hedelin, L. and Sjöbjerg, L. (1995) Bankers' judgement of loan applicants in regard to new ventures. In: B. Green (ed.) Risky Business. Stockholm: Risk Research Group, Stockholm University. pp. 67 - 94.

Hinsdiek, D. (1985) Financing of start-up and growth of new technology-based firms in West Germany. <u>International Small Business Journal</u> 4(2):10-24.

Illeris, S. (1986) New firm creation in Denmark: the importance of the cultural background. In: D. Keeble and E. Wever (eds.) <u>New Firms and Regional Development in Europe</u>. London: Croom Helm. pp. 141-150.

Jensen, M.A. and Meckling, W.H. (1976) Theory of the firm: managerial behavior, agency costs and ownership structure. <u>Journal of Financial Economics</u> 3:305-360.

Levie, J. (1995) The Effect of Government Nurturing Policies on Early Corporate Growth in Denmark, Ireland and Scotland, 1973 to 1987. Unpublished PhD thesis, London Business School.

Lomi, A. and Levie, J. (1995) Density Dependence and Spatial Duality in the Founding Rates of Danish Commercial Banks, 1846-1989. Working Paper, London Business School.

Manigart, S. and Struyf, C. (1995) Financing high technology startups in Belgium. Paper presented at Babson Entrepreneurship Research Conference, London Business School, 9-12 April.

Marshall, C. and Rossman, G.B. (1989) <u>Designing Qualitative Research</u>. London, Sage.

Mattson, G.A. (1989) Decision rules, gatekeepers and the delivery of municipal services. <u>Public Productivity and Management Review</u> 13(2):195-199.

Merton, R.K. (1968) Bureaucratic structure and personality. In: <u>Social Theory and Social Structure</u>. New York, Free Press. pp. 249-259.

Perrow, C. (1972) <u>Complex Organizations: A Critical Essay</u>. Glenview, Illinois: Scott, Foresman.

Peterson, R. and Shulman, J. (1987) Capital Structure of Growing Small Firms: A 12-Country Study on Becoming Bankable. <u>International Small Business Journal</u> 5(4): 10-22.

Pfeffer, J., Salancik, G.R. and Leblebici, H. (1976) The effect of uncertainty on the use of social influence in organizational decision making. <u>Administrative Science Quarterly</u> 21: 227-245.

Pohl, M. and Freitag, S. (eds.) (1994) <u>Handbook on the History of European Banks</u>. Frankfurt: European Association for Banking History E.V., and Aldershot: Edward Elgar.

Reynolds, P.D. (1993) High Performance Entrepreneurship: what makes it different? In: N.C. Churchill <u>et al.</u> (eds.) <u>Frontiers of Entrepreneurship 1993</u>. Massachusetts: Babson College, Babson Park. pp. 88-101.

Sharpe, S. A. (1990) Asymmetric information, bank lending, and implicit contracts: a stylized model of customer relationships. <u>Journal of Finance</u> 45(4):1069-1087.

Small Firms Association (1986) <u>SFA Survey of Banking Facilities: The Entrepreneur's View</u>. Dublin: Small Firms Association.

Swank, J. (1994) An interview survey of bank behaviour in the Netherlands. BNL Quarterly 189:199-235.

Vagneur, K. (1995) Financial Performance Measurement Effects on Hierarchical Consistency and Performance. Unpublished PhD thesis, London Business School.

Viennet, H. (1988) Comment crée-t-on ou reprend-on une entreprise? <u>Economie et Statistique</u> 215: 33-37.

Weber, M. (1968) Bureaucracy. In: G. Roth and C. Wittich, (eds.) <u>Economy and Society</u>. Vol.3. New York: Bedminster Press. pp. 956-1005.

Williams, N.M., Sjöberg, G. and Sjöberg, A.F. (1980) The bureaucratic personality: an alternative view. <u>Journal of Applied Behavioral Science</u> 16(3):389-405.

# Center for Småvirksomhedsforskning

# Working Papers

1996/1      **Axelsson, Lene and Christensen, Poul Rind:** How entrepreneurial is the research in small business and entrepreneurship in Denmark. (ISBN 87-89087-65-8)

1996/2      **Norlyk, Birgitte:** Miscommunication and discourse practices in occupational cultures. (ISBN 87-89087-69-0)

1997/1      **Lüthje, Teit**: International konkurrenceevne. Begreb og målemetoder. (ISBN) 87-89087-71-2)

1997/2      **Warhuus, Jan P. and Jonathan Levie:** Does bank size affect the relationship between entrepreneurs and their bankers? (ISBN 87-89087-77-1)