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Agency Theory and Its Application to Small Firms: Evidence from the Swedish Venture Capital Market

Hans Landström

The research in small firms financing is characterized by a lack of a theoretical framework. One basic assumption in this study is that agency theory can provide an essential framework to explain the interaction between informal and formal venture capitalists and their portfolio firms. Five hypotheses generated from agency theory are formulated and tested on 62 firms backed by informal venture capitalists and 145 firms backed by formal venture capitalists. The theoretical conclusion is that agency theory does not provide a satisfactory framework to explain either the informal venture capitalist's, nor the formal venture capitalist's relationship to their portfolio firms. Therefore, more exploratory research must be done to develop a theory of finance which will be applicable in the small firms situation.

I. INTRODUCTION

The research in small firms financing is characterized by a lack of a theoretical framework. The theory of modern corporate finance is developed mainly with large firms in mind. Ang [1] emphasizes that small firms have unique characteristics. For example, the owners have undiversified personal portfolios, the first generation owners are entrepreneurial and prone to risk taking, the management team is not complete, the small firms experience high cost of market and institutional imperfections, and relationships with stockholders are less formal. These differences between large and small firms could generate a different set of financial problems in small firms, or cause the entrepreneurs in the small firms to look at the same financial problems in a different manner.

Against this background, it is important to develop or find theories which are valid in the small firms situation. One of the assumptions in this study is that agency theory can provide a helpful framework to explain the cooperation between venture capitalists and their portfolio firms.

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Why is agency theory interesting in this respect? The following reasons can be mentioned:

- Agency theory has been developed on a relatively high level of abstraction, but the theory is to a limited extent tested in empirical situations.
- Researchers in the field of agency theory regard small firms as one area where studies can provide most of the leverage for agency theory [6].
- Agency costs are thought to be a major impediment to small firms in their attempts to obtain external financing [2, 13, 21].
- Some of the assumptions in the agency theory sound intuitively appealing and relevant in the small firms situation. For example, the high level of asymmetric information [2], and the fact that entrepreneurs are not motivated to disclose information due to fears that it might be used against them, so-called information impactedness [14].
- Studies of the venture capital market in the US have shown that the agency theory could be a helpful theory to explain the interaction between formal venture capitalists and entrepreneurs [22], and that monitoring financial and operation performance is one of the most time-consuming activities of formal venture capitalists [15].

The aim of the study is to test the applicability of agency theory to small firms. The empirical material in the study is derived from the Swedish venture capital market.

The term “venture capital” is often misused, and there is no universal definition [16, 24]. However, essential to the definition is that the venture capitalists provide risk capital (equity and near-equity capital), the investments are made in small unlisted firms, and the commitments are for a limited period of time.

The concept “informal venture capitalists” will be defined as external private individuals who provide risk capital directly to small unlisted firms. The definition of informal venture capitalists in this study is broader than the definition of informal investors used in studies in the US [9, 25] and the UK [17]. Furthermore, the concept “formal venture capitalists” refers to companies (with no strong connection to private individuals’ capital) which provide risk capital to small unlisted firms.

The paper is organized into seven sections. In section II a review of the agency theory is presented. Section III presents the hypotheses generated from agency theory. Section IV describes the data collecting process and the variables used in the study. Some characteristics of the firms surveyed are

presented in section V. In section VI the empirical findings are presented and in the final section some theoretical conclusions are drawn.

II. AGENCY THEORY

In this section the general assumptions in the agency theory will be presented, and the external investors' possibilities to monitor the entrepreneur's behavior will be described.

In general, agency theory is related to the problem that occurs when cooperating parties have different goals and a division of labor. Specifically, the agency theory focuses on the relationship in which one or more persons (the principal(s)) engage another person (the agent) to perform some work on their behalf [13]. The basic premise of agency theory is that both principals and agents are assumed to be rational economic-maximizing individuals. Therefore, the separation of ownership and control will result in decisions by the agent which are not always in the principal's best interest and there will arise costs (agency costs) of bringing the agent's behavior into line. For example, costs arise which are incurred by the principals when monitoring and controlling the behavior of the agent (so-called monitoring costs), and costs incurred by the agent in demonstrating compliance with the wishes of the principal (so-called bonding costs).

The unit of analysis in the agency theory is the contract between the principal and agent. These contracts (written and unwritten) specify the rights of the agent, performance criteria on which agents are evaluated, and the payoff functions they face [8]. Especially, there are two problems that the agency theory tries to solve. The first is the problem that arises when the goals of the principal and agent conflict and it is difficult or expensive for the principal to verify what the agent is actually doing. The second is the problem that arises when the principal and agent have different attitudes toward risk, which can lead to different preferred actions.

The agency theory has its roots in information economics, and the theory has developed along two lines; positivist and principal-agent research [12]. The two approaches share a common unit of analysis and use the same agency cost minimizing tautology, but differ in their mathematical strictness. Positivist research is less mathematical and more empirically oriented than principal-agent research. The positivist researchers have focused mainly on the principal-agent relationship between owners and managers of large corporations [e.g., 7, 8, 13], whereas principal-agent researchers are concerned with a general theory of the principal-agent relationship [e.g., 4, 11].

One of the core issues in the agency theory concerns the principals' possibilities to monitor the agent's behavior. Monitoring refers to the

principals' ability to determine whether the agents have lived up to the provisions of the contract and to prevent the agent's misuse of assets due to conflicts of interest. In Jensen-Meckling's [13] definition, monitoring refers to more than just measuring or observing the behavior of the agent. It also includes efforts to "control" the behavior of the agent through budget restrictions, operating rules, etc.

In the case where the principal does not have complete information about the agent's behavior, as in the case of external investors, two options exist [5]; to put the agent's behavior under surveillance (e.g., through reporting procedures, and board of directors), or to reward the agent based on outcomes (e.g., profitability).

Following such reasoning Ouchi [19, 20] suggests two underlying monitoring strategies. The strategy can be either behavior or outcome based. The behavior-based strategy refers to an agreement between the principal and the agent which concerns a certain behavior that in some way will be rewarded, whereas outcome-based strategy refers to the principal's measurement of certain outcomes and the reward will be based on this measurement. According to Ouchi [19], the choice between the strategies depends on two dimensions; knowledge of transformation process and availability of output measures. To use a behavior-based strategy, that is, to continuously observe the agent's behavior, the principal requires a causal knowledge of what is required to attain a desired outcome. When the principal uses outcome-based strategy, for example, to measure the agent's attained results, the transformation process need not be known at all, but a reliable and valid measure of the desired outputs must be available.

III. HYPOTHESES

In this section the hypotheses generated from agency theory will be presented. The hypotheses emanate from Ouchi's reasoning regarding different monitoring strategies. As a monitoring variable I will use the concept "active involvement" which includes a high frequency of contacts between the investor and entrepreneur, and more operational involvement by the investor in the portfolio firm.

The characteristics of the portfolio firm can be expected to affect the venture capitalist's way of monitoring the entrepreneur. According to Ouchi [19] a more behavior-based strategy will be used in situations where the availability of output measures are low. This is the situation in highly innovative firms and in young firms. Furthermore, high innovation firms may involve technology that is not well understood by the venture capitalist. The information asymmetries increase the threat of opportunism which leads

to more active involvement. In young firms the risk of failure is high. This also leads to a need for frequent contacts and more operational involvement. In accordance with this reasoning the following hypotheses can be formulated:

- H1: The higher the innovation level of the firm, the more the venture capitalist will rely on more active involvement.
- H2: The younger the firm, the more the venture capitalist will rely on more active involvement.

Environmental characteristics will also affect the monitoring behavior. As the environment becomes more variable, information will have to be processed more frequently. Under conditions of high variability, performance evaluation becomes more difficult [13] and more evaluation mechanisms are likely to evolve [3]. Therefore, it is reasonable to expect that variability in the environment will force a more active involvement. The hypothesis is:

- H3: The more variable the environment becomes, the more the venture capitalist will rely on more active involvement.

The effects of ownership on managerial incentives are one of the core issues of agency theory. One suggestion is that an entrepreneur who owns a large share of the firm will require little monitoring, because his incentives will be in line with those of outside owners. Furthermore, as the ownership of the outside investors increases, the need for monitoring will increase. The reasons for this are; (I) the risk that the entrepreneur will consume the firm's resources will increase, and (II) the investors exposure to business risks increases as the equity stake increases. As a result, the venture capitalist will take a more active role in the firm when his ownership level is high. This reasoning leads to the following hypothesis:

- H4: The lower the relative ownership level of the entrepreneur, the more the venture capitalist will rely on more active involvement.

The venture capitalist's knowledge about the portfolio firm's transformation process, here defined as the knowledge of the firm's market and technology, will affect the monitoring behavior. According to Ouchi [19] a more behavior-based strategy will be used in situations where the principal's

Table 1
Hypotheses in the Study

	<i>Monitoring Variables</i>	
	<i>Frequency of Contacts</i>	<i>Operational Involvement</i>
H1 Innovation Level	+	+
H2 Age of the Firm	+	+
H3 Environment Variability	+	+
H4 Entrepreneur's Ownership	-	-
H5 Venture Capitalist's Knowledge	+	+

knowledge of the transformation process is good. This will give rise to the following hypothesis:

- H5: The more the venture capitalist knows about the portfolio firm's transformation process, the more the venture capitalist will rely on more active involvement.

In Table 1 the hypothesized impact of the context on the venture capital—entrepreneur relationships is summarized.

IV. METHOD

In this section the data collecting process and the variables used in the study will be presented. Furthermore, the limitations of the study will be discussed. The study is based on two surveys, one of firms backed by informal venture capitalists and one survey of firms backed by formal venture capitalists.

Survey of firms backed by informal venture capitalists

This part of the study was carried out during the spring of 1991, and is based on a survey of manufacturing and technology-based firms in Sweden. Three geographic areas in southern Sweden and 11 science parks were selected for the study. The criteria for the sample in the three geographic areas were manufacturing firms with up to 100 employees. The sample frame was composed of a random sampling from the data base of the Postal Office (PAR). The science parks were studied through a full-scale survey of the firms located at the science parks.

In total 1,258 firms were included in the sample frame. The questionnaire was mailed to the CEO's of the firms, with a reminder via telephone after two weeks and a postal reminder after additionally one week. Of the 1,258 firms, 47 claimed that they were not independent juridical firms,

not manufacturing firms or firms with over 100 employees. Sixteen questionnaires were sent back by the postal services, and it was assumed that those firms had gone out of business. Thirty-one firms reported that they had discontinued their operation or had gone into bankruptcy. The effective sample frame was thus 1,164 firms, and of these 627 firms were not heard from, 32 firms sent back incomplete questionnaires or questionnaires that were not filled in, and 505 sent back questionnaires that were completely filled in. Thus, the response rate is $505/1,164$, or 43%.

The results show *inter alia* that banks, as might be expected, are the most commonly used external investor, followed by supplier and leasing/factoring companies. It is interesting to note that informal venture capitalists are used in 62 or 12% of the firms, which is surprisingly high. The analyses in this paper are based on those 62 firms which have informal venture capitalists as (part) owner.

Survey of firms backed by formal venture capitalists

In this survey the data is based on a questionnaire sent to CEO's in firms backed by formal venture capitalists in Sweden. The survey was carried out in the spring of 1990. The sample frame was designed from the venture capital data base of the Swedish National Board for Industrial and Technical Development, and from annual reports of venture capital companies. In total 536 portfolio firms were traced. Commitments which involved one venture capital company investing in another venture capital company were disregarded. The fact that one portfolio firm may have several venture capital companies as (part) owner has also been taken into account. To offset the risk that the questionnaire might be filled in by representatives of the venture capital company, portfolio firms with the same address as the venture capital company were excluded. The final list of portfolio firms used in the survey included 380 firms.

The questionnaire was mailed to the portfolio firms, with a reminder after three weeks. Of the 380 firms, answers were obtained from 183. Of these, there were 17 firms with more than 100 employees. Thus, the effective sample frame was 363 firms. 21 questionnaires were returned "blank" and 145 questionnaires could be used for analyses. The percentage of answers was thus $145/363$, or 40%.

Variables used in the surveys

The variables that have been used in the study were operationalized in the following way (Table 2).

Table 2
Overview of Variables Used in the Study

<i>Variables</i>	<i>Operationalization</i>
Innovation Level	Biomodel scale (0 = Old product on the market and 1 = New product on the market)
Age of the Firm	Year of Start
Environment Variability	Five point scale (1 = Small changes to 5 = Large changes) in the dimensions, market, technology, competition and suppliers
Entrepreneur's Ownership Share	Percent
Venture Capitalist's Knowledge	Five point scale (1 = Very limited extent to 5 = Very large extent) in the dimensions, market and technology
Frequency of Contacts	Five point scale (1 = Almost never, 2 = When needed, 3 = Monthly, 4 = Weekly and 5 = Daily)
Operational Involvement	Seven point scale (1 = No active cooperation, 2 = Economic reports, 3 = Work on board, 4 = Ad hoc when needed, 5 = Continuous informal contacts, 6 = Involvement in operation [part time] and 7 = Involvement in operation [full time])

Limitations of the study

There are several factors which potentially restrict the conclusions which may be drawn. First, one such limitation is the size of the samples, including the survey of firms backed by informal venture capitalists as well as the survey of firms backed by formal venture capitalists. Larger samples would have been preferred for statistical analyses and generalization purposes. Secondly, the most serious limitation refers to the operationalizing of the variables. Some of the variables are measured through single item measures due to the desire to get an acceptable response rate. This can be discussed since the contents in some of the variables are more comprehensive than what can be included in a single item measure. Furthermore, the construct validity for separate variables can be discussed. For example, the assumption behind the variable "venture capitalist's knowledge about the portfolio firm's transformation process" is that this knowledge will be reflected in the venture capitalist's provision of resources in the dimensions, market, and technology. Finally, the broad definition of "informal venture capitalists" makes it difficult to compare the results in this study with studies of informal investors in the US and the UK.

V. SOME CHARACTERISTICS OF THE FIRMS SURVEYED

In this section the firms backed by formal and informal venture capitalists' will be described.

The character of the firms

The survey of firms backed by formal venture capitalists showed that 44% of the firms were started during the 1980's. The average number of employees were 32 (median 25 employees), and 22% of the firms had less than 10 employees. Twenty-two percent of the firms had a principal product that was "completely new on the market" when it was launched.

The average number of owners in the firms were 2.7 owners. The average share owned by the CEO was 16% (median 0%), and the formal venture capitalist was majority owner in 59% of the cases.

Corresponding results in the survey of firms backed by informal venture capitalists showed that 69% of the firms were started during the 1980's. The firms in this survey are smaller. The average number of employees was 16 employees (median 11 employees), and 44% had less than 10 employees. Among the informal venture capitalists' portfolio firms 49% stated that the firm had a principal product that was "completely new on the market" when it was launched.

On average there were 9.5 owners in the firms. The average share owned by the CEO was 30% (median 26%), and the informal venture capitalists were majority owners in 49% of the firms.

Due to differences in the sample frame it is difficult to make any conclusions regarding the investment patterns between informal and formal venture capitalists.

The Cooperation Between the Venture Capitalists and the Portfolio Firms

Of course, the differences in the sample frame also influence the possibilities to make comparisons between the formal and informal venture capitalists' way of cooperating with their portfolio firms. However, in both cases the relationship is formed between parties that are rather close. The distance between the formal venture capitalist and the portfolio firm was less than 50 km in 51% of the cases. Corresponding results for the informal venture capitalists were 60% of the cases.

The frequency of contacts between the venture capitalists and the portfolio firms are rather high for both formal and informal venture capitalists. Forty-eight percent of the respondents in the formal venture

Table 3
Provision of Resources

	<i>Average Values on a Five Point Scale</i>	
	<i>Formal Venture Capitalists</i>	<i>Informal Venture Capitalists</i>
Acting as a Sounding Board	3.1	3.7
Wider Range of Contacts	2.9	3.4
Facilitated Contacts with Interested Third Parties	2.7	3.1
Professionalizing of the Portfolio Firm	2.8	3.1
Financial Expertise	3.4	3.1
Expertise in Negotiating and Contract-Making	2.6	3.1
Market Expertise	1.8	2.6
Technological/Production Expertise	1.4	2.5

capitalists survey and 53% in the informal venture capitalists survey indicated contacts some time/s every day or week.

There are some differences in the way of organizing the cooperation between the venture capitalists and the portfolio firms. The formal venture capitalists seem to rely more on financial reports and consultancy work in the portfolio firms, whereas informal venture capitalists are more actively involved in operations. Both formal and informal venture capitalists work actively on board meetings and by informal contacts with the entrepreneurs.

Apart from capital, the venture capitalists provide different kinds of expertise. This is primarily in the form of acting as a sounding board, professionalizing of the portfolio firm, financial expertise, and expertise in negotiating and contract-making. A comparison between formal and informal venture capitalists shows that the informal venture capitalists provide expertise to a larger extent on almost every studied variable (see Table 3).

The portfolio firms' expectations of the cooperation with the venture capitalists have in many cases been fulfilled. Seventy-four percent of the CEO's in firms backed by informal venture capitalists are of the opinion that their expectations had been realized to a large or very large extent. Corresponding results for the entrepreneurs in firms backed by formal venture capitalists were 54%.

VI. EMPIRICAL RESULTS

In this section the five hypotheses are tested. The effects of the independent variables on the venture capitalists frequency of contacts and operational involvement are analyzed.

Table 4
The Impact of Independent Variables on Frequency of Contacts

<i>Dependent Variable: Frequency of Contacts</i>						
<i>Independent variables</i>	<i>Hypothesis</i>	<i>Prediction</i>	<i>Formal Venture Capitalists</i>		<i>Informal Venture Capitalists</i>	
			<i>Beta Value</i>	<i>Significance</i>	<i>Beta Value</i>	<i>Significance</i>
Innovation level	H1	+	-0.19		-0.54	Sign.
Age of the firm	H2	+	0.00		0.01	
Environment variability	H3	+	0.02		-0.35	Sign.
Entrepreneur's ownership	H4	-	-0.01		0.01	
Venture capitalist's knowledge	H5	+	0.23	***	0.29	**
R ² (adj)				0.19		0.33
F				5.04***		5.56***
n				89		46

Notes: Level of Significance

+ $p < 0.10$

* $p < 0.05$

** $p < 0.01$

*** $p < 0.001$

By way of introduction the correlations between the variables used as independent variables should be examined. The primary interest is to examine the extent to which multicollinearity can be expected to confound the results of the regression analyses conducted to test the hypotheses.

The result of the correlations shows that none of correlations are above 0.50. The highest value in both surveys is between the variables innovation level and age of the firm ($r = 0.23$ in the formal venture capitalist survey, and $r = 0.32$ in the informal venture capitalist survey). This indicates that the variables are tapping different aspects of the venture capitalist—entrepreneur relationship, and it appears that multicollinearity should not be a serious threat to the regression analysis.

A basic assumption in the study is that venture capitalists attempt to manage the agency risks inherent in a particular firm through the level of their involvement. Table 4 presents the results of regressing the five independent variables against frequency of contacts in the venture capitalist—entrepreneur dyad.

The results in Table 4 show that only one of the five hypotheses is supported. As predicted, the frequency of contacts increases when the venture

Table 5
The Impact of Independent Variables on Operational Involvement

			<i>Dependent Variable: Operational Involvement</i>			
<i>Independent Variables</i>	<i>Hypothesis</i>	<i>Prediction</i>	<i>Formal Venture Capitalists</i>		<i>Informal Venture Capitalists</i>	
			<i>Beta Value</i>	<i>Significance</i>	<i>Beta Value</i>	<i>Significance</i>
Innovation level	H1	+	0.30		-0.60	Sign.
Age of the firm	H2	+	-0.01		0.01	
Environment variability	H3	+	-0.19		-0.11	
Entrepreneur's ownership	H4	-	0.00		-0.00	
Venture capitalist's knowledge	H5	+	0.52	***	0.39	*
R ² (adj)				0.11		0.13
F				3.33**		2.46*
n				93		51

Notes: Level of Significance

+ $p < 0.10$

* $p < 0.05$

** $p < 0.01$

*** $p < 0.001$

capitalist has more knowledge about the portfolio firm's transformation process (H5). None of the other hypotheses are supported. On the contrary, for the informal venture capitalists there is a significant relationship between higher innovation level, respectively higher environment variability, and lower frequency of contacts (H1 and H3). Also, the results do not give support for the hypotheses concerning a positive relationship between young firms and a high frequency of contacts (H2), or a negative relationship between the entrepreneur's ownership level and the frequency of contacts (H4).

The predicted direction of the hypotheses is identical when operational involvement is used as a dependent variable. Table 5 presents the results of the regression analysis testing the hypotheses regarding the effects of the independent variables on the venture capitalist's operational involvement in the portfolio firms.

The results for the hypotheses regarding the venture capitalists operational involvement in the portfolio firms show similar results as for the frequency of contacts. Only the variable "venture capitalist's knowledge" (H5) is significantly related to operational involvement. The variables, age of the firm (H2), environment variability (H3), and entrepreneur's ownership

(H4) seem to contribute little to explaining variations in the operational involvement by the venture capitalists in their portfolio firms. It is interesting to note that high innovation level is related to more operational involvement by the formal venture capitalists, but less operational involvement by the informal venture capitalists (H1).

To summarize, it appears that only one variable generated from agency theory helps to explain the active involvement by the venture capitalists in their portfolio firms. More knowledge from the venture capitalist about the portfolio firm's transformation process seems to support higher frequency of contacts and operational involvement. It is also interesting to note the difference between informal and formal venture capitalists in the treatment of portfolio firms with a high innovation level. In these situations, the informal venture capitalists seem to be considerably more passive than the formal venture capitalists.

The weak relationships between the variables generated from agency theory and the venture capitalists' involvement in their portfolio firms may be explained by the differences in the venture capitalists' ownership level. Therefore, a comparison was made between those firms with majority ownership by venture capitalists against those with minority ownership. However, the result shows no major differences between minority and majority owned portfolio firms. Thus, the results do not strongly support the assumption that the venture capitalists take a more active role in the portfolio firms when their ownership level is high.

VII. CONCLUSIONS

This section summarizes the conclusions emerging from the regression analyses testing of the formulated hypotheses. The section is divided into two subsections; theoretical implications and discussion.

Theoretical implications

This study used agency theory as the theoretical framework to study the relationship between venture capitalists and entrepreneurs. It is interesting to note that the agency theory does not seem to provide a satisfactory explanation for the venture capitalist's interaction with the entrepreneurs. This holds true for formal as well as informal venture capitalists. The results are contrary to what was expected, and the results are especially interesting for the formal venture capitalists, since the assumptions in agency theory could be expected to be more valid in the relationship between formal venture capitalists and their portfolio firms. It is possible that the agency theory is

not valid in the relationship between venture capitalists and their portfolio firms due to the following reasons:

- I. The agency theory is based on the assumption that both principals and agents are rational economic-maximizing individuals. This does not hold for the entrepreneur or the informal venture capitalist. Studies have shown that entrepreneurs are often driven by other than purely economical motives. Also, studies of informal venture capitalists in the US and the UK show that they do not always see the monetary rewards as the most essential.
- II. The agency theory assumes that the principal building control mechanism is to prevent opportunistic behavior from the agent, which implies a "negative" relationship between the principal and agent. The relationship between the venture capitalist and entrepreneur usually has a more "positive" character, where the interaction is based on support and mutual trust. In many cases the control mechanism functions as a dysfunctional factor with lowering trust between the venture capitalist and entrepreneur, which impedes open communication, etc.
- III. The agency theory assumes that there is an information asymmetry between the principal and agent which facilitates the agent's opportunistic behavior. The negotiations between the venture capitalist and entrepreneur, and the personal relationship between them can result in less information asymmetries and less opportunistic behavior, and therefore substitute monitoring solutions.

My conclusion is that the agency theory is not applicable in the interaction between venture capitalists and entrepreneurs. More exploratory research must be done to develop a theory of finance which will be applicable in the small firms situation.

Discussion

Finally, some reflections regarding the differences between informal and formal venture capitalists. As mentioned earlier, the differences in the sample frame imply that a complete comparison cannot be obtained. However, some observations can be made.

The results in the study indicate that informal venture capitalists have a tendency to invest in young firms and technology-based firms to a larger extent than formal venture capitalists. This corresponds with results in the US [10, 23, 25] and in the UK [18].

In addition to the differences in the investment pattern there seems to exist differences in the ownership structure in the portfolio firms. Firms backed by informal venture capitalists seem to have a weaker ownership structure, with a large number of owners and where each informal venture capitalist has a small ownership share in the firm. This implies that the cooperation must be based on a mutual trust between the venture capitalist and entrepreneur. On the other hand, firms backed by formal venture capitalists seem to have a stronger ownership structure with few owners and where the venture capitalist in many cases is the majority owner. The consequence is that the formal venture capitalist to a larger extent can rely on its ownership power in their cooperation with the portfolio firm.

Of course, the differences in investment pattern and ownership structure influence the conditions of the cooperation between the venture capitalists and portfolio firm. The results in the study indicate that the informal venture capitalists provide more expertise to their portfolio firms compared to the formal venture capitalists. However, the impression is that informal and formal venture capitalists react differently to changes in the portfolio firms. The formal venture capitalists react quicker and more resolute. They are more objective in their judgements, and economic motives guide their decisions. Informal venture capitalists react less powerfully, they are more subjective in their judgements, and they must to a larger extent rely on the entrepreneur's statements and actions. Therefore, the informal venture capitalists appear to provide less assistance with short term changes and/or problems in the portfolio firms than the formal venture capitalists.

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REFERENCES

- [1] Ang, J.S. 1991. Small Business Uniqueness and the Theory of Financial Management. *Journal of Small Business Finance* 1(1): 1-13.
- [2] Barnea, A., R. Haugen, and L. Senbet. 1981. Market Imperfections, Agency Problems and Capital Structure: A Review. *Financial Management* (Summer): 7-22.
- [3] Bourgeois, L.J. 1985. Strategic Goals, Perceived Uncertainty, and Economic Performance in Volatile Environments. *Academy of Management Journal* 28: 548-573.
- [4] Demski, J., and G. Feltham. 1978. Economic Incentives in Budgetary Control Systems. *Accounting Review* 53:336-359.

- [5] Eisenhardt, K.M. 1985. Control: Organizational and Economic Approaches. *Management Science* 31(2):134-149.
- [6] Eisenhardt, K.M. 1989. Agency Theory: An Assessment and Review. *Academy of Management Review* 14(1):57-74.
- [7] Fama, E. 1980. Agency Problems and the Theory of the Firm. *Journal of Political Economy* 88(2):288-307.
- [8] Fama, E., M. and Jensen. 1983. Separation of Ownership and Control. *Journal of Law and Economics* 26:301-325.
- [9] Gaston, R.J. 1989. *Finding Private Venture Capital For Your Firm: A Complete Guide*. Wiley: New York.
- [10] Haar, N.E., J. Starr, and I.C. MacMillan. 1988. Informal Risk Capital Investors: Investment Patterns on the East Coast of the USA. *Journal of Business Venturing* 3:11-29.
- [11] Harris, M., and A. Raviv. 1979. Optimal Incentive Contracts with Imperfect Information. *Journal of Economic Theory* 20:231-259.
- [12] Jensen, M.C. 1983. Organization Theory and Methodology. *Accounting Review* 56(2):319-338.
- [13] Jensen, M.C., and W.H. Meckling. 1976. Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure. *Journal of Financial Economics* 3:305-360.
- [14] Kaplan, R.S., and A.A. Atkinson. 1989. *Advanced Management Accounting*. Englewood Cliffs, NJ: Prentice-Hall.
- [15] MacMillan, I.C., D.M. Kulow, and R. Khoyleian. 1988. Venture Capitalists' Involvement in their Investments: Extent and Effect In *Frontiers of Entrepreneurship Research*, edited by B.M. Kirchoff, W.A. Long, W.E. McMullan, K.H. Vesper, and W.E. Wetzel, Jr., 303-323. Wellesley, MA: Babson College.
- [16] Maier, J., and D. Walker. 1987. Role of Venture Capital in Financing Small Business. *Journal of Business Venturing* 2:207-214.
- [17] Mason, C., and R. Harrison. 1990. Informal Risk Capital: A Review and Research Agenda. Venture Finance Research Project, Working Paper No. 1, University of Southampton/University of Ulster at Jordanstown.
- [18] Mason, C., R. Harrison, and J. Chaloner. 1991. Informal Risk Capital in the UK: A Study of Investor Characteristics, Investment Preferences and Investment Decision-making. Venture Finance Research Project, Working Paper No. 2, University of Southampton/University of Ulster at Jordanstown.
- [19] Ouchi, W. 1977. The Relationship Between Organizational Structure and Organizational Control. *Administrative Science Quarterly* 22(March):95-113.
- [20] Ouchi, W. 1979. A Conceptual Framework for the Design of Organizational Control Mechanisms. *Management Science* 25:833-848.
- [21] Pettit, R.R., and R.F. Singer. 1985. Small Business Finance: A Research Agenda. *Financial Management* 14(3):47-60.
- [22] Sapienza, H.J. 1989. *Variations in Venture Capitalist—Entrepreneur Relation: Antecedents and Consequences*. University of Maryland at College Park.
- [23] Tymes, E.R., and O.J. Krasner. 1983. Informal Risk Capital in California. In *Frontiers of Entrepreneurship Research*, edited by J.A. Hornaday, J.A. Timmons, and K.H. Vesper, 347-368. Wellesley, MA: Babson College.
- [24] Wan, V. 1991. Australian Venture Capital Market Revisited. *Technovation* 11(6):327-337.
- [25] Wetzel, W.E. 1981. Informal Risk Capital in New England. In *Frontiers of Entrepreneurship Research*, edited by K.H. Vesper, 217-245. Wellesley, MA: Babson College.