

Venture Capital Investment

I. A. Cooper

Special problems inhibit venture capital investment including information asymmetry, non-marketability and conflicts between external and internal investors. All venture capitalists including government agencies face these problems and tax incentives do not help. The author shows the extent to which appropriate financing arrangements can provide an answer.



1. Introduction

Financial incentives for investment in small business are receiving growing attention from policymakers both here and abroad (notably the USA). Where this is a cyclical or secular phenomenon there must be some concern that the arguments adduced to support such intervention are often inconsistent with what we know about the largely efficient and competitive nature of many financial markets.

The question, therefore, arises of whether the markets supplying financing to small businesses face problems which are not encountered in the markets supplying finance to large companies whose securities are publicly traded. If this is answered in the affirmative, then presumably the natures of the specific differences dictate what is, or is not, a legitimate response to correct the problem.

A generic name for this kind of investment is "venture capital". Unfortunately this term has various connotations, ranging from all external funds provided to all small businesses to equity-like funds provided for small technological companies. The distinction between risk-capital and debt capital inherent in the second definition is not useful in this context, since all external investment in small business is risky to a degree not found in, for instance, debt investment in large mature companies. Moreover, debt investments are frequently part of an overall financing package of which part is equity or warrants.

The size of the company being invested in is clearly relevant to the definition and most would agree that investments in listed companies are not venture capital investments. The type of company being invested in may also be relevant, since problems of growth, evaluation of information, and external benefits assume particular significance for investments in small technological companies.

Thus the discussion will focus on the supply of long-term funds to non-listed companies with special reference to technological ventures. For instance, consider what happens if the main restriction on investment in small business is traceable to the fact that the investor exposes himself to a risk which depends heavily on the character, genius, and hard work of the businessman being financed, and these are difficult for an outside investor to assess. This problem clearly does not arise to the same degree in financing large companies which have a continuing existence independent of any single entrepreneur.

One possible response to this problem would be to provide tax incentives to those investing in small business. If the incentives are large enough, they will undoubtedly increase such investment. However, there is no guarantee that the extra investment will go to the "best" projects since the ability of the investor to discriminate between "good" and "bad" entrepreneurs is unchanged.

In fact, the only way of solving such an informational problem is to harness the knowledge of those who are better able to assess the characters of individual entrepreneurs than are conventional financiers. There is obviously some temptation for the Government to believe it has this ability and to operate through quasi-governmental agencies. One should be suspicious of such beliefs, and not just because history tells us that it is not the case. Why should people with a valuable ability be more willing to work for the government than for a private investor? (There would have to be other reasons for establishing public-sector venture capital concerns).

To carry this introductory example to its logical conclusion, we can identify one group which does have special knowledge of the characters of entrepreneurs: this is their friends and acquaintances. Thus the problem of information in venture capital investment may be reduced to making sure that each potential entrepreneur has, within his circle, potential investors. This role is played in the UK by the branch banking system, but that is not usually a source of equity capital. In the USA wealthy professionals (encouraged by liberal tax laws) invest in such ventures.

The conclusion may be, therefore, that there is little that can be done to correct the problem that there are entrepreneurs who have perfectly good projects who cannot get them financed because they have no way of convincing investors.

2. Special Features of Venture Capital Investment

From this illustrative example, it is apparent that one aspect of venture capital investment which differentiates it from investment in traded securities of mature companies is the problems of obtaining reliable information on which to base investment decisions. The other two fundamental differences seem to be the non-marketability of financial claims on small businesses, and the potential for conflict between the external investor and the entrepreneur.

All three of the above problems arise to some degree in any investment but the magnitude of their effect is certainly much greater in venture capital investment. For instance many companies listed on the London Stock Exchange are traded infrequently and with wide jobbers' spreads, so that sellers of such shares in the secondary market may find marketability a problem. However, this situation is mild in comparison to venture capital investment which is, in most instances, not marketable at all.

The implication of this non-marketability is that venture capital investment must be a long-term proposition for the investor. Moreover, the business being financed will, if it is successful, have further financing needs which will probably have to come, at least partially from the venture capital market. The causes of these adverse conditions for investment are intrinsic in the nature of the companies being financed; highly developed markets do not usually exist where the cost of trading in terms of information transfer, contracting costs, etc are large relative to the value of the goods being traded.

3. Is the Supply of Venture Capital Sub-optimal?

What then can we say about the supply of venture capital? Are there significant reasons for believing that it is in some significant way suboptimal, and that this suboptimality can be corrected by public policy?

Two obvious causes for concern are externalities (social benefits and cost which do not result in some gain or loss for the investor) and current regulations which discriminate against small businesses. Although these are not our main focuses here, some general points are worth noting. External benefits to small-technological businesses must be believed to be greater than those to large technological businesses if encouragement of the former rather than general encouragement of all technological businesses is to be desirable. Regulations which are imposed uniformly across all businesses may, in fact, be discriminatory against small businesses if the cost of meeting the regulations has an element which is fixed and does not vary with the size of the business. In this case relative cost of the regulation is greater for small businesses; and unless the relative benefits of the regulation are also greater for small than for large businesses, such regulations would be discriminatory.

Apart from externalities and previous effectively discriminatory regulation, there are the three problems of non-marketability, long holding periods, and information-gathering and processing.

Before discussing these in detail, it is worth observing that empirical studies of venture capital investment performance present almost no evidence of excess returns being earned in this industry. Such excess returns would be *prima facie* evidence that there is monopolistic restriction of the supply of venture capital. In the USA not only is there no performance evidence to suggest a restricted supply of venture capital, but structural characteristics of the venture capital industry are also those typical of a highly competitive industry (Ref 1).

In the UK the situation is complicated by the existence of one dominant firm, ICFC, in the industry. Even so, there is little evidence to suggest that the role

of ICFC has been to use its near monopoly position to restrict the supply of venture capital.

What is left, then, is a concern that there may be problems with the operation of the venture capital market which prevent worthy projects getting financed, but which do not show up as excess returns for the venture capitalists. If non-marketability makes venture capital investment less desirable than other forms of investment, investors presumably require a higher rate of return on the former, and this would show up as a high realised rate of return. That there is no such marketability premium in actual rates of return on venture capital investments suggests that this particular aspect of non-marketability should not cause undue concern (For evidence on this point see Beesley and Hamilton (1977)).

A second problem related to non-marketability is that of ensuring that the behaviour of the entrepreneur being financed does not conflict with the long run interests of the venture capitalist. Where an investor can sell his claim on a company in a market, he has less need to be concerned about this problem, since he does not have to remain invested in any firm that he perceives is acting against his interests.

What kind of conflicts can arise? The entrepreneur may not put as much effort into the project as would otherwise be the case, since now part of the gain is going to the venture capitalist. The entrepreneur may be tempted to undertake a more risky strategy if the external money has been provided in the form of a debt, since gearing combined with limited liability can make high risk investments very attractive. The venture capitalist may find himself in a position where his investment will be lost unless more funds are provided to the entrepreneurial firm.

In the last case, the venture capitalist may be willing to accept a low rate of return on his new investment to protect his old investment. In effect, the net value of the venture capitalist's claim may be bargained away once his initial investment is sunk. If it were possible at low cost to write extremely complex agreements specifying the exact nature of any new funding or restructuring of finances for any possible contingency, there would be little problem. In reality this is not feasible so the actual financing package used will contain covenants and a mixture of financing instruments that attempt to minimise the potential for future conflict.

For instance, by holding debt rather than equity, the venture capitalist ensures that any marginal increases in the value of the firm above a certain level go almost entirely to the entrepreneur, so the incentive to effort is not diminished when things are going well. But when things are going badly, the largely external debt holding may reduce the incentive to the entrepreneur to such a low level that it is not worth him continuing even though this will result in a loss to the venture capitalist. Then it will pay the venture capitalist to restructure his claim on the company and inject new money if necessary. Unless the form of the restructuring has been agreed at the time of the initial investment, however, there is a risk that the venture capitalist may have to give up a large part of his claim. There is little he can do about this risk when the adverse events have already occurred. He can avoid it, however, by not making an initial investment in projects where the

potential for such conflict is great.

Note that the reason for this negative investment decision is not necessarily that the project is, *in toto*, a bad project, but that there is no way to structure external and internal claims on the pay-offs to the project to the satisfaction of both parties. These problems become compounded when the period over which an investment is held lengthens, and especially when more than one "round" of financing must be provided, as is often the case in venture capital.

The fundamental cause of the problem is that the set of financing instruments available (eg: debt, equity, warrants) is not sufficiently rich to ensure that the entrepreneur and the venture capitalist will have congruent interests in the fate of a project. The rejections of projects which were viable, but where no satisfactory financing package could be arranged, would not show up as an excess return to the venture capitalist, as long as the market for projects which can be financed satisfactorily is competitive. For those projects where a feasible financing package exists, competition among venture capitalists would bid away any excess returns to the supplier of capital.

Since it is in the best interests of venture capitalists to arrange financing for projects with a net present value greater than zero, if at all possible, whenever this does not occur it must be because the costs of actually making the contract satisfactory to both parties are too great. Once again, there seems little that could be done by a public agency which would face exactly the same problems, to correct this.

In fact, under reasonable assumptions about the financial characteristics of venture capital investment, a combination of debt and equity or debt and warrants held by the venture capitalist can be quite successful in overcoming some of the potential conflict caused by the use of debt or equity alone (Ref. 3). For instance, consider the situation when all venture capital financing of an enterprise is in the form of debt. If the project does not do as well as expected, the value of the firm will fall until it is no greater than the value of the debt, so the entrepreneur's equity will be worthless. In such circumstances he may abandon the firm even though the venture capitalist would like him to continue, to try to salvage the value of the venture capitalist's investment.

Alternatively, an all-equity claim for the venture capitalist means that the value of the venture capital investment is eroded if the project does not do well. Thus the venture capitalist may decide to abandon the project, even when the entrepreneur wishes to continue. A mixture of debt and equity (or warrants) gives the venture capitalist a limit to this erosion of the value of his claim, while not imposing on the entrepreneur the burden of a large overhanging debt claim which pure debt venture capital financing implies.

Not only can the choice of financial structure help to avoid conflicting interests between the venture capitalist and the entrepreneur, it can also serve the purpose of screening projects at the time of the initial investment decision. Where a venture capitalist cannot distinguish between two projects, but knows that they may, in fact, be of very different qualities, known only to the respective entrepreneurs, the offer of debt financing can screen out the truly bad project. The entrepreneur with the good project will be willing to accept the debt,

since he knows the likely outcomes for the project are returns high enough to pay off the debt and leave an adequate return for himself. The entrepreneur with the bad project will be unwilling to accept the financing package since, for him, the debt represents a much greater burden.

In general, the use of financial structure as an incentive in this way to avoid problems associated with the asymmetry of information possessed by the venture capitalist and the entrepreneur does not provide a cure for all problems of this type (Ref. 4). With very complex contracts, the screening could be made complete, but the real world operates with a limited number of financial instruments. In cases where the projects are very similar, differing only in the true average rate of return they will provide, even these few financial instruments can be quite efficient in this type of screening.

4. Summary

External benefits to small business and regulations which impose high relative costs on small business provide reasons for concern that the supply of venture capital is not adequate. The more extreme view that, even apart from these two features, the venture capital market fails to function properly could be supported by arguments based upon information asymmetry, non-marketability, or conflicts between external and internal investors in venture capital investment.

Empirical evidence suggests that none of these potential restrictions on venture capital supply are operating in a way which generates excess returns on such investments. There is, however, a possibility that projects which have positive net values do not get funded because of problems in transmitting information and structuring external and internal financial claims on a project. With very complex financial agreements, many of these problems could be overcome. Such agreements do not exist because they would add other costs which would outweigh their benefits. Even the limited number of types of financial contract that are commonly used can reduce these problems considerably. Exactly the same problems could be faced by any venture capital investor, including a government agency. They are not problems that can be cured by such simple devices as tax incentives. ☐

REFERENCES

1. M. E. Beesley and R. T. Hamilton 'An Investigation of the Institutional Venture and Development Capital Market in the UK.' London Business School 1977
2. Charles River Associates 'An Analysis of Venture Capital Market Imperfections' National Bureau of Standards 1976.
3. I. A. Cooper 'A Model of Venture Capital Investment' PhD Dissertation University of North Carolina 1977
4. I. A. Cooper and W. T. Carleton 'Venture Capital Investment' Paper presented to the American Finance Association 1977
5. I. A. Cooper and W. T. Carleton 'Interaction in Venture Capital Investment' Paper presented to the American Finance Association 1978
6. S. A. Ross 'The Determination of Financial Structure: The Incentive-Signalling Approach' *Bell Journal of Economics* Spring 1977