

Institutional Investment and Private Equity in the UK

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Abstract

A recent report by Paul Myners for the UK Treasury has provided a wealth of information on the structure and operation of the pension fund industry in the UK. The report points to serious deficiencies in the governance of pension funds. These concerns are of considerable significance in their own right. But a fundamental focus of the Review is on their impact on the provision of private equity in the UK. This paper summarizes evidence from the Review and evaluates its proposed remedies. It concludes that to the extent that there is a private equity failure in the UK, it has less to do with the governance of institutions than with diversity and innovation in institutional design. The paper argues that financial regulation bears critically on the extent of institutional innovation and that US regulation has allowed its financial sector to respond more readily to the needs of high technology sectors than the UK's.

Key words: Pension funds, private equity, venture capital, financial regulation

JEL classification: G2, G3

1 Introduction

A review of pension funds in the UK, undertaken by Paul Myners on behalf of the UK Treasury, has recently been published.¹ The Review is one of the most substantial analyses of UK pension funds undertaken to date. Since pension funds are such an important part of the financial system, the Review represents a major contribution to our understanding of financial institutions. The Review provides detailed information on the structure and operation of pension funds in a form in which it has not previously been available. It includes a fascinating description of pension funds that will be of considerable benefit to future studies and current policy debates about the sector.

In this paper, I will summarize and assess the evidence produced by the Review. I will argue that it identifies deficiencies in the governance and operation of pension funds that are of justifiably widespread concern. But while pension fund governance has emerged as an important topic in its own regard, a more immediate motivation for commissioning the Review was a concern that poor governance might be having an adverse impact on other parts of the economy, most notably on private equity funding. The central questions that this raises are, firstly, whether the Review has established a *prima facie* case of a private equity funding problem, secondly, whether pension fund governance has been correctly identified as a significant source of the problem and, thirdly, whether the right policy responses have been proposed.

Section 2 of the paper summarizes the Review's description of the structure and operation of the pension funds industry. Section 3 discusses the problems that the Review identifies and its proposed remedies. Section 4 examines the financing of high technology industries in both the pre- and post-IPO phases. Section 5 evaluates possible policy prescriptions and section 6 concludes the paper.

¹ Myners, P. (2001), *Institutional Investment in the United Kingdom: A Review*. London: HM Treasury.

2 The operation of pension funds in the UK

2.1 The problem as presented in the Review

The UK pension funds business is large. Favourable tax treatment of pensions at both the individual and the institutional level has encouraged savings through pensions. The fact that pensions are funded through securities markets has made pension funds one of the largest holders of securities in the UK. As table 1 shows, there is considerable variation in the size of pension fund assets as a percentage of GNP across countries with the UK towards but not at the top end of the distribution.

The largest providers of occupational pensions have been the former nationalized industries and public sector organizations. Table 2 shows that all of the top 8 funds have some component of privatization or public sector activity associated with them. The fact that pensions have been provided by employers has meant that a high proportion have taken the form of defined benefit schemes. This is changing as the government seeks to encourage personal and portable pensions as a way of increasing labour force mobility. However, it takes a long time for new flows to affect the large stock of outstanding pensions and, as table 3 shows, around three-quarters of pensions remain defined benefit rather than defined contribution schemes.

The pension fund business comprises essentially four components (see figure 1). First, there are the trustees who are responsible for overseeing the operation of the funds and employing fund managers to run the funds. Second, there are actuaries who evaluate the liabilities and solvency of funds. Third, there are investment consultants who advise on the strategic allocation of funds and the employment of fund managers. Fourth, there are fund managers who are responsible for the day-to-day running of the funds and commission brokers to transact securities.

There are two forms in which funds can run their activities. The first is termed *peer group benchmark*. This involves the trustees delegating the entire running of the fund including the strategic allocation of assets to fund managers. In this arrangement, fund managers are evaluated against a peer group of managers performing similar functions. The second is termed *customized benchmark*. In this, trustees delegate

securities selection to fund managers but retain strategic asset allocation decisions themselves. Fund managers in this system are generally specialized in particular sectors or markets and their performance is measured against appropriate specialized benchmarks.

The UK requires pension fund trustees to act as “prudent men” and “to conduct the business of the trust with the same care as an ordinary man of business” (Goode report 1993).² The Myners Review contrasts this with the equivalent rule in the US. There the prudent man is expected to know something of his business: “a prudent man acting in a like capacity and familiar with such matters in the conduct of an enterprise of a like character and with like aims” (Department of Labor Federal Regulations).³ The distinction is therefore between the gifted British amateur and the informed American expert.

However, the Review goes on to suggest that the British amateur may not even be so gifted. In fact, it paints a picture from a survey of 266 trustees of 122 funds of a group of individuals who appear to be untrained, uneducated and rather idle:

- 69% had two days or less training,
- 62% of trustees had no professional qualifications in finance or investment, and
- 49% spent 3 hours or less preparing for pension fund meetings.

Whether this is a correct image of the British trustee is clearly highly controversial and not one on which I would wish to pass judgement. However, in the light of it, one might be excused for feeling some relief at being informed that trustees do not rely entirely on their own judgement but employ consultants to assist them. But here the Review points to a second set of problems.

There are two primary areas in which trustees receive advice. The first is in determining the liabilities and net solvency of the fund and the second is in the strategic allocation of assets under management. Actuaries perform the former, investment consultants the latter. It is not clear that the two functions need to be

² *Pension Law Reform. The Report of the Pension Law Review Committee*, HMSO, 1993. However, Part 1, Chapter 29 of the Trustee Act 2000 states that a trustee must have regard to “any special knowledge or experience that it is reasonable to expect of a person acting in the course of that kind of business or profession”. I am grateful to Eilís Ferran for having drawn my attention to this.

³ Department of Labor, 44 FR 37225, 1979.

combined but in the UK they are. Furthermore, the market is highly concentrated with four firms controlling approximately 85% of the market.

In contrast, the market for fund managers is competitive. Even the largest firms only account for some 11% of funds under management. As table 4 records, they comprise some of the best known names in the City. There is a large presence of foreign firms and competition between fund managers is intense. But here again, according to the Review, there are problems.

The first problem concerns selection and performance evaluation. Fund managers are selected after a “beauty parade” in which the trustees’ actuaries play a crucial advisory function. Given the small number of advisers there is therefore a high degree of uniformity in selection. Performance is measured quarterly against benchmark indices. As a consequence, fund managers herd, frequently around inappropriate indices. The Review cites the example of Vodafone’s acquisition of Mannesman. Huge amounts of pension fund assets moved into Vodafone after the acquisition as a consequence of its dominance of the FTSE index. However, had exactly the same acquisition occurred the other way round, with Mannesman acquiring Vodafone, and being listed in Frankfurt instead of London then a negligible volume of UK pension fund assets would have been invested. In addition, quarterly reviews encourage fund managers to focus on short-term performance.

The second problem relates to the relation between fund managers, brokers and trustees. Fund managers instruct brokers to organize transactions and commission research. However, payment for these transactions and research is charged directly to the trustees. As a consequence, the Review argues that soft commissions, which may be of little benefit to pension funds, are encouraged.

The third problem is passivity of fund managers in relation to corporate governance. A US Department of Labor Interpretative Bulletin requires fiduciaries to vote proxies on issues that affect the value of plans.⁴ No similar requirement exists in the UK and, as a consequence, there is a greater degree of inactivity in proxy voting.

⁴ Interpretative bulletin relating to statements of investment policy, Code of Federal Regulations, 2509, 1994.

In sum, the picture that the Review paints is of a UK pension fund business in which:

- Uninformed trustees depend on a small number of investment consultants,
- Investment policy is conservative and homogeneous,
- Fund managers herd, frequently around inappropriate indices,
- Investment policy is marked by short-termism,
- There is inactivity in corporate governance of pension fund assets, and
- Soft commissions prevail.

2.2 Proposed remedies

The Review argues that trustees should be more professional, more active, trained and properly paid. They, rather than their fund managers, should be responsible for specifying investment strategies of funds. They should seek separate competitive tenders for actuarial services and investment advice. Fund managers rather than trustees should pay commissions to discourage soft commissions. Good pension fund governance should be promoted by introducing a governance code, analogous to the Cadbury Committee and the Combined Code that apply to the corporate sector. The pension fund code should include provision for pension funds to vote proxies thereby improving governance of companies as well as pension funds.

The Review emphasizes that these recommendations are “common sense”. They reflect a pragmatic judgement of the operation of the business and the problems that it encounters. Indeed, the policies of employing people who know their business, who act according to sound principles, and who encourage others to do likewise appear to be entirely reasonable and ones that one would be hard pressed to dispute. But common sense solutions do not always produce commonly intended outcomes. In particular, care is required before ascribing either problems or solutions to the education, qualifications or practices of others. For example, would excessive conservatism, uniformity or risk aversion really have been avoided by requiring trustees to have attained first class honours degrees, passed the Chartered Society of Trustees Qualifying Exam and be remunerated on the basis of standard measures of performance? Or is it possible that such a policy prescription would have made the

pension fund industry more prone to precisely the same herding instincts that the Review condemns amongst fund managers? Likewise, does greater institutional activism in corporate governance necessarily yield improved corporate performance or does, as evidence from the US suggests, replacing governance by one set of agents, namely corporate managers, by another, namely pension fund trustees, have quite unclear effects. Surveying a large body of evidence on institutional activism in the US, Bernard Black concluded that “the best reading of the currently available evidence is that institutional investor activism does not importantly affect firm performance”.⁵ But more fundamentally, it is not evident that these governance recommendations address the fundamental issue that prompted the commissioning of the Review.

3 Pension funds and private equity

A primary consideration behind establishing the Myners Review was a concern that pension funds were investing an insufficient proportion of their assets in private equity. Pension funds were perceived to be unduly cautious in their investment strategies, preferring investing in listed companies and government securities to higher risk private equity.

The Myners Review appears to lend ammunition to this claim, finding that trustees lack the expertise required to perform sophisticated risk-return analyses, that they are unduly influenced by conservative actuaries and that they are highly reliant on fund managers who pursue herd like and short-term investment strategies. It reports a survey of members of the National Association of Pension Funds (NAPF) in 1999 which records that approximately 0.5% of UK private pension fund assets and 0.8% of public sector pension fund assets are invested in private equity. In contrast, a survey by Goldman Sachs and Frank Russell in 1999, reported in the Review, records that 6.6% of corporate pension fund assets in the US and 4.8% of public sector pension fund assets are invested in private equity. Furthermore, the Myners review reports that the commitment of UK pension funds to private equity declined by 40% between 1996 and 1999, while overseas pension funds commitments more than

⁵ Black, B. “Shareholder activism and corporate governance in the United States” in *The New Palgrave Dictionary of Economics and the Law*, Basingstoke: Macmillan, 1998.

trebled over the same period. The implication is that the structure of the pension fund industry has seriously discouraged private equity investment.

But is this correct? An obvious question that needs to be addressed is whether the problem is one of supply of funds or supply of entrepreneurs. Low investment in venture capital could result from either excessively high discounting of returns by investors or inadequate returns from entrepreneurs to encourage investment. There is some indication in the Myners Review itself that rates of return may be a problem. Table 5 shows net internal rates of return on private equity up to end 1999 in the UK and the US. It shows returns disaggregated by different types of investment (early stage, development (or late stage) and management buy-outs). There are two striking features of the table. Firstly, overall rates of return have been appreciably lower in the UK than in the US. Secondly, while rates of return are appreciably higher in buy-outs than in early stage investment in the UK, exactly the reverse holds in the US – early stage has been the relatively more profitable form of private equity investment in the US but not in the UK. Risk-reward relations seem to be more appropriately aligned in the US than in the UK. Incentives to invest in private equity are therefore in general lower in the UK than in the US and have encouraged investment in buy-outs rather than venture capital in the UK but not in the US.

Why is this? What has contributed to the different performance of UK and US venture capital industries. To understand this, it is necessary to examine the financing of high technology industries. Section 4.1 describes the pre-IPO stage and section 4.2 the post-IPO stage.

4 The financing of high technology industries

4.1 The pre-IPO stage

The development of high tech firms involves several phases (see figure 2). The first is the seed stage when a concept has still to be proven and developed. The second is the start-up phase when products are developed and initial marketing takes place. The firm may be a year old or younger at this stage. The third is the early stage development when the firm is expanding and producing but may well remain

unprofitable; it is often less than five years old at this stage. During the fourth stage of expansion it might go public after six months or a year.

The initial development almost invariably comes from savings and relatives. Initial external equity financing does not generally come from venture capital firms but from business angels. In the US it is estimated that the venture capital industry invested around \$5 billion in 1998 in 1,000 early stage firms. In comparison, business angels (wealthy or reasonably wealthy private investors) are estimated to invest \$15 billion annually in 60,000 early stage firms. In the UK, it is estimated that about 5% of small firms receive business angel support as against 1% receiving venture capital finance (quoted in Osnabrugge (1998)).⁶

What accounts for the different contribution of business angels and venture capitalists to start-up financing? In a detailed comparison of the way in which venture capitalists and business angels operate, Osnabrugge (1998) compared the initial screening, due diligence, investment criteria, contracts, monitoring and exit routes employed by the different types of investor. The results were striking. Venture capitalists are highly rule based using careful screening of applicants and due diligence. Business angels place more emphasis on ex post involvement in investments to reduce risks, such as their ability to contribute to the management of the business. Venture capitalists therefore act like institutions following principal-agent relations of limiting risks through monitoring. Business angels are more actively involved in the subsequent management of activities, exerting more direct control.

From the outset, venture capitalists are focused on exit, business angels much less so. Initial public offerings are the preferred route of exit for investors, since they yield the highest return, but they are not the most common. It is estimated that fewer than one in a thousand new ventures have an initial public offering (IPO). However, entrepreneurs are much more optimistic than this record would warrant. One study estimated that 70% of new technology firms believed that a public stock offering was “highly likely” or “probable”. Trade sales are the most common exit route of business angels, accounting for over 40% of exits, followed by sales of shares to other

⁶ Van Osnabrugge, M., *The Financing of Entrepreneurial Firms in the UK: A Comparison of Business Angel and Venture Capitalist Investment Procedures*, Dphil, University of Oxford, 1998.

shareholders and sales to third parties. IPO's account for just over 10% of business angel exits.

In the US, around 25% of venture capital funds are invested in early stage firms. In the UK, start-up and early stage investments also accounted for around a quarter of venture capital investments in 1984 but this has fallen to a figure of around 4% at present. MBOs and MBIs have substituted for start-up financing increasing from 20% to 70% of UK funds' investment.

An important reason for the greater success of US venture capital in funding start-up businesses is the structure of the US industry. Venture capital in the US generally comprises two parties (see figure 3) – the limited partners who are the institutional and individual investors and the general partners who are the venture capital firms investing in individual companies and entrepreneurs. The general partners manage portfolios of companies and are frequently successful entrepreneurs themselves who want to manage larger portfolios of investments. They therefore provide intermediate technical expertise between the investing institutions on the one hand and the entrepreneurs on the other. Venture capital industries in other countries, including the UK, frequently lack the pool of entrepreneurial scientists on which to draw to provide this intermediary function.

The picture that emerges is that the financing of new high tech firms is highly reliant on own funds, families and friends. Once these are exhausted, external equity initially comes from private investors who are actively involved in the management of the investment. Venture capitalists enter at a later stage, acting at more arms-length than business angels and seeking higher returns over short periods. A small fraction of the most successful firms are floated on stock markets; most are sold as trade sales and sales to other investors. Much venture capital finance, in particular in the UK, is not associated with funding new investments but with management buy-outs and buy-ins.

The financing of high technology firms is therefore intimately connected to their control (figure 4). The transition from personal to business angel to venture capital to stock market finance involves a gradual broadening of the investor base. This moves rapidly from the entrepreneur to single outside investors who are active managers, to

financial institutions who use intermediary venture capital firms to screen and manage their investments, and finally, in some cases, to stock markets with largely passive investors.

The financing of Amazon.com illustrates this (see figure 5). The firm was initially funded out of Jeff Bezos' own savings and some borrowings. The family then invested a quarter of a million dollars. Two business angels entered, followed by a larger business angel syndicate. There was a further small family investment followed by a substantial venture capital injection of \$8 million. A year later the firm went public with an IPO of \$49 million.

4.2 The post IPO stage

What happens after the IPO? Goergen (1997) has undertaken an interesting comparison of the changing pattern of control of UK and German firms after they have gone public.⁷ He notes that historically the average age of a firm coming to the German stock market has been 50 years. In the UK it is around 12 and in the US around 6 years. German firms have typically been about twice as large as UK firms on coming to the stock market. At the time of the IPO, in general there is either no change in control in Germany with the original investors retaining control or control is transferred as a block to a new investor. Even six years after the IPO, families hold majority stakes in nearly 50% of German firms. In the UK, families control a majority of votes in only 11% of firms; most are either taken over or become widely held.

This further emphasizes the important control differences between old and new economy firms. There is a much more rapidly changing control structure in new than old economy firms. Dominant control structures in old economy firms are concentrated and slowly evolving. Dominant control structures of new economy firms shift rapidly between entrepreneurs and different investor groups as the production process and financing needs of firms change.

⁷ Goergen, M., *The Evolution of Ownership and Control in German IPOs*, D Phil thesis, University of Oxford, 1997.

Examining what happens once firms are established on the stock market further reinforces this observation. Consistent with the above observations on the importance of stock markets for high tech firms, listed firms are concentrated in R&D intensive sectors of the economy. Listed firms obviously raise much more equity finance but this is not used to fund internal investment. Instead, what clearly distinguishes listed from unlisted firms is the extent to which they engage in acquisitions. Access to stock markets primarily provides firms with the opportunity to expand through acquisition. Stock market listings and dispersed share ownership are important not only in making firms subject to the discipline of the takeover market but in providing them with the opportunity of expanding through acquisitions themselves. Again it is the potential for rapidly evolving patterns of control that mark out the new economy firms.

5. Policy implications

The implication of the above is that the success of a high tech sector and venture capital industry hinges crucially around the ability of the financial sector to provide a flexible control regime that can respond to the rapidly changing requirements of firms. The question that this raises is how can policy influence the success of financial systems in providing such a flexible regime. In this final section I will suggest that financial regulation bears critically on the ability of the financial sector to provide the degree of flexibility and innovation that the corporate sector requires.

The Myners Review describes at length how one form of regulation has influenced institutional investment over the past decade. The Minimum Funding Requirement (MFR) was created by the Pensions Act 1995, following the Robert Maxwell scandal, to increase pensioner protection. It specifies benchmark discount rates that should be used for valuing a pension scheme's liabilities, most notably the market yield on government securities. In response, pension funds sought to minimize their exposure to interest rate fluctuations by allocating a greater share of their portfolios to government securities, at the expense of equity.

The introduction of the MFR was misguided on two accounts, firstly, because of its highly distortionary effects and, secondly, because it did not provide effective protection against the type of event that prompted its introduction. One of the main

market failures justifying regulation of investment management firms is fraud. Franks and Mayer (1989) report a large number of cases of asset management failures during the 1970s and 1980s due to fraud.⁸ Reported incidents of fraud in asset management in the UK have diminished significantly since the Maxwell case. The strong performance of most financial markets over the period may have contributed to this but so too has the growth of the use of custodians. The most effective form of protection that can be provided to investors against risks of fraud is for clients' assets and monies to be held by separate, well-capitalized custodians. Furthermore, increasing competition amongst custodians has made this a cost-effective form of investor protection. In comparison, MFR is ineffective and expensive.

But the impact of regulation on investment behaviour is more extensive than this. The regulation of non-bank financial institutions, such as pension funds and fund managers, is primarily concerned with information disclosure, monitoring, auditing and enforcement through the courts. There has been considerable variation in the way in which different countries have applied these forms of regulation. In the UK, regulation imposes limited capital requirements that are, as far as is practical, risk based, together with detailed rules regarding conduct of business and best practice. In the US, there are few conduct of business rules and capital requirements are restricted to certain classes of financial institutions, such as brokers and insurance companies. Instead, US regulation emphasizes the importance of disclosure of information to investors, auditing of the behaviour of institutions and the imposition of penalties, in the event of failure being uncovered. US regulation therefore promotes private contracting, UK regulation relies more heavily on public contracting.

Private contracting systems do not require institutions to amass capital before they are allowed to transact. They do not presume that there is a single best way of transacting business and do not seek to impose common rules of conduct. Instead, they allow institutions and investors to choose how to organize their business and where to invest. If malpractice is uncovered then there is a significant probability that it will be uncovered through auditing and penalized through the courts.

⁸ Franks, J. and C. Mayer (1989), *Risk, Regulation and Investor Protection*, Oxford: Oxford University Press.

The advantage of private over public contracting is that it does not prejudge what is acceptable. It allows for a greater degree of diversity of institutional form. It allows institutions to adapt more rapidly in the face of changing requirements of both investors and firms. It has therefore permitted institutions to respond more readily to the changing financing and control needs of high technology firms in the US than in the UK.

6. Conclusions

The Myners Review is a major contribution to our knowledge and understanding of the operation of the pension fund industry. It has provided a wealth of information that will be of considerable assistance to researchers and policy makers. It has uncovered some serious deficiencies in the operation of the pension fund business that require serious attention. Whether it has prescribed the right policy responses is unclear but it has certainly started a debate on pension fund governance that is long overdue.

The focus of this paper has not however been on pension fund governance *per se* but on one of the main issues that prompted the commissioning of the Myners Review – the impact that pension fund governance might have on the funding of private equity. I have questioned (a) whether there is evidence of inadequate investment by pension funds, (b), even if there is, whether it is attributable to excessive conservatism on the part of pension funds and (c) whether the proposed remedies would rectify the problem.

Instead, I have argued that a distinctive feature of high tech investment is the rapidly evolving patterns of corporate control. This has been promoted in the US by the technical and business expertise of individuals who intermediate between financial institutions and firms by managing portfolios of companies. More generally, innovation in the structure of financial institutions has been complementary to corporate innovation.

I have suggested that regulation is a major influence on the degree of financial innovation and in particular on diversity of institutional structures. I have contrasted

UK and US regulation in terms of their respective emphasis on public and private contracting. Reliance on disclosure and *caveat emptor* may be thought to be inappropriate to the UK, but if such a view prevails then it might come at the price of discouraging diversity and innovation in financial institutions. In some cases, it is possible to improve investor protection and increase competition in financial markets at the same time. The replacement of the Minimum Funding Requirement with investor protection through custodians is an example of this. But elsewhere, there is a fundamental public policy question that needs to be addressed of where on the trade-off between investor protection and the promotion of institutional diversity and innovation the UK wishes to lie. The central importance of this question arises not so much from its impact on the breadth of investment opportunities available to investors (though this might be of significance in itself) as on the degree to which it affects innovation in the financing and control of corporations.

Table 1: Size of Pension Fund Business

	<i>Pension Assets/ GDP (%)</i>
Spain	5
France	5
Germany	15
Italy	23
UK	93
Netherlands	117
Sweden	118
Switzerland	127

Source: Phillips & Drew, Pension Fund Indicators, 2000

Table 2: The Largest UK Pension Funds

<i>Fund</i>	<i>Size (£ billion)</i>
BT	29.7
Coal industry	26.1
Electricity supply	22.0
Universities	22.0
The Post Office	18.0
BG group	13.2
Lloyds TSB	12.9
BP Amoco	12.5

Source: Myners Review

Table 3: Types of Schemes in UK

Defined benefit	74%
Defined contribution	22%
Hybrid	4%

Source: Myners Review

Figure 1: The Structure of Pension Funds

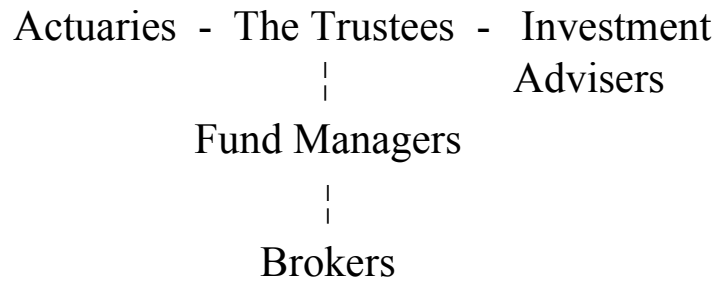


Table 4: Largest Fund Managers

<i>Fund Manager</i>	<i>Pension Assets (\$ billion)</i>
Schroders	99
Merrill Lynch	97
Barclays Global	73
Phillips & Drew	70
Hermes Pension Management	68
Gartmore	49
Deutsche Asset Management	46
Goldman Sachs	34

Source: Myners Review

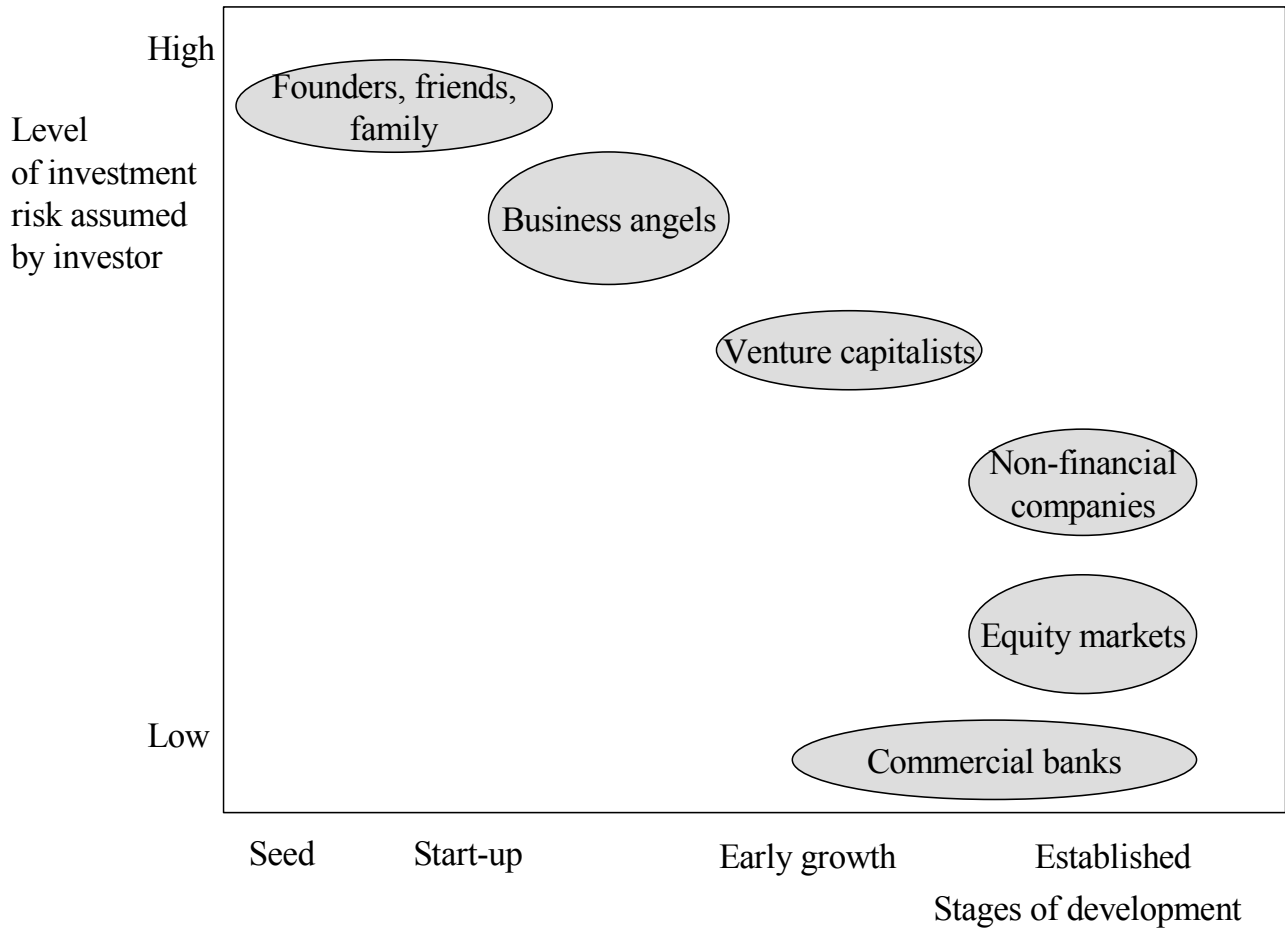
Table 5: Rates of Return on Private Equity by Investment Stage

Net Internal Rate of Return per cent per annum

Stage	1 year	3 year	5 year	10 year
<i>UK (to end 1999)</i>				
Early	40.9	15.8	16.7	8.7
Development	43.8	30.4	27.0	12.6
Large MBOs	23.9	31.0	26.4	23.0
<i>US (to September 1999)</i>				
Early/ seed	91.2	47.9	46.6	24.5
Later stage	55.5	28.4	34.8	25.4
Buy-out funds	15.2	16.6	16.7	16.7

Source: For UK WM/ BVCA Performance Measurement Survey, 1999 and for US NVCA Yearbook 2000, quoted in Myners Review

Figure 2: The Development and Financing of Entrepreneurial Firms



Source: Van Osnabrugge, M. and R. Robinson, *Angel Investing*, Jossey-Bass: San Francisco, 2000.

Figure 3: The Structure of the US Venture Capital Industry

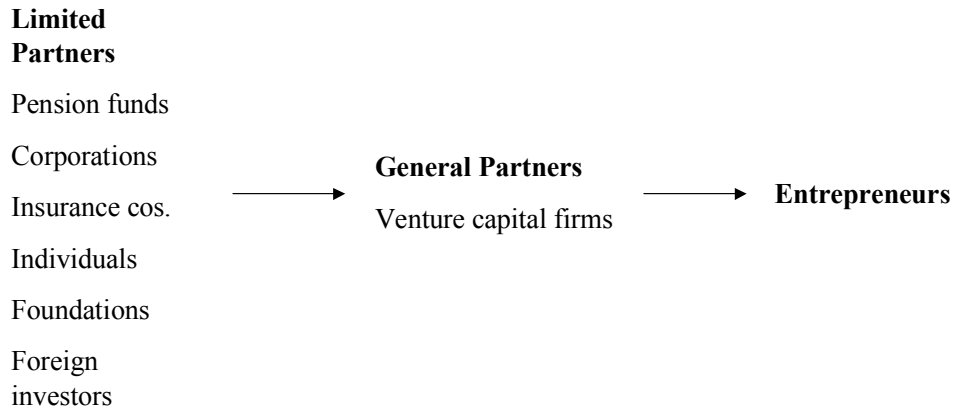


Figure 4: Stages of Entrepreneurial Finance

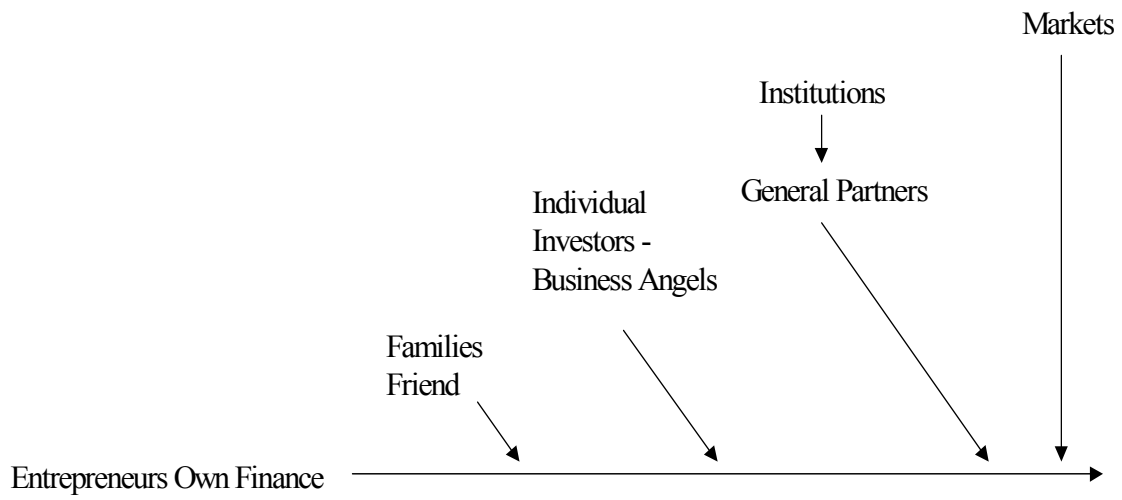


Figure 5: The Financing of Amazon.com

Time Line	Price/ Share	Sources of Funds
1994 - July to Nov	\$.001	<i>Founder:</i> Jeff Bezos starts Amazon. Com with \$10,000, borrows \$44,000.
1995 - Febr to July	\$.1717	<i>Family:</i> Founder's father and mother invest \$245,500.
1995 - Aug to Dec	\$.1287-.3333	<i>Business Angels:</i> 2 angels invest \$54,408.
1995/6 - Dec to May	\$.3333	<i>Business Angels:</i> 20 angels invest \$937,000
1996 - May	\$.3333	<i>Family:</i> Founder's siblings invest \$20,000.
1996 - June	\$2.3417	<i>Venture Capitalists:</i> 2 venture capital funds invest \$8 million.
1997 - May	\$18	<i>IPO:</i> 3 million shares issued raising \$49.1 million
1997/8 - Dec to May	\$52.11	<i>Bond issue:</i> \$326 million bond issue.

Source: Smith, R. and J. Kiholm, *Entrepreneurial Finance*, New York: Wiley, 2000.