Business Angel Networks and the Development of the Informal Venture Capital Market in the U.K.: Is There Still a Role for the Public Sector?[1]

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ABSTRACT. Business angel networks (BANs) provide a channel of communication between private venture capital investors (business angels) and entrepreneurs seeking risk capital. Most operate locally on a not-for-profit basis with their costs underwritten by the public sector. However, the recent establishment of BANs by private sector organisations in the U.K. has led to a questioning of the government's continuing role in the financing of BANs. This paper demonstrates that there are significant differences between public sector and other not-for-profit BANs and private sector, commercially-oriented BANs in terms of the investments that they facilitate. Private sector BANs are primarily involved with larger, later stage deals whereas investments made through not-for-profit BANs are generally smaller, involve start-ups and other early stage businesses and are local. The emergence of private sector BANs has therefore not eliminated the need for public sector support for locally-oriented networks.

1. Introduction

There is a large measure of agreement that a lack of equity finance represents a major constraint on the formation and development of small and medium-sized enterprises (e.g. ACOST, 1990; EVCA, 1993). The expansion of the institutional venture capital industry in many developed economies during the past 10–15 years has provided a new source of risk finance. However, its role in the entrepreneurial process has been increasingly limited by three factors (Mason and Harrison, 1995b). First, the investment focus of the venture capital industry has shifted progressively away from early stage and technology-based ventures towards later stage deals, particularly management buyouts and buyins (Murray, 1995; Murray and Lott, 1995). Increasingly, therefore, the venture capital industry is shifting from "classic" to "merchant" venture capital (Bygrave and Timmons, 1992). Classic venture capital is concerned with early stage investments and involves skills that add value in company forming, building and harvesting; merchant capital funds, on the other hand, which are almost entirely dependent upon institutional investors, emphasise financial engineering know-how, transaction crafting and closing and fee generation, and are concerned with short-term gains. Second, this shift in the investment focus has resulted in a widening of the equity gap as a result of a steady rise in the average size of investments, reaching £2.1million (2.67 ECU) in 1995 (BVCA, 1996). Third, there is a high degree of spatial concentration of venture capital activity, both in terms of firms and investments, in core regions at the expense of peripheral, economically lagging, regions (Martin, 1989; Mason and Harrison, 1991). The consequence is that without a well-developed regional concentration of venture capital entrepreneurs in these regions will be disadvantaged in terms of access to venture finance.

The policy response to this situation has been,

Final version accepted on November 13, 1996

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Small Business Economics **9**: 111–123, 1997.

in part at least, the development of various initiatives intended to close these gaps in the supply of venture capital, at both the national and regional levels. These initiatives include tax-based schemes to stimulate private individuals to invest in unquoted companies (e.g. Harrison and Mason, 1989), the development of public sector venture capital funds, and support for the operating costs of private sector venture capital funds, particularly those targeted at early stage ventures (e.g. Murray, 1994). However, each of these initiatives is subject to the criticism of limited impact (Mason and Harrison, 1995b).

It has been argued that informal investment – the provision of equity and near-equity finance directly to new and growing businesses by private individuals (or business angels) with no family connection with the business – represents a more appropriate source of capital for early stage ventures (Walker, 1989; Pettit and Singer, 1985). Business angels tend to make small scale investments in start-up and early stage ventures, bring a significant hands-on value added contribution to the businesses in which they invest, are geographically dispersed, and tend to invest locally (thereby recirculating wealth within communities and regions) (Mason and Harrison, 1994). Informal venture capital is now recognised as a major (if not *the* major) source of equity finance for the SME sector (Bannock, 1991; Harrison and Mason, 1993). However, full understanding of its significance is limited by the absence of market data which would permit estimates of scale, impact and trends over time. In particular, in the absence of market data it becomes very difficult to assess the need for, and scope of, public policy intervention in the informal venture capital market to ensure that growth-oriented SMEs have full access to the long-term development capital required to enable the realisation of their full potential.

This reflects the fact that, unlike the institutional venture capital industry, the informal venture capital industry is a hidden or invisible market (Wetzel, 1994), lacking effective channels for business angels and entrepreneurs to make contact with one another. Informal investors comprise an unorganised, fragmentated and, because of their desire for anonymity, largely invisible market which renders them very difficult to identify by entrepreneurs seeking private sources of venture capital. At the same time, most business angels cannot find sufficient investment opportunities that meet their investment criteria. This reflects the considerable time required to search for, and appraise, investment opportunities and the fact that for most investors it is a spare-time activity. Consequently, they tend to adopt an *ad hoc*, unscientific and passive approach to sourcing investment opportunities, placing considerable reliance on friends and business associates for referrals. Thus, serendipity largely determines the number and quality of investment opportunities that come to an investor's attention.

Business angel networks (BANs) are an attempt to overcome the problems associated with the invisibility of informal investors and the high search costs for businesses seeking investors and vice versa by providing a channel of communication between informal investors and entrepreneurs seeking finance. Their objective is to enable entrepreneurs to bring their investment proposals to the attention of a number of private investors simultaneously and to provide investors with a convenient means of identifying and examining a range of investment proposals, while retaining investor anonymity until the negotiation stage. They do not function as dealers, investment brokers or investment advisors, and are not involved in any negotiations between investor and entrepreneur or in structuring the transaction.

There are examples of BANs in the U.S.A., Canada, U.K. and Scandinavia (Harrison and Mason, 1996a). Most BANs operate on a not-for-profit basis, with some or all of the costs underwritten by state or quasi-state bodies. Indeed, conventional wisdom, based on experience in North America and the U.K., suggests that BANs cannot be operated on a profit-making basis (Mason and Harrison, 1993; 1995b; 1996a). U.K. policy has been based on this view. The Department of Trade and Industry's *Informal Investment Demonstration Project* provided pump-priming funding to enable five Training and Enterprise Councils[2] to establish local business angel networks (Harrison and Mason, 1996b; 1996c). A number of Business Links[3] have also established local business angel networks. However, in the U.K. at least, this view is at odds with the recent entry of private players into this market, including one of the major clearing banks (Mason and Harrison, 1996b), and has led various commentators, including a senior government official in the Department of Trade and Industry,[4] to suggest that this removes the need for government involvement in funding BANs and that the public sector should therefore withdraw and leave the market free to develop in its own way.

Against this background, this paper addresses three specific issues regarding the informal venture capital market in the U.K.. First, has the nature of BANs changed over time, and if so, how? Second, what impact do BANs have on the flow of informal venture capital? Third, is there still a role for public policy in the support of BANs? Specifically, does the entry of private sector BAN operators remove the need for public sector services, or do they, in fact, meet the needs of only a segment of the informal venture capital market, leaving a continuing need for public sector involvement?

2. Business Angel Networks

The growth of research interest in the role and scale of informal venture capital activity in recent years has been accompanied by a parallel expansion in the number and range of initiatives, both private and public, to service and develop the informal venture capital market. The number of BANs in the U.K. listed in the annual British Venture Capital Association (BVCA) directory has risen from 17 in 1993 to 37 in 1995 (BVCA, 1993; 1995a), and additional services continue to be launched. The emergence of these 'visible' sources of informal venture capital now makes it possible for the first time to collect and analyse comprehensive statistics on investment activity on one section of this market. However, it should be noted that the vast majority of informal investments are made without the involvement of such intermediary organisations and so remain invisible and hence undocumented. The investment statistics which provide the basis for this paper are thus the tip of the informal venture capital iceberg.

In this section we develop a typology of BANs and use it as a framework to examine the extent to which different types of networks are associated with different types of business angel and investment deal.

Historically, in the U.K. as elsewhere, BAN mechanisms which seek to 'match' or otherwise introduce entrepreneurs seeking finance with private investors looking to make investments in unquoted companies have been dominated by public sector or not-for-profit organisations with a primarily local or regional focus. However, based on the directories which we have compiled for the BVCA (1993; 1995a) it is possible to identify two shifts in the nature of such networks in the U.K.: the shift from local/regional to national services, and the shift from public sector to private sector services. The basis for our analysis of these shifts in the evolution of the business angel capital market is a classification of active BANs listed in the BVCA directories (Table I).

Our classification makes an important distinction between those services which operate at a local or regional scale, serving a population area of typically 1–2 million, and those which have a national operating area. As Table I makes clear, local/regional services still dominate (24 out of 37 BANs in 1995). Furthermore, between 1993 and 1995 there have been 13 new initiatives launched,[5] of which four are at the national scale. The presence of both local/regional and national services, and the continued expansion of both, raises the following questions. Are the investors who register with local services different (in terms of capital available, preferred investment size, venture stage preferences, geographical orientation and sector preferences) from those registering with national services? Are the investment deals faciliated by local or regional BANs different from those facilitated through national networks?

A second distinction in the classification is between those services which have been set up or run by and receive their financial support from public sector agencies,[6] and those which are operated by the private sector, normally on a commercial or loss-leading basis. Public/not-for-profit BANs, of the kind reviewed and discussed elsewhere (e.g. Harrison and Mason, 1996c; Mason and Harrison, 1996c) offer only an introduction or matchmaking service, normally in the form of an investment opportunity publication of some kind, and, in some cases, investment clubs. They are prevented by securities legislation from having an involvement in the post-introduction

TABLE I
Evolution of the business angel capital market in the U.K.: 1993–1995

	Public sector and not-for-profit networks	Private sector commercial networks
Local/Regional	Bedfordshire Investment Exchange Business Link Gloucestershire **Capital Access (Manchester)** Capital Connections (East Lancashire) **Capital Match (Hampshire, Surrey, Sussex)** The Capital Network (Milton Keynes) **Cheshire Contacts*** Entrust (North East England) Equity Link (Hertfordshire) **Halo Ltd. (Dorset)** Informal Register of Investment Services (West Yorkshire) LINC Scotland **Oxfordshire Investment Opportunity Network** South West Investment Group (Devon and Cornwall) Techinvest (Cheshire)	**Anglia Business Angels (East Anglia and East Midlands)*** **Business Angels Bureau (Midlands)** **Company Broking Consultants (N Ireland)*** Great Eastern Investment Forum (East Anglia) Mercantile 100 (Scotland) Solutions for Scotland Talisman Ventures Ltd. (S England) WINSEC Corporate Exchange Ltd. (East Anglia)*
National	LINC (Local Investment Networking Company)	Albermarle Group Ltd.* Blackstone Franks Chartered Accountants* Cavendish Management Resources* Daily Telegraph Business Network* **Dunstable Management Group*** Hilling Wall Corporate Finance* **Haines Watts Corporate Finance*** IDJ Ltd.* Milestone Services Ltd.* **NatWest Angels Service*** Principality Financial Management* Venture Capital Report **Venture Net**

* Not exclusively concerned with informal venture capital matching activities.
Projects in **bold** have been established since June 1993.
Source: Complied by the authors from information in the annual BVCA directory of *Sources of Business Angel Capital* (BVCA, 1993; 1994a; 1995a)

deal-making process. Amongst the not-for-profit networks only LINC operates on a national scale, although as it actually delivers its services through various local enterprise agencies it could equally be classified as a local/regional service and is viewed as such in the data analysis later in the paper.[7] Increasingly, however, these classic public sector, not-for-profit services have been joined by a range of commercial networks: eight of the 13 new networks started since mid-1993 and listed in the 1995 directory (BVCA, 1995a) have been established by the private sector as commercially-oriented services.

There are three types of commercial BANs. The first category operate as 'conventional' introduction services: these can be further subdivided into those which produce and circulate investment opportunity bulletins (e.g. *Venture Capital Report, The Daily Telegraph Business Network*), and those which have created computer databases of investment opportunities (e.g. *Venture Net*) and business angels (e.g. *NatWest Angels Service*). The second category are offshoots of the corporate finance activities of financial service companies which view the venture rather than the investor as their client. This is, in part, because of the economics of deal appraisal and monitoring costs. Therefore they have rather higher minimum investment thresholds than not-for-profit services. They are also more likely to make a charge in the form of a success fee levied on the business. In addition, these networks will often take a pro-active role in forming a syndicate of business angels to invest in the business oportunities that they offer. The third category comprises organisations which specialise in matching people – for example, experienced executive and non-executive directors – to companies which have strategic gaps in their management teams. Such executives frequently wish to invest in the company in which they are placed. The implication of the shift towards private sector networks is that it will be reflected in the nature and cost of the service offered and in the type of investment facilitated.

The combined effect of these shifts in the nature and characteristics of BANs in the U.K. is reflected in a shift both to the right and also downwards in Table I. Our contention in this paper will be that investments made through these private sector business angel networks are more likely to involve later stage deals and the provision of development finance. We shall also argue that business angel investors are less likely to be involved in a hands on basis in the investee businesses. As such, they may be thought of as representing the development in the business angel market of a 'merchant capital' orientation, similar to that which has occurred in the formal venture capital industry[8] (Bygrave and Timmons, 1992). If correct, the implication of this hypothesis is that if public sector support is withdrawn from local, not-for-profit BANs it will result in a decline in those informal investments which involve smaller deal sizes, are oriented towards start-ups and early stage and have a high value-added element on account of the hands-on involvement of the investors.

The remainder of the paper is organised as follows. In section 3 we describe the data source used in this study. This is followed in section 4 by an overview of the impact of BANs on the flow of capital into the SME sector. Then in section 5 we provide the first systematic analysis of the investment characteristics of different types of BANs in the U.K.

3. Data sources

Comprehensive statistics on the investment activity of venture capital firms in the U.K. are collected and published annually by the BVCA (e.g. BVCA, 1996). However, as business angels are not listed in any directories and have a strong preference for anonymity it is not possible to collect equivalent information on the informal venture capital market. Thus, informal venture capital investment activity is largely unknown and undocumented except on an *ad hoc* basis.[9] However, the emergence of BANs means that there is now a small – but significant – part of the informal venture capital market that is visible and for which it is possible to collect comprehensive statistics on investment activity.

Seventeen of the 32 business angel networks (BANs) listed in the 1994 *BVCA Guide to Sources of Business Angel Capital* (BVCA, 1994a) provided information on the investments that they had facilitated in the period July 1993 to June 1994 and 30 of the 37 BANs listed in the 1995 directory (BVCA, 1995a) provided investment details for the 1994-95 period.[10] The main reasons for non-responses were twofold: (i) the method of operation of some organisations prevents them from being able to track the outcome of the introductions that they provide; (ii) some networks had not facilitated any investments during the preceding year, in most cases because they had only recently been launched.

4. Informal venture capital investment activity: 1993/94–1994/95

The networks that responded to the survey reported a total of 100 investments in 1993–94 in businesses that were registered with these services, involving a total investment of £7.3 million (9.3m ECU) from business angels that were also registered with these networks. In 1994–95 registered business angels invested a total of £16.1 million (20.5m ECU) in 173 businesses. These data are not strictly comparable because the 1994–95 statistics include investments made through networks that were also operating in 1993–94 but either did not provide statistics on their investment activity or were not included in the 1993–94 directory. Comparing aggregate investment activity over the two years on a like-for-like basis[11] indicates that there was a 51% increase in the number of investments made by business angels registered with the networks over the two year period and a 32% increase in the amount invested.

In many cases business angel investments are part of larger financial packages. In 1993–94 there were 22 investments of this type which included finance provided from one or more of the following sources: banks (providing both overdraft and loans), loan guarantee scheme, trade investors, venture capital funds, other private investors not registered with the BAN and grants and soft loans. These co-investors provided an additional £7.1million (9.1m ECU). In 1994–95, 37% of business angel investments also involved other finance providers who invested at least £14.7 million (18.8m ECU).[12]

Most business angels commit up to £50,000 (64,000 ECU) to a single investment (Table II); indeed, the median size of investment is £30,000 (38,000 ECU) . Nevertheless, there is a small but significant group of business angels – about 1 in 10 of the total – who have committed in excess of £100,000 (128,000 ECU) to a single investment. One-quarter of investments involved more than one business angel and around 10% (see note 12) also involve other equity investors not registered with the BAN (e.g. venture capital funds, trade investors, other business angels). Thus, overall deal sizes are somewhat larger than these figures for individual investors (Table III). The median deal size is £50,000 (64,000 ECU) and a significant proportion of deals (over 14%) are for investments per company of over £250,000 (319,000 ECU). As in the U.S.A., therefore, syndication of investments, either among business angels or between business angels and other financial providers on a co-investment basis, can significantly increase the capital available to the expanding business.

Business angels are involved in all financing stages from seed capital through to management buyouts/buyins and receiverships (Table IV). However, they are predominantly involved at the start-up (29%) and early stages (19%), although a significant proportion are involved in providing expansion finance (38%). Relatively few business angels are involved in management buyout and management buyin situations, whether measured in terms of number or value of investments, confirming another dimension to the complementarity of the business angel capital market and the institutional venture capital market (Freear and Wetzel, 1990; Robbie and Wright, 1996). Investments by business angels are also characterised by a wide diversity of industrial sectors (Table V), but with a distinct orientation to manufacturing, and in particular technology-based sectors which

TABLE II
Size of individual investments

Amount invested[b]	Number of business angels	%
up to £10,000	46	12.9
£10,001– £25,000	108	30.3
£25,001–£50,000	90	25.3
£50,001–£100,000	63	17.7
£100,001–£250,000	40	11.2
Over £250,000	9	2.5
Sub-total	346	100
Amounts unknown[a]	(234)	–
Total	580	–

[a] These are situations where investments were syndicated amongst a large number of investors and no breakdown was provided for the amounts invested by individual investors. One such deal involved 103 investors.
[b] The conversion rate at the time of writing was £1 = 1.276 ECU.
Source: Calculated from unpublished BVCA statistics.

TABLE III
Overall size of deal[a]

Size of total investment[b,c]	Number of investments	%
Up to £10,000	19	7.0
£10,001–£25,000	51	18.7
£25,001– £50,000	53	19.4
£50,001– £100,000	61	22.3
£100,001– £250,000	50	18.3
£250,001– £500,000	18	6.6
£500,001–£1 million	14	5.1
Over £1 million	7	2.6
Total	273	100

[a] These figures will be an under-estimate of the total deal size because a number of business angel networks did not collect information on associated investments by other investors.
[b] These figures refer to the total size of investment, including both the investment by business angels and any other finance raised by the business at the same time as the business angel's investment (e.g. bank loan, loan guarantee scheme, venture capital, business angel not registered with the network, grants).
[c] The conversion rate at the time of writing was £1 = 1.276 ECU.
Source: Calculated from unpublished BVCA statistics.

TABLE IV
Stage of investment

Financing stage	Investments		Amount invested	
	Number	%	£m[a]	%
Seed	4	1.5	0.1	0.5
Start-up	79	28.9	7.3	31.0
Other early stage	52	19.0	3.2	13.5
Expansion	104	38.1	8.4	35.9
MBOs/MBIs	18	6.6	2.5	10.6
Other/receiverships	16	5.9	2.0	8.5
Total	273	100	23.5	100

[a] The conversion rate at the time of writing was £1 = 1.276 ECU.
Source: Calculated from unpublished BVCA statistics.

TABLE V
Sectoral analysis

Sector	Investments		Amount invested	
	Number	%	£m[a]	%
Technology-based (communications, computers, electronics, medical/biotechnology)	60	22.0	7.1	30.6
Manufacturing (industrial)	71	26.0	4.8	20.7
Manufacturing (consumer-related)	59	21.6	3.6	15.2
Services (incl.financial services)	72	26.4	6.6	28.1
Other (energy, construction, agriculture, other)	11	4.0	1.3	0.5
Total	273	100	23.5	100

[a] The conversion rate at the time of writing was £1 = 1.276 ECU.
Source: Calculated from unpublished BVCA statistics.

accounts for more than 20% of investments and 30% of the total amount invested.

The regional distribution of investments is influenced by the location of those networks which focus on serving particular areas and regions. These networks account for 64% of investments and 36% of the amount invested. With this caveat, it is clear that investments by business angels are widely distributed throughout the U.K. (Table VI), but with significant concentrations in the South West (22%), Greater London (12%) and the Rest of the South East (24%), Yorkshire-Humberside (10%) and Scotland (8%). All of the remaining regions have less than their "expected share" of informal venture capital investments when compared with the proportion of the national stock of VAT-registered businesses in these regions. The South East (55%) and South West (14%) have attracted a disproportionate amount of the finance invested.

In summary, this first analysis of informal investments facilitated through business angel networks over a two year period, 1993–94 and 1994–95, suggests that such networks can be effective in addressing the venture capital equity gap discussed in the introduction – identified in terms of the pool of capital available, the investment focus of venture capital funds (avoiding small deals, start-ups and early stage deals, and technology-based firms) and the regional concentration of the industry. Over two-thirds of investments by business angels involved amounts of under £50,000 (64,000 ECU); almost half provided seed, start-up and early stage financing; 30% of the amount invested by business angels was committed to technology-based ventures; and although still regionally concentrated, 60% of deals were outside the South East/East Anglia core region.

However, these aggregate data, while supporting the argument that BANs can be effective in closing the bottom-end equity gap, do not in themselves address the issue of whether there is still a role for the public sector provision of such networks. Accordingly, in the following section we provide some disaggregated statistics, using the classification of BANs developed above (Table I), to address the question: do public sector not-for-profit BANs facilitate different types of informal investment deal (in terms of size, sector, stage and location) than do private sector networks?

5. Informal investment activity: A disaggregation by type of BAN

In this section we use the dataset to examine the types of investments made through the various types of BANs. This provides the basis for assessing the extent to which the shifts in the composition of BANs discussed above are reflected in differences in the nature and characteristics of the investments which they facilitate. The key differences are summarised in Table VI.

Public sector and other not-for-profit networks

We include under this heading both locally and regionally-based business introduction services, which are primarily operated by Business Links (public-private business support organisations), and also LINC. Although LINC is a national organisation it actually comprises a federation of 12 local/regional BANs, including some which are classified as such in Table I (see note 7), and in operational terms is largely indistinguishable from freestanding local/regional BANs.[13] Together they account for 148 investments, representing just over half of all investments made through BANs in 1993–94 and 1994–95. The total amount invested by investors registered with these networks is £8.3 million (10.6m ECU). The majority of investments involve a single investor (86%) and the amounts invested are typically small (median of £31,000 (40,000 ECU) per investor). Taking into account co-investors raises the total investment figure to £15.2 million (19.4m ECU), with a median deal size of £44,500 (57,000 ECU). Exactly half of the investments are seed, start-up and early stage financings. Businesses are typically small, with 70% having fewer than 10 employees at the time of the investment. Technology-based businesses accounted for just over one-quarter of all investments.

TABLE VI
Regional distribution of investments

Region	Investments		Amount invested	
	Number	%	£m[a]	%
Greater London	34	12.5	4.4	18.8
Rest of South East	65	23.8	8.4	36.0
East Anglia	11	4.0	1.0	4.3
South West	61	22.3	3.3	14.1
East Midlands	2	0.7	0.1	0.3
West Midlands	15	5.5	0.7	3.0
North West	17	6.2	2.1	9.0
Yorkshire-Humberside	28	10.3	0.8	3.4
North	6	2.2	0.3	1.1
Wales	8	2.9	0.8	3.4
Scotland	22	8.1	1.2	4.9
Northern Ireland	0	–	0	–
Overseas	4	1.5	0.4	1.8
Total	273	100	23.5	100

[a] The conversion rate at the time of writing was £1 = 1.276 ECU.
Source: Calculated from unpublished BVCA statistics.

These deals exhibited a high level of geographic localisation, with more than 90% of the investments in the local areas serviced by these networks. Thus, the geographical distribution of these investments, with 46 (31%) in the South West, 41 (28%) in the South East and 19 (13%) in the North West, reflects the locations of these networks. Moreover, the majority of the investors in these businesses were also locally-based, with more than three-quarters based in the area covered by the network (and many of the remainder located in adjacent areas).[14]

LINC accounts for 53 investments (including investments made through those of its member agencies which have a separate identity and are included in Table I). The characteristics of investments made through LINC are similar to those of freestanding public sector and not-for-profit BANs, although the proportion of seed, start-up and early stage financings is somewhat greater (65% cf. 45%). This difference seems likely to be attributable to the contrasting organisational locations of LINC agencies and freestanding local/regional, not-for-profit business introduction services, the effect of which is to influence the nature of promotional networks and, in turn, deal flow. Most LINC agencies are based in local enterprise agencies. These organisations primarily provide start-up business counselling. In contrast, most local/regional not-for-profit BANs are based in Business Links which provide a much broader range of services for SMEs, with implications for their profile and networks. In particular, their clientele includes a higher proportion of growth-oriented businesses.

Commercial services

Commercial BANs operated by the private sector account for 46% of all investments made through BANs in 1993–94 and 1994–95, with national networks accounting for more than three-quarters of the total. In reality, private sector networks probably account for more than half of all investments because most of the organisations which could not provide investment statistics (in most cases for logistical reasons) were in this category.

As might be anticipated, investments made through private for-profit services are larger than those made through public sector and not-for-profit BANs. The median amount invested by registered investors was £70,000 (89,000 ECU) in the case of national private sector networks and £67,500 (86,000 ECU) in the case of local/regional private networks. Investments made through private BANs are less likely to involve a single business angel and the investment by the business angel is more likely to be part of a larger financial package. Taking account of co-investors raises the amount invested through local/regional commercial BANs to £4.6 million (5.9m ECU), with a median deal size of £99,000 (126,000 ECU), and raises the amount invested through national commercial BANs to £25.2 million (32.1m ECU), with a median deal size of £110,000 (140,000 ECU).

Two other contrasts between private and public sector/not-for-profit networks are also worthy of note. First, a smaller proportion of investments made through private sector BANs involve technology-based businesses. Second, investments made through private sector BANs, and national private sector BANs in particular, have a greater concentration in the South East region. However, there is no difference between the two types of BAN in terms of the proportion of seed, start-up and early stage financings.

However, it is important to recall that private sector BANs is the least homogeneous category, comprising a variety of different approaches and motivations (e.g. see Coon, 1996; Cary, 1996; Mason and Harrison, 1996b; Mason, Harrison and List, 1996). Moreover, the investment information is heavily weighted by *Venture Capital Report* (VCR)[15] which accounts for just under one-third of investments in this category for which we have information (and 40% of investments in the national private sector category). In many respects VCR occupies a middle ground between public sector and not-for-profit BANs and those operated on a commercial basis. Indeed, VCR has established alliances with various local BANs and with LINC for the exchange of information on investment opportunities. VCR investments are distinctive in a number of respects from those of the other commercial organisations for which we have information: its investments are oriented towards smaller businesses (92% with less than 10 employees); more weighted towards seed, start-up and other early stage financings (69%) and more likely to involve just a single business angel investor (82%).

6. Conclusions

We have shown in this paper that despite the emergence of new private sector BANs, the majority of investments made in 1993–94 and 1994–95 were made through public sector and other not-for-profit networks (including LINC) operating at a local or regional scale. Morever, private sector BANs are involved in different kinds of deals from those of the local and national public sector/not-for-profit networks. The private sector for-profit networks are involved with larger investments (which are also more likely to be syndicated between a number of business angels or involve co-investors), later stage deals, including MBOs/MBIs, and 'low tech' manufacturing. In addition, a higher proportion of their deals are in the South East Region.

It is therefore clear that public sector and other not-for-profit BANs are filling a different market niche to that of private, for-profit BANs. The latter are helping to fill a secondary equity gap from around £100,000 (128,000 ECU), which is the maximum that the majority of business angels wish to commit to a single investment, and £500,000 (638,000 ECU), which is the minimum investment considered by most institutional venture capital firms. Hence, their emergence does not eliminate the need for Business Links to support, either individually or in partnership, locally and regionally focussed BANs: these BANs faciliate businesses, particularly start-ups and early stage businesses, seeking smaller amounts of finance, to raise equity capital from business angels who typically wish to play a hands on role. In the event that local, not-for-profit BANs cease to exist as a result of the withdrawal of public sector support it is unlikely that more than a small proportion of these types of businesses will be able to turn to private sector, for-profit BANs to raise finance: they are less likely to meet the investment criteria of those investors who register with private sector BANs and, indeed, will in many cases fail to meet the acceptance criteria of these networks. Continued public sector support of BANs through Business Links is therefore essential to ensure that the informal venture capital market in the U.K. con-

TABLE VII
Investment characteristics: disaggregation by type of business angel network

	Local/regional public sector and not-for-profit networks[a]	Commercial networks	
		Local/regional	National
Number of investments	148[b]	28	97
£m invested by registered investors	8.3	4.0	11.1
Median amount invested per registered investor	£31,000 (40,000 ECU)	£67,000 (85,000 ECU)	£70,000 (89,000 ECU)
£m invested in total[c]	15.2	4.6	25.4
Median total amount invested per company	£44,500 (57,000 ECU)	£99,000 (126,000 ECU)	£110,000 (140,000 ECU)
% of investments involving a single business angel	86%	54%	74%
% of seed, start-up /early stage investments	50%	50%	47%
% of expansion stage investments	34%	39%	41%
% of businesses with less than 10 employees[d]	67%	50%	64%
% of investments in technology-based businesses	28%	4%	15%
% of investments in South East/East Anglia	28%	39%	60%

[a] Including investments made through LINC.
[b] Investments that are shared between networks are only counted once.
[c] These figures will be an under-estimate of the total amount invested because a number of business angel networks did not collect information on associated investments by other investors.
[d] No data are available for LINC investments.
Source: Calculated from unpublished BVCA statistics.

tinues to thrive and the associated economic benefits continue to accrue.

Although based on the U.K. experience, this conclusion is likely to have much wider relevance, notably to continental European countries where there is growing interest in the potential of informal venture capital and in the role of BANs as a means of stimulating investment activity.[16] The clear message of this study is that public sector or not-for-profit organisations must be involved in providing this service if the informal venture capital market is to be effective in closing the various finance gaps that continue to constrain the emergence and growth of entrepreneurial ventures.

Acknowledgement

The data were collected in surveys undertaken on behalf of the British Venture Capital Association which retains the copyright. We are grateful to Robert Cressy for his comments on an earlier draft of this paper.

Notes

[1] This is a revised and updated version of a paper that was presented at the 15th Babson College-Kauffman Foundation Entrepreneurship Research conference (Mason and Harrison, 1995a).

[2] Training and Enterprise Councils are locally-based public-private partnership bodies which provide training to the unemployed and young people and deliver small business assistance in England and Wales. In Scotland Local Enterprise Companies perform a similar role.

[3] Business Links are local partnerships of Chambers of Commerce, Training and Enterprise Councils, Local Authorities, Enterprise Agencies and other organisations to provide a single local point of access to small business support services in England and Wales. Scotland has its equivalent network of Business Shops.

[4] For example, at a seminar organised by *Venture Capital Report Ltd.* in February 1995.

[5] A further four networks were included in the 1994 directory. Two have re-oriented their activities towards other forms of company finance, one has ceased to operate, and another (*Capital Exchange*) no longer regards itself as a business angel network.

[6] It is normal for such networks to achieve partial cost recovery through charging registration fees.

[7] LINC (the Local Investment Networking Company) is a federation of 12 locally-based business angel networks. Its members include three that are listed in the public sector/not-for-profit networks category in Table I (LINC Scotland, South West Investment Group, Techinvest).

[8] Bygrave and Timmons (1992, p. 68) note that the trend from ‘classic’ to ‘merchant’ venture capital is even more advanced in Europe than in the U.S.A. As a result, there is very little ‘classic’ venture capital in Europe.

[9] A further consequence is that research must be based on samples which cannot be assessed for their representativeness because the characteristics of the population of business angels is unknown and unknowable. See Mason and Harrison (1994, pp. 71–76) for a discussion of methodological approaches to the identification of business angels.

[10] In order for an investment to be included in the statistics it had to have been made between 1 July 1993 and 30 June 1995 and involved one or more private investors who were registered or otherwise connected to the network.

It is important to bear in mind when interpreting the data that we have been dependent on the BAN managers for the accuracy and comprehensiveness of the data supplied. It has not been possible to date to triangulate this data, for example, by making direct contact with the businesses receiving finance, although future research on this data source could include such triangulation.

The data were collected on behalf of the BVCA which retains copyright. BANs provided information on their investments on the understanding that they would only be published in aggregate form (BVCA, 1994b; 1995b). However, summary information on investments are in the public domain. The *VCR Guide to Venture Capital in the U.K. and Europe* (Cary, 1995) lists individual investments facilitated by various BANs up to August 1994 and each BAN entry in the 1995 BVCA directory provides a list of investments made in 1994–95.

[11] This includes networks that were operating in both 1993–94 and 1994–95 and supplied investment statistics in both years, plus new networks that were launched in 1994–95. It does not include networks that were operating in 1993–94 and 1994–95 but did not supply statistics for investments in 1993–94.

[12] Both the number of businesses which raised additional finance from other sources and the amounts invested are under-estimates as not all BANs are able to accurately track this information. Comparing 1993–94 with 1994–95 suggests that business angel investments as part of larger financial packages became more widespread in 1994–95 in terms of the numbers of investments involved. However, it is not clear the extent to which this trend is influenced by the better statistical coverage in 1994–95 of investments made by corporate finance organisations which provide business angel matching services, as such networks are more likely than public sector and not-for-profit BANs to put together syndicated deals.

[13] The main difference is that investment opportunities are circulated to LINC investors throughout the country through the LINC Bulletin rather than being restricted to investors in the territory covered by the LINC agent. However, a number of independent local/regional BANs also achieve national circulation of their investment opportunities by establishing links with the national commercial BANs.

[14] This figure refers to 1994–95 only.

[15] Venture Capital Report Ltd, which was started in 1978, is the oldest established business angel network in the U.K.

(and probably the world). It publishes a monthly investment magazine, available on subscription only, containing about 10 articles (about five pages long). These articles are written by VCR staff after a meeting with the entrepreneur. Recently VCR has started hosting investment meetings at which selected entrepreneurs seeking finance make presentations to an audience of business angels.

[16] EURADA (the European Association of Regional Development Agencies) has recently obtained EU funding for a project that is intended to undertake research on informal venture capital activity in continental Europe, and to establish best practice and best mechanisms of business network activity and to disseminate such information to appropriate organisations across Europe.

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