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Should Government Support Business Angels Networks? – the Tale of Danish Business Angels Network.

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ABSTRACT. Policies promoting informal venture capital generally and BANs in particular have gained increased attention in recent years. As a consequence, Business Angel Networks (BANs) are now widespread across Europe. However, there continues to be a debate whether BANs should be supported with public money. This paper discusses the possible rationale for governments to support BANs and what criteria to apply when evaluating such networks. The paper is based on an in-depth observation study of the whole life cycle of a national BAN – the Danish Business Angel Network – and a comparison with a similar national angel network in Wales. Results show that applying traditional evaluation criteria for assessing BANs may provide only a partial picture. DBAN was squeezed in between political pressures, impatience and lack of understanding of the broader benefits of an angel network. It was therefore left to die. This contrasts with Wales where more patience and persistence was shown and it was rapidly integrated into the investment community. The implication is that lack of consistent funding, even in downswings, may erase the position and awareness of BANs in the capital markets. When governments consider whether to provide continuing support to BANs they should evaluate not only their immediate effectiveness but also whether BANs should be considered a part of the general small business support infrastructure.

Keywords: business angels, networks, small firms, evaluation, government

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Should Government Support Business Angels Networks?

– the Tale of Danish Business Angels Network.

1. Introduction

Governments have played a key role in the development of venture capital markets around the world (Lerner, 2010, Mason, 2009). Although the primary focus has been on the formal venture capital market, governments have also tried to support the development of the informal venture capital market (Mason, 2009). However, there is debate on the appropriateness of government intervention to support the informal venture capital market. On the one hand this market may be said to be functioning under severe informational constraints and 'market failures'. On the other hand it could be argued that this type of market is best kept informal and functions best without too much formalisation. Furthermore, if government does decide to stimulate the informal venture capital market then it must choose from a range of possible instruments, including tax incentives, co-investment schemes and support of business angels networks¹ (BAN). As the titles of academic papers such as 'Business Angels: should they fly on their own wings?' (Aernoudt, 1999) 'Should we ban the Bans' (Goosens and Aernoudt, 2002), and 'Do business angel networks deliver value to business angels?' (Knyphausen-Aufsess and Westphal, 2008) indicate, this debate is not only a policy issue but has also attracted considerable attention in academic debates.

Most countries in Europe have some kind of business angel network or are considering establishing one or more such networks. One of the reasons for this is the evidence, albeit from more than a decade ago, of the low costs associated with creating jobs through this type of intervention (Aernoudt, 1999, Mason and Harrison, 1999, EBAN, 1998). The potential deficiencies in the market are argued to be easily remedied through simple means (Aernoudt, 1999). A further rationale for public intervention in this market is related to the characteristics of the investments made by business angels: they have a different cost structure than institutional venture capital allowing them to go make smaller investments; they are widely distributed geographically, which means that they contribute to alleviating

¹ Although business angels is a heterogeneous group they are generally seen as high net worth individuals who invest their own money in unlisted businesses (Mason and Harrison, 2002).

regional financing gaps; and they provide management assistance in addition to the money they invest (Mason, 2009).

Nevertheless, by no means all commentators are convinced by this rationale for public intervention on this market (Brander et al., 2008, Knyphausen-Aufsess and Westphal, 2008, Leleux and Surlemont, 2003). Furthermore, although the majority of researchers would appear to advocate the promotion of business angel activity in general (e.g. Mason, 2009, Sohl, 2007, Murray, 2007) there continues to be debate about the means, the timing, and the extent of a possible role for government. This paper discusses the possible rationale for governments to support business angel networks, the criteria that should be applied when evaluating such networks and the importance of the time dimension and the timing of policies for strengthening BANs. The paper contributes to the business angel literature in two further ways: first, by examining the evolution of BANs and second by showing that their activities extend beyond pure matching activities. The relevance of this discussion is accentuated by the fact that government financial support for many BANs across Europe is ending and decisions will have to be made whether or not to renew this funding. More knowledge on evaluations is therefore timely.

The story of the Danish business angels network (DBAN) is an interesting one in this context because it includes both initial considerations to support a BAN, thorough feasibility studies, hesitations to implement it, major investments in the establishment of a BAN, and decisions to pull out, all of which occurred over a 7 year time span. Motivations and criteria for these decisions are discussed and general lessons from this story are drawn out. As such, the contribution which the paper makes is an in-depth, observation study of the entire life cycle of a national BAN which provides a new and broader understanding of how BANs should be evaluated.

The study is based upon interviews with key actors in the DBAN as well as observation studies. Particular attention is given to the development phases of DBAN from idea generation, to inception through to establishment of working practises. The study of this development was facilitated by the authors' involvement in the first idea generations and subsequent membership of the Board of DBAN (which enabled access to internal written documentation such as internal minutes and status reports to and from the Ministry). Interviews with key persons involved in the DBAN and in the broad business angel community were

undertaken after network had closed. A comparison with a similar angel network in Wales is instructive in giving perspectives on this story. This comparison is based upon interviews with the managing director in the Welsh national business angel network, Xénos, and also draws upon work by scholars who are collaborating with Xénos and have studied the development of this network.

Section 2 points to the main problems, primarily informational deficiencies, of the informal venture capital market. The pros and cons of government involvement in the financing of BANs are discussed in section 3. Section 4 tells the story of DBAN and in section 5 makes the comparison with Xénos in Wales. The concluding section applies the insights from the studies to the principle considerations on the role of government intervention and the evaluation criteria.

2. The BANs in the capital markets

The business angels market is characterized by highly asymmetric information and also a general lack of information. Business angel networks essentially try to remedy this informational gap. Because of the nature of the market for informal venture capital, with a great deal of activities being of an invisible character, our knowledge on how the market has developed remains limited. Following the increased interest in this type of financing from both academia and policy makers more investments have been registered. However, we do not know exactly how much should be attributed to a real increase of activities and how much is a result of improved statistics and registration of the phenomenon².

What we do know is that not only has the number of business angels registered increased, but also that there has been an increase in the number of networks. For example, the European Business Angels Networks, EBAN, an umbrella organisation for business angel networks, has registered 334 BANs in 2009, an increase from 50 in 1999. The number of

² Generally, the activities in the informal venture capital market are not easily measured. It is, though, established that finance from business angels make up a substantial share of early-stage funding (Harrison et al, 2010) even compared to the institutional venture capital. However, it is very difficult to get a full picture of the size of the market for business angel financing due to the intrinsic measurement problems involved (Mason and Harrison, 2008).

BANs increased steadily until 2004 when it stabilised until 2006 and has risen since then (EBAN, 2010)³. Moreover, BANs are now widespread across Europe (EBAN, 2008, 2010).

The development in the number of BANs is, though, not evenly distributed across Europe. The number of networks has decreased in mature angel markets but increased substantially in emerging economies. The increase in the number of BANs may be seen in the context of increased attention from policy makers towards improving the access to risk capital in general, which is accentuated by recent turbulence on financial markets and associated increased financial constraints for entrepreneurial businesses. Policy intervention has been targeted towards specific gaps at the market. Various 'gap-analyses' have appeared (e.g. Harding, 2002 for the Danish venture capital market) to show the extent and nature of financial gaps. Many financial institutions specialise in order to minimise their transaction costs and to focus their competencies. The extent of this specialisation in turn determines where, and to what extent, gaps in the market prevail. In 'thin', under-developed venture capital markets specialisation tends to be not as deep as in developed venture capital markets. This market context is important to where potential policy initiatives should be targeted.

Policies with respect to BAN differ from interventions aimed at closing the gap in supply of financing. It targets different cause of financial constraint, that of informational problems. The business angel market may serve as an example of an incomplete market. The players in the market are even often not visible. In a much-cited passage by Gaston (1989, p.4) it has even been described as 'a giant game of hide and seek with everyone blindfolded'. This means that initial search costs are relatively high and actors at the market have immense difficulties finding each other. This market has therefore often been described as an example of a market with severe informational deficiencies.

BANs are potentially an important means of increasing transparency in the market. BANs are part of a wider system in which important institutions feed the BAN with relevant investment opportunities. This enables BANs to act as intermediaries in matching demand for capital and competences with supply of this embedded in business angels. The analogy of a marriage office has often been used. In fulfilling this function, BANs differ in their profile

³ A steep increase from 2007 to 2008 is explained by the inclusion of a number of Scottish networks and an increase in the number of networks in France and emergent markets in Eastern, Central and Southern Europe (EBAN, 2008).

and operation. For example, Lange et.al (2003) list seven typological dimensions to characterise BANs:

- Private vs. public
- For profit vs. not for profit
- Early stage focused vs. all stages
- Specialist investors vs. generalists
- Active screening and support vs. passive
- Regional or local geographical reach vs. national or pan-national
- Introduction services only vs. a broader range of services offered

Evidence on the practise of BANs suggests that the first of these dimensions determines several of the other dimensions (Mason, 2006). For example, it would appear that private and public BANs perform different functions in the market and in fact, may target different segments (Mason and Harrison, 1997).

Sohl (2007) uses the term 'angel portal' to reflect the growing variety of approaches to intermediation in the market. His typology of angel portals comprises the following: matching networks, facilitators, informal angel groups, formal angel alliances, electronic network, individual angels (Sohl, 2007). Using this typology Sohl recommend some basic features for angel portals. First, they should generally strive to maintain an informal structure, operate on a regional basis, facilitate personal interaction between the parties, and ensure that deals and investors alike are of high quality. Stages of investments may also vary between types of angel portals. 'Individual angels', 'matching networks' and 'informal angel groups' may be appropriate for seed stage investments, whereas the 'formal angel alliance' and to some extent 'matching network' types may be more appropriate for later stage investments.

Whereas these dimensions may differentiate BANs and provide general recommendations they do not take a dynamic approach. BANs may change their profile, organisation, and business model over time as a response to market changes, changes in the demand for their services and changes in their core funding. Such changes will be illustrated later in the paper. However, we begin with a more general discussion of the rationale for government intervention in the informal venture capital market.

3. The costs and benefits of government intervention

3.1 The problem to be addressed

The traditional discussion on public intervention generally rests on several arguments, the most prominent of which is the 'market failure' argument. This argument claims that where the market is not able to solve a (allocation-) problem efficiently, perhaps because of lack of information or externalities, then there may be a case for government intervention (European Commission, 2002, Murray, 2007, Mason, 2009). In relation to policies on informal venture capital, the objective of policy is to provide small firms with access to networks and coordination that the markets fail provide. Policies now increasingly refer to system failures rather than market failure. Policies to alleviate system failures may address institutions and capabilities related to the interaction between key agents in the system. As such, this perspective is more adequate for modern industrial policies than the market failure perspective and may be particularly relevant in relation to BANs.

The business angels market may be a case of market failure or system, and is therefore an area for government intervention. Whereas the early discussion was previously only concerned with supplying an adequate amount of money, attention is now much more directed towards the informational problems. BANs themselves may, however, face information problems. In addition to finding a sufficient number of investors and entrepreneurs with investment ready proposals to join the network many business angel networks have experienced difficulties in creating awareness of the network and in funding the activities in the network (Sohl, 2007, Mason and Harrison, 1993).

There are several ways to promote business angel financing (Mason, 2009). However, the primary policy strategy has been the establishment of business introduction services (Aernoudt, 1999, 2005). The knowledge about the performance of such services is still limited although a few evaluations have been undertaken (e.g., Mason and Sackett, 1996, Collewaert et al., 2010, Harrison and Mason, 1996). Because most of these evaluations have been undertaken in the UK it has been UK experiences that typically have been referred to when discussing the socio-economic return of BANs. These evaluations have shown that BANs contribute substantially to job creation and that the public costs per job

are low (EBAN, 1998)⁴. It should be stressed that the data used in various evaluations are limited, largely because the majority of BANs have not existed long enough to be subject to evaluation (Collewaert et al., 2010). However, even if more adequate data were available severe problems in estimating the total costs and benefits for society of BANs would remain.

The promotion of informal venture capital should, however, be weighted against the costs involved in interfering at the market.

3.2 Costs of policy intervention

There are three main potential costs in relation to government participation in supporting business angel activity through the financial support of BANs. The first is the financial aspect of this involvement. Government must not only consider whether there is a positive socio-economic return from investing in BANs, but also consider if the amount invested would have paid off better somewhere else. In other words, there are opportunity costs involved in the decision on where to invest government money? The second consideration is that in the longer term significant government involvement may create the expectation in the market that this is the norm. In this sense government involvement may be a lock-in, which is it difficult to get out of. Third, public intervention may crowd-out private investment in these introduction services (Leleux and Surmont, 2003). However, evidence both from the UK (Mason and Harrison, 1997) and from a wider array of European cases (Lange et al., 2003, Leleux and Surmont, 2003) suggests that private and publicly supported angel networks target different segments of the market, with the deals done through privately financed BANs being larger and at a later stage of development than those going through government sponsored networks (European Commission, 2002, Mason and Harrison, 1997)⁵.

⁴ On the basis of British experience EBAN concluded that “Experience from the UK therefore strongly suggests that Business Angels Networks are a very cost-effective way in which governments, working in partnership with either not-for-profit organisations and agencies or private sector organisations, can remove many of the financial and managerial problems encountered by new and recently founded businesses, and technology-based firms. Business Angels Networks mobilise substantial pools of informal venture capital that were formerly fragmented and invisible, stimulate demand for equity finance that would otherwise have been latent, and facilitate investments by creating communication channels” (EBAN, 1998, s.7).

⁵ European Commission, 2002, refer to that publicly supported BANs in the UK have an average investment of 149000 EURO, whereas the average angel investment through commercial networks is substantially higher, 285000 EURO. Likewise, the share of start-up/early stage investments were 70% and 40% respectively. In the Danish case it was clear from interviews with angels that there was a clear difference in this respect. Therefore, even if self-financed BANs could be sustained then there would still be a role for government supported networks in order to secure that also early stage deals are able to find investors.

This, in turn, suggests that privately financed BANs serve a different function than those which are recipients of government funding. Therefore, crowding-out of private initiatives is unlikely.⁶

Business angels have been criticised for their lack of screening of entrepreneurs and their business proposals, lack of quality and coherence in the information about the investment opportunities and the matchmaking process (Harrison, Dibben and Mason, 1997). However, these critiques may apply to both private and public BANs. Moreover, they are mainly criticism of the specific practice of BANs rather than how they should operate in principle. Although no solid evidence is available to this effect it is possible that the business angels signing up for BANs are those who are not able to attract enough quality deal flow by themselves through their own network and referrals. They may also prefer to circumvent the angel network in their investments for different reasons such as avoiding fees. These two arguments raise the question whether BANs induce an adverse selection effect as they may attract the low quality angels (Mason and Harrison, 2002). Similarly, one could argue that firms approaching BANs may be of a lower quality as it indicates that they are unable to attract capital through other channels.

The argument that BANs attract angels who are less able in terms of leveraging networks, reputation etc. has little validity in the DBAN case. Both general surveys and surveys specifically for Denmark of motives for business angels to invest have pointed out that they often invest not only for the potential profits, but also for 'the fun in it' or because they want to 'pay back' to society (Baty and Sommer, 2002, Sullivan and Miller, 1996, The Danish Growth Fund, 2002). This latter motive may apply to not only investing time and money in developing entrepreneurial businesses but also participating in developing a BAN and an angel culture in a country. Indeed, the angels in the Danish case referred to this contribution to the development of a business angel culture as a primary motivation for participating. Moreover, some of the angels in the board of DBAN were highly successful, experienced, well-known angels. Whereas this counter-argument may apply regarding the angel members of the board it could not be ruled out that an adverse selection effect is in play to some, inherently unknown, extent in the broad sample of angels connected to DBAN. The

⁶ The crowding out effect from government intervention was found in the Canadian market (Brander et al., 2008), however this study focused on the formal venture capital market.

latter effect – that BANs do attract above-average risky firms - was tested empirically by Collewaert et al. (2010) and rejected.

3.3 *Benefits of policy intervention*

Business angel financing has both direct and indirect economic benefits which must be taken into account when evaluating the impact of government intervention. Indirect effects are treated in more depth in this section as they are often ignored.

3.3.1 Direct effects

The *direct* benefits are related to the essential function of BANs which is to contribute to alleviation of informational constraints. By doing so BANs are able to facilitate investments which, in turn create jobs, innovation and economic growth⁷. This is often achieved with a relatively small amount of subsidy. Experiences from the few government initiatives within this area that have been running for some time suggest that the cost per job created compares favourably with other initiatives. Although the estimates of subsidy per job are inherently uncertain, there are some evaluations that point clearly to this (Mason and Harrison, 1999, Harrison and Mason, 1996, Collewaert et al., 2010). For example, Collewaert et al. (2010) finds that the subsidy per job in a BAN in Flanders was 1731 Euro. They compare this with 1515 Euro in the UK, 4000 Euro in the European business incubator initiative, and 3100 Euro in the Belgium structural funds initiative. Government programmes generally are often subject to dead weight - that is, they support of activities that would have been undertaken regardless of the support. However, the available evidence shows that initiatives supporting the functioning of the informal venture capital market are unlikely to suffer from dead-weight effects (Mason and Harrison, 1996, 1999). Displacement effects, the redirection of activity from equivalent or otherwise economically beneficial activities, are also likely to be low (Mason and Harrison, 1996, 1999). Often informal investments come from a pool of capital, which was otherwise used for consumption or invested in passive asset classes (e.g. government bonds).

⁷ The criteria for what are direct benefits may differ according to the perspective taken. For example, the job creating function may be highly relevant and important from a societal point of view, whereas it is more important for other actors if profits are generated.

The evidence also indicates that business introduction services could not be commercially sustainable without public support if they are to operate on the scale necessary to be effective. This is concluded both in international studies (Mason and Harrison, 1995, 1996, 1997) and for the Danish case a feasibility study prior to the decision to establish DBAN (Deloitte & Touche, 2000). EBAN (2008) found that in 2006 only 6.4% of European BANs were for-profit networks. However, this share has risen, first, because in many cases the initial government funding has run out, and second, to the emergence of BANs with different models for revenue generation. The activities of these BANs goes further than generating deal flow, to include the process of negotiating the deal, which generates additional fees for the BAN (Mason, 2009). EBAN also found that 84% of BANs in Europe were co-funded by the public sector (EBAN, 2002, Mason, 2009) and that the majority of networks continue to be non-profit despite fluctuations in the share of private/public funded networks (EBAN, 2010). In the UK the majority of investments are made through non-profit networks (Mason and Harrison, 1997, Mason, 2009). It is widely recognized that an important task for government is to help BANs get going. Whether it is possible for government to withdraw from financing BANs at a later stage is an open question. Aernoudt et al. (2007) find that contrary to expectations almost none of the networks in Europe have become financially self-supporting.

3.3.2 Indirect effects

In terms of their *indirect* effects, BANs may act as 'hubs' in the market (Christensen, 2008, Paul and Whittam, 2010). One example of this type of indirect effect is that business angel financing is often a gateway to other types of financing - bank financing, government support programmes and other equity investments. This has been pointed out in earlier papers (Mason and Harrison, 1995, Mason and Sackett, 1996) and supported in a Danish survey (Christensen, 1998) which found that the majority of respondents see the participation of private investors as having either great or decisive importance for the willingness of other types of funders to participate. This particularly applied to banks. This evidence shows that the impact of business angel financing in general and BANs in particular may reach beyond its immediate instruments and target. Furthermore, business angels are geographically widespread, which means that their investments contribute to financing also in peripheral regions.

Another important indirect effect is that BANs may generate what in evaluation studies has recently been termed 'behavioural additionality' (Georghiou et al., 2004, OECD, 2006). Whereas the majority of evaluation studies and policy makers mainly have focused upon directly measurable effects, such as input and output additionality and substitution effects, there is now a growing recognition that policy interventions may also have a long-term impact the behaviour and strategies of actors, with this effect lasting for longer than the duration of the scheme. These arguments clearly suggest that the criteria for evaluating the effects of BANs should include more than just the number of introductions/matches and investments made.

BANs may also enable other actors in the market for entrepreneurial finance such as business services and financial institutions to become more aware of the market structure and get better equipped for acting as intermediaries. The social infrastructure that BANs provide is therefore a further important factor in the way in which they benefit the wider system. Angels use the formal networks to establish contacts and get to know other angels professionally and socially. Although this may also occur in other contexts, government initiatives provides a common ground and creates trust among the parties at the market. The trust creating effect of policy schemes have been found to be important (McCahery and Vermeulen, 2010).

Although difficult to quantify it is generally accepted that the hands-on character of the investment often provides the firm with an upgrading of competencies especially with respect to management skills in addition to the immediate value adding contribution in the actual investment. Here again this is an effect that extends beyond the pure inputs, impacting on behaviour over a longer time perspective. On the investor side there may also be learning effects. To the extent that angel networks bring investors together there are possibilities for mutual learning and syndication. Some BANs (including DBAN) even have training programmes for business angels (European Commission, 2002, Gullander and Napier, 2003, Sohl, 2007; Amparo et al, 2007). There is now an increasing focus on these functions of BANs rather than their pure matching function. EBAN (2008) noted that investment meetings and other matching activities are still clearly the most important activities of BANs but according to a survey among their members 'Training in investment readiness for SMEs' and 'Training and capacity building for investors' are now offered by 38% and 45% respec-

tively of angel networks. An often overlooked, but important function of a BAN is that they are often social meeting places. Although business angels prefer to act anonymously they also enjoy the company, of and collaboration, with other business angels. This function was strongly emphasized by angels in DBAN.

As shown in early Danish surveys (Christensen, 1998, Deloitte & Touche, 2000), the players at this market often see intervention positively. Whether the top-down establishments of BANs will be regarded positively by market participants is likely to be a function of the maturity of the market. In countries where the venture capital market is less developed and an equity culture has not been established, business angels and other actors are likely to perceive government intervention as an important and a necessary starting point. The bottom-up establishment of BANs is more likely to happen in a market where activity is already significant, although even in this setting a lack of coordinating organisation may hinder the appearance of BANs.

A societal task for a BAN is to provide information that facilitates a more efficient screening of projects looking for capital rather than simply optimizing the number of investments made. Hence, the exclusion of bad projects is an important benefit of a BAN. Even when the contact does not lead to a deal the experience and feedback received may be beneficial in the future, because many entrepreneurs will look for other financing sources if rejected by business angels, but with the opportunity to improve their business plan. From a socio-economic point of view it is important that a BAN contribute to a better allocation of resources through providing a screening function that may result in rejection of a project that does not deserve to be financed.

Several studies have established that in many countries there is a low level of awareness among entrepreneurs about the supply of equity financing (Aernoudt et al., 2007). BANs may raise awareness of this type of financing both amongst both entrepreneurs and their advisors. This is extremely important, long-term effect, but very difficult to capture with any precision in evaluations. A related point is that the improved level of information on the equity market in general and the specific solution to the search problem provided through BANs may be a pre-condition for other types of policy intervention that rely on market transparency and connectivity.

A further function of BANs is their co-ordinating function. Many BANs fulfil this task by drawing standards for legal documents, implement code of conduct standards, provide guidance on questions such as tax problems, and so on, thereby minimising aggregate transaction costs in society. A BAN may therefore be important for building up of competencies with both entrepreneurs and business angels even if not providing direct training.

Finally, from a social point of view an essential function of a BAN is that it is constantly working to improve its practices. This may be in the form of benchmarking different match-making methods (physical, virtual, Internet, events etc.), systematic learning from experience from elsewhere, and experimenting with different ways of marketing the network. An important tool for this learning process is establishing a monitoring system of appropriate indicators to measure the performance of the BAN.

Taking these points into account clearly suggests that BANs should be assessed on more than just their measurable effects. Whereas an straightforward evaluation would count the number of investments made through the network, the number of jobs created in the businesses which raised finance, and perhaps also the number of investors registered, it is equally important to take a broader perspective which also takes into account other important variables such as the number of projects that have been screened but not financed, the learning effects, the increased awareness of equity financing, and the reduced transaction costs in society. These direct and indirect effects are shown in table 1.

Table 1: Direct and indirect effects of BANs

Direct effects	Indirect effects
Jobs created	Awareness
Number of investments	Screening of projects
Amount of invested capital	Behavioural changes
Number of sub-networks	Upgrading of competences
Number of matches made	Syndication and network development
Number of angels registered	Leverage additional capital
Number of firms registered	Regional distribution of capital
	Lower transaction costs
	Increased information increases effective-

	ness of other programmes
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Criteria in the 'Direct effects' column are those usually assessed in evaluations. These indicators are obviously also those most easily measured. They are, though, far too narrow for a complete assessment of a BAN. The following story of DBAN illustrates that relying on these easily measured metrics for evaluation may have inexpedient and negative effects. Instead it illustrates that the indirect benefits are as important as a series of measures.

4. The rise and fall of DBAN

4.1 The venture capital environment

Generally, the Danish capital market has a relatively well-developed and well-functioning debt market whereas the equity market is less developed. Equity capital sources such as venture capital have been few and in short supply. Up until the beginning of the 1990s there was very little attention on business angels as a possible financing source for SMEs in Denmark. Also institutional venture capital industry in Denmark is relatively young. Most of the venture capital companies were established in 1983-85, and the industry developed rapidly in the second half of the 1980s after a take-off period. However, only a few years later the industry dramatically declined to a negligible size. In 1990, a record low for the investments by Danish venture capital firms was set, the number of venture capital companies declined from a high of 26 in the end of the 1980s to 12, of which only 4-5 were actively investing, and both new corporate investments and capital supply to the venture capital industry decreased. A large accumulated financial loss since the start of the industry additionally caused many venture capital firms to follow a cautious, risk-averse investment strategy with the majority of investments occurring in the later stages of a firm's development (Christensen, 2003a).

4.2 Idea, feasibility, design and funding

In this early 1990s-setting there was great concern about a possible 'credit crunch' and severe difficulties for many firms to finance their development. These difficulties were visible both on equity markets and loan markets. The government actively searched for alterna-

tives to the constrained capital markets and were receptive to ideas of mobilising capital sources that were rarely used. Business angels were hardly debated before but were then recognised as a potential supplement to traditional capital sources and the restricted institutional venture capital market, despite the fact that business angels were also affected by the negative investment climate. A pilot study and angel network was initiated in late 1991, which was limited in scope and budget, but nevertheless managed to collect a list of 106 business angels, primarily through regional meetings and press announcements. However, these angels were not screened and only a few investments were made. In 1992 government support was terminated and the network ceased to exist in other ways than as a list of persons who occasionally were sent investment proposals.

Christensen (1992) then pointed out that substantial amounts of capital could perhaps be mobilised if informational deficiencies at the market level could be alleviated and contact channels made available. This statement was repeated in 1998 (Christensen, 1998), this time with new empirical evidence supporting the claim and a thorough discussion on possible policy measures and different design options of a BAN. Following this proposal a feasibility study was commissioned and done by Deloitte & Touche (2000) on behalf of the Ministry of Industry. It was concluded in this study that substantial resources, financial and competences, could be mobilised through business angels but that there is a lack of information channels. Potential users viewed establishment of a BAN positively, and it was found that such a BAN could not be established without the intervention of government. Subsequently, in 2000, the government fund, The Danish Growth Fund, was supported financially with EURO 700.000 for a 2-year period to establish Danish Business Angel Network (DBAN). The Danish Growth Fund contributed with office facilities to host the two person staff and secretariat.

4.3 Establishment

Since its establishment DBAN was able to mobilise 200 business angels; some (one third) of these were also members of 5 regional business angel networks. 70 of these business angels were relatively active and committed themselves to invest. Even more regional and sectoral oriented BANs were set up or planned. These included a BioBan focused upon biotechnology, creative industries BAN, Agro BAN, a succession BAN, a London-residents

BAN, and an IT BAN. Only the BioBan really got going. The expansion of regional BANs ended as plans only.

Angels in the network were screened and they signed an agreement on good code of conduct. Many financial resources – more than 200.000 Euro - were put into establishing an electronic, web-based matchmaking site and judicial tools such as standard contracts were developed. Investments were made by angels registered with the BAN, although on a low level, and matchmaking events were held. Two major national conferences and several seminars were arranged contributing substantially to raising awareness about business angels as a financing option, and also showing business angels the benefits of a central, coordinating entity. 150 articles were published in newspapers and road shows to key actors took place regularly. It is beyond doubt that the general awareness of business angels in Denmark was much higher as a result of these activities. This goes for the awareness among business angels that they are not alone and that a possibility exists to increase competences, use standardised contracts and other centralised facilities, including defending interests in the political system. Likewise the awareness among entrepreneurs about business angel financing as an option certainly increased. This in turn may alleviate some of the informational asymmetries and –deficiencies in the market.

4.4 Growth and getting embedded in the financial community

Parallel to the establishment and operation of DBAN the debate on potential of business angel financing was intense in the business press. This was to a large extent spurred by DBAN in corporation with selected business angels who told their stories in the press. The institutional venture capital literally boomed in Denmark in the late 1990s even in the beginning of the 20th century in spite of the burst of the dot com bubble (Christensen, 2003a). Growth rates were the highest in Europe, according to EVCA.

The ground was now cleared for a take-off of the activities of business angels in Denmark. The DBAN had established itself as a node for business angels with regional branches initiated and supported by DBAN. The Advisory Board was renewed to include business angels only, and a handful of key angels were very active in promoting the networks and in helping out the management of DBAN to navigate in the financial community, present the initiative

and establish contacts. A competence building day was also initiated. The co-location with The Danish Growth Fund should ideally have resulted in synergies and also signal that the business angels market is an important part of the total venture market. The DBAN was exposed in the magazines and other material from The Danish Growth Fund. However, the full benefits of this co-location were never reaped and generally only very few investments were made through the network.

4.5 Evaluation, financing, re-organisation and decline

The establishment of DBAN took up substantial financial resources. The costs of the feasibility study came close to 100.000 Euro, the grant for working expenses in 2000-2001 270.000 Euro and for 2002 400.000. In the 2003-2005 period a grant was given from the Ministry of Science of 550.000 Euro. In total the investments amounted to approximately Euro 1.320.000. Over the years there was an on-going discussion on the funding from government. The Ministry was reluctant to support the DBAN activities on a long term basis because they feared being caught in a situation of permanent subsidy. This policy stems from a general policy principle of “pump-priming”, that is government priming the grounds for market forces to evaluate if initiatives are to be sustained (see details on Danish innovation policies in Christensen, 2003b).

Also, there seemed to be a lack of knowledge within the government with respect to how BANs work and what realistically could be expected in a short-term period. The status reports and other communications were focused upon easily measurable parameters like the number of investments made, number of introductions, and number of networks created. Indirect effects as noted above including the awareness raising and behavioural changes, which are long-term efforts, were heavily underestimated. Moreover, the expectations of what could be achieved were highly optimistic, not only by the government also by the DBAN management. Government was reluctant to see supporting the DBAN as an investment in the SME infrastructure and financial support was on more than one occasion close to being terminated. For example, by the end of November 2002 there was no acceptance of the grant for financing activities from January 1st. The staff did not know if they were without a job one month ahead. The DBAN staff, DBAN Advisory Board, and selected, active angels argued that BANs need time to take off, and that many of the benefits are not ‘hard’ facts, rather community building, awareness raising, mobilising angels etc. EBAN

(1998) estimates that a for-profit BAN may be able to break-even after 8 years. Until then government co-financing is necessary⁸.

In spring 2004 it was decided to re-organise the network. It then became a part of the Danish Venture Capital Association (DVCA), who in return received the remainder of the ministry grant for DBAN of 200.000 Euro in 2004 and 110.000 in 2005. The official reason for including DBAN in DVCA was to facilitate synergy between business angels and institutional venture capital. In reality, the angels were not very eager to join the DVCA umbrella. One explanation was that during the IT-investment period the institutional venture capitalists negotiated deals on warrants that left business angels with small ownership stakes, and this disagreement, among other things, contributed to a divide between angels and institutional venture capital.

The BAN activities under the auspices of DVCA from 2005 until the present day have been limited. On the DVCA web page there are links to web pages of 3 of the regional networks that still have some activity. The other regional networks and sector specific networks are no longer active. There are no real community-building activities or even any of the other typical BAN activities. In practise, the DBAN has ceased to exist with the withdrawal of government involvement. A few regional networks do continue today and include some of the activities that were initiated during the DBAN period⁹, but the coordinating, national function is no longer there and the focus of the BANs have moved towards later stage, less risky investments. DBAN was closed down before the potential had a chance to unfold. It was investigated if there was any chance to continue DBAN on a private, for-profit basis. However, after one month of making and testing a business plan for such a continuation of the network it was concluded that it had no chance.

Mason and Harrison (1993) mention three pre-conditions for the successful establishment and growth of a BAN: high visibility and credibility through on-going marketing is needed to build a critical mass of investors and investment opportunities; it must be well resourced, and a hands-on and pro-active approach is needed. Most of these preconditions were met

⁸ European Commission, 2002 support this opinion by stating that “in particular in the awareness raising stage a public support element is mostly necessary, especially because this is a general requirement for the angel market to take off.”(p.30).

⁹ The few regional BANs still in operation are in regions where there was some business angel networking also prior to the establishment of DBAN.

in the DBAN. Nevertheless, when looking back, not evaluating formally, it is fair to conclude that the initiative has not been a success if judged by the usual evaluation metrics, e.g. in terms of the number of investments made with the help of DBAN. Neither has the web-based match-making been able to facilitate much information dissemination compared to the resources spent. On the other hand, a comprehensive evaluation has to take into account a broader set of criteria as shown in section 3. Evaluating in this manner would change the negative perception. There was no understanding of this, even if it was persistently pointed out what are the broader effects of BAN. Also it was argued in the Advisory Board of DBAN from the very first meeting that future discussions (fights) on funding could be foreseen and therefore it would be wise to set up a systematic registration of activities and effects.

Summarizing, using the above-mentioned Lange-typology, the DBAN may be characterised as a public, not for profit network focused primarily upon early stage investments. It had a passive support and screening and tried to have a regional reach, although some functions were national. The primary focus was upon introduction services but attempts to broaden activities to e.g. training were done. The Sohl-recommendations on the structure of the network listed at the end of section 2 were not really totally violated in how the DBAN was set up. However, although these recommendations do not go very far in detail it is fair to say that DBAN failed to balance some of these dimensions in the business model. One example is that DBAN tried to do many, perhaps too many things. DBAN put a lot of effort into some formal structures such as the electronic meeting place, whereas the angels wanted the informal structures and saw DBAN as a social meeting place that served an important function in aligning angels and creating opportunities for syndications and exchange of experiences. The importance of this aspect was not neglected but under-estimated both by DBAN management and the government and back-funders¹⁰.

5. Business angel networks in Wales - a comparison

The economic environment in Wales is characterised by a number of industries such as coal and steel that were pressured and transformed by global competition. Wales performed worse than the rest of the UK on many performance indicators, both aggregate indi-

¹⁰ In fact, it has also attracted relatively little attention in the business angel literature.

cators like unemployment and income and business related indicators such as the number of start-ups and 'gazelles' (Mariott and Davies, 2006, Action Plan Wales). The Global Entrepreneurship Monitoring surveys for example those of 2002-2006, found that informal investment activity in Wales was a little below the UK average with 1.2-1.4% of the adult population claiming to be involved in such activity compared to a UK average of 1.5%¹¹. A feasibility study from Cardiff University in 1996 nevertheless concluded that there was a rationale for a BAN in Wales, and that the number of angels that could be the target for a BAN would be 150-200 making around 15-20 deals a year (ibid.). Following this study Xénos was established in 1997 as a national BAN underwritten by the Welsh government. It is organised with a central office and manager and four regional managers. Xénos is organised with regional branches because of the geography of Wales.

The development of the venture capital market in Wales has proceeded largely as elsewhere in Europe. In Wales there used to be a tendency for smaller deals, but that seems to have changed. The market has followed the general cycle, and the trend towards larger deals in larger, more mature companies. The development of the business angel market in Wales did not follow similar trends to the formal venture capital market. In particular the trend towards increasingly focusing upon later stage investments is not that clear. Instead there is a trend towards more MBO/MBI also in angel investments. Another trend is the growing succession market, which angels find attractive, and which Xénos help find buyers (=angels) for. Finally, there is an increased tendency to syndicate.

Because Wales is a rather compact society where networks are strong, and the 'who you know' factor important and widely used, there are strong links between different actors such as Finance Wales, Xénos, banks, other public sector organisations, and government grants. This positively impacted the growth and short time before Xénos was established at the market and could operate fully functionally. Xénos was integrated and recognised quickly, partly because of the people involved in the network from the start were already involved in the investment community.

¹¹ Most of the numbers and descriptions in this section is kept comparable with the period of the DBAN story.

Since the establishment of the network in 1997 a total of 288 angels have registered with the network. The number of angels by end-december 2007 was 120. Xénos has facilitated over 120 deals, mobilising more than 20 £million in over 150 businesses. Angels are recruited through referrals, and a snow-ball effect through the already registered investors. The general awareness of angels/BAN is helping recruitment. In addition, the central and regional managers keep track of persons who sold their business profitable. Typically, after 6 months the former business owner tend to get tired of golf and travel but are not totally ready to become independent angels. The network is instrumental in helping such people organise their interests in getting involved with businesses again.

A register is kept with angels' investment preferences and resources. There is no success fee but implementing one has been discussed. It costs £ 300.000 annually to run the network, most of it salaries. Investment bulletins and presentation days are used, but the primary match is done manually because the managers in the Xénos have good knowledge of the angels and businesses; they have a sense of who would be interested.

The performance measures used are the number of deals, the amounts of money mediated, jobs (although this is difficult to measure and it is only registered as an effect from the initial investment, the subsequent growth is not captured in the registrations). However, the evaluation criteria are not confined to these parameters, also soft factors such as the number of opportunities presented, company presentations and other networking activities counts.

Mariott and Davies (2006) conclude in their study of the network that Xénos has been successful in mediating supply and demand for business angel capital, and has been important in meeting the points of criticism often raised against BANs. Important in this has been the fact that the people running it had an understanding for and practical background from private sector business.

6. Conclusions

The tale of DBAN shows that the network in practise closed down in spite of relatively large financial investments in the establishment and initial operation of the BAN. This can be attributed in part to some internal decisions and how the network was operated, such as the

decision on huge investments in the electronic match-making portal, which in practise did not pay back these investments, but by far most important factors were external. First, the state of the general market did leave the venture capital market somewhat hesitant and had an impact on both the extent of mobilising angels and how the angels and the BAN could be positioned in the capital market. Specifically, the IT-bubble collapse in 2000 resulted in substantial losses for many business angels who then left the market and relationships with the formal venture capital market were severely hit. Secondly, there was a pressure from funding partners to show results within an unrealistic short time horizon, results that were measured by very narrow criteria. The understanding of the broader societal function of a BAN was not present let alone the willingness to see the BAN as a part of the business support infrastructure, rather than one in a range of other policy schemes.

Consequently, applying traditional, narrow criteria for evaluation of business angel networks is inexpedient and may render only a partial picture. The story of the rise and fall of DBAN shows that the initiative was squeezed in between political pressures, impatience and lack of understanding of the broader benefits of an angel network and therefore was left to die. Unfortunate timing in terms of capital market issues did not help. A different story is revealed in Wales where persistence, patience and integration in the investment community are keywords. For governments the lesson is that flexibility and patience is absolutely necessary as the full establishment of a BAN is a year long process. Moreover, the general economic conditions are influencing the operation of BANs, and governments must understand this.

When reviewing government initiatives to stimulate venture capital markets Lerner (2010) points out that generally public efforts to support the venture capital markets have long lead times and that one of the most common reasons for such initiatives to fail is impatience, failure to see the broader context and relying on too narrow evaluation indicators. The lessons from the DBAN case very much comply with the implications following this as impatience; failure to install a broader evaluation and flexibility were all decisive factors in why it eventually failed.

This paper contributed with a broader view on what criteria to apply when evaluating such networks. This discussion may be extended to other areas than BANs and indeed to other areas than the capital markets. For example, evaluations of the extensive support to en-

hance collaboration between firms applied across Europe for two decades may measure effects on economic or innovative performance and to some extent transfer of knowledge. But they may underestimate indirect, hard to measure effects such as transfer of tacit knowledge, reputation effects, long-term benefits from networking and the training effects in increased abilities to select and manage collaboration projects. Awareness among governments on these positive side-effects is important to a comprehensive assessment of policy initiatives and generally to policy learning. It was further discussed that the time perspectives of policies for strengthening BANs are important, and that networks go through development phases that should be taken into account when designing the support.

A complicating factor in this connection is that evaluations are most often done by governments and at a given point in time. However, evaluation of BAN may be pursued from different perspectives that are more dynamic. Thus, the costs and benefits of a BAN are evaluated by the business angels upon deciding to get connected to the BAN just as entrepreneurs seeking finance may do such an evaluation. Criteria for this assessment will be vastly different from those applied by governments as they for entrepreneurs are likely to be much more related to the micro-level, business benefits of entering the BAN. Although this may also be the case for business angels we did see in this case that some angels entered for other purposes, both because they wanted to contribute to the build up of the business angel community and –culture and because they saw the BAN as a professional and social infrastructure for business angels. Indeed also BAN managers are interested in evaluating BANs but may also apply different criteria than those of governments. Whereas governments are likely to emphasize to a larger extent the effectiveness of BANs those managing BANs are relatively more interested in the efficiency of the BAN.

For the *management of BAN* one implication is that it may be fruitful to systematically register any activity that may contribute also to the indirect effects of their activities in addition to the traditional, direct effects such as jobs created, number of entrepreneurs and business angels registered, and number of investments made. For policy *evaluation researchers* the need to take into account these indirect effects, including behavioural additionality, is obvious.

Adding a dynamic dimension to these different perspectives naturally complicates matters further. For example, an increased awareness about opportunities for business angel fi-

nancing as a result of marketing from a BAN is likely to increase the deal flow for business angels even outside the BAN. In turn this means that business angels have less need for BAN, which limits the incentives for government to support the BAN. These complications should, though, not prevent the instalment of thorough, well-thought evaluations. Ideally criteria for evaluating BAN should change over time along increased specialisation and development of the venture capital market. In the DBAN case traditional metrics were upheld in the whole period. Not only is there a need for more nuanced evaluations and evaluation criteria, also openness to adjusting these in accordance with the market development is necessary.

Future research may explore and be more specific in how such indirect effects may be measured.

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