ABSTRACT. Despite its undoubted importance to the financing of entrepreneurial ventures, there are few reliable measures of the size of the informal venture capital market. This paper reviews three methods used to generate such estimates – market-based approaches, firm-based approaches and the capture-recapture approach – and develops an alternative approach that is based on scaling up from the visible segment of this market represented by business angel networks. This methodology is applied to provide the first formal estimate of the size of the informal venture capital market in the United Kingdom. Informal venture capital investment is shown to broadly equate to the amount of institutional venture capital provided to start-up and early stage ventures. Reflecting the smaller average size of investments in the informal venture capital market, however, eight times as many businesses raise finance from business angels than from institutional venture capital funds.

1. Introduction

Private individuals who make investments directly in unlisted companies in which they have no family connection – so-called “business angels” – are recognised as occupying a vital position in the spectrum of entrepreneurial company finance options (ACOST, 1990; Mason and Harrison, 2000; Harrison and Mason, 1999; Roberts, 1991; Sohl, 1999). Business angels fill the financing gap between founder, family and friends (the 3 “F”s), finance that is likely to be exhausted in getting beyond the prototype or proof-of-concept stage, and the stage at which institutional venture capital funds might become interested. Because of their high transaction costs, venture capital funds typically have a high minimum investment size, a minimum efficient overall fund size and a correspondingly restricted number of portfolio companies which can be evaluated, invested in and monitored (Gifford, 1997; Murray and Marriott, 1998). In the U.K. there are very few funds that are willing to invest less than £500,000, and the average investment by a venture capital fund in an early stage business is over £1 million (BVCA, 2000). In the U.S.A. the average size of venture capital investments (excluding leveraged buyouts) has continued to rise throughout the 1990s, to $1.4m per deal in 1998 (Sohl, 1999), a trend which had earlier been identified and described as the removal of “venture” from venture capital (Bygrave and Timmons, 1992). This is, in part, a reflection of the increasing financing requirements of the current generation of technology start-ups. However, it is also a consequence of the increased amount of money being invested in the venture capital industry by financial institutions which has had the effect of raising the average size of investment: “the math is pretty simple. It becomes obvious that you can’t keep adding companies to your portfolio” (Gannon, 1999, p. 39).

Business angels, in contrast, invest relatively small amounts per deal – typically less than £100,000 in the U.K. and $250,000 in the U.S.A., although deal sizes are larger where angel syndicates are involved – and they generally invest at
the start-up and early stages of business development (Harrison and Mason, 1992a; Freear et al., 1995). Moreover, business angels invest more than just cash: they generally invest with a view to becoming actively involved in the businesses in which they invest. Most are successful entrepreneurs and so are able to contribute know-how, experience, contacts and skills as well as play a mentoring role (Harrison and Mason, 1992b; Ehrlich et al., 1994; Lumme et al., 1998). Based on these differences, a number of commentators have suggested that the informal venture capital – or business angel – market and the institutional venture capital market are complementary in terms of providing sequential investment in different financing rounds, information flow and even co-investment (where the involvement of the business angel can alter the economics of the small scale investment for the venture capital fund) (Freear and Sohl, 1990; Freear et al., 1994; Sohl, 1999; Harrison and Mason, 2000).

Despite the importance of the informal venture capital market there is very little evidence on its size. This is because business angels are a largely invisible population. They prize their privacy and anonymity (Wetzel, 1981; Benjamin and Margulis, 1996). The same considerations are likely to make them reluctant to respond to surveys (Haar et al., 1988). There are no directories of business angels and no public records of their transactions (Wetzel, 1981). In this paper, therefore, we critically review a number of approaches that have been taken to estimate the size of the informal venture capital market and then develop an alternative methodology in order to provide the first estimate of the size of the informal venture capital market in the U.K.

2. Approaches to estimating the size of the informal venture capital market

Previous attempts to estimate the size of the informal venture capital market, and to compare this with the scale of the formal, or institutional, venture capital market, have followed one of three approaches: market-based approaches, firm-based approaches, and a capture-recapture approach. Each of these approaches has a number of deficiencies.

Market-based approaches

The first attempt to estimate the size of the informal venture capital market was by Wetzel (1986a, b). In an exercise which he described as “playing with numbers” he estimated that the US informal venture capital market in the early 1980s comprised 100,000 business angels who invested around $5 billion in 25,000 businesses. This estimate is derived from a consideration of both the demand and supply sides in the market.

Approached from the demand side, Wetzel noted that the number of business start-ups each year exceeds 500,000. He assumes, following Birch (1979), that 95% are too small and have too limited growth prospects to require outside equity financing, leaving 25,000 start-ups annually that do require outside financing. If these start-ups each raise an average of $200,000, the aggregate equity funding of these ventures amounts to $5 billion annually. However, as only around 1,000 of these firms attract finance from venture capital firms it must be assumed that the remainder attract funding from business angels. This estimate of the size of the informal venture capital market is corroborated by a supply side analysis. Wetzel noted that 40% of the Forbes 400 Richest People in America are self-made (the typical background of active business angel investors). If this proportion applies to the population with a net worth in excess of $1 million then this gives a total of 200,000 potential business angels. If half invest in any year, and the average amount invested is $50,000, then this gives 100,000 business angels who invest $5 billion. If it is further assumed that a typical deal comprises four investors to reflect the high degree of syndication in the U.S. informal venture capital market (Gaston, 1989a) then this suggests that 25,000 businesses raise angel finance. In a later paper Wetzel (1987) suggested that business angels finance between 20,000 and 50,000 firms each year for an aggregate dollar investment of between $5 billion and $10 billion. Wetzel subsequently revised his estimate to reflect the growth of the informal venture capital market in the U.S. In the early 1990s he suggested that there were 250,000 angels in the U.S. who invested $10–$20 billion a year in over 30,000 ventures (Wetzel, 1994).