The "Virtuous Circle" of Informal Investment Activity: Evidence from the UK

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Abstract

This paper seeks to quantify the frequency, scale and demographic characteristics of informal investor activity in the UK over a three year period 1999-2001 using population survey data. 1.1 million informal investors invest £12.8 billion per annum. The 'typical' informal investor would appear to be a well educated, middle-aged male from a higher social class with direct experience of starting-up a business. The importance of multiple forms of entrepreneurial experience suggests the existence of a 'virtuous circle'. Successful entrepreneurs metamorphose into informal investors and become an important source of both finance and relevant experience to other, as yet, un-established entrepreneurs.

Keywords: informal investors, business angels, start-up finance, entrepreneurship support

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Executive Summary

The post-2000 downturn in market confidence has resulted in a marked reduction in the supply of venture capital, especially to new and unproven businesses. Accordingly, alternative sources of risk capital for start-up and young businesses have become of increasing importance (Sohl, 2002). Policy makers express concern that innovative, young firms with high economic potential are facing a serious reduction in the supply of external capital necessary to support their establishment and growth (Bank of England, 2001; HM Treasury & Small Business Service, 2003). Finance to such firms is constrained even in circumstances where recipients would be prepared to pay the full risk-adjusted price. In such circumstances of market failure, the so-called 'equity gap' (Macmillan, 1931), the encouragement of alternative providers of small amounts of risk capital becomes of particular importance.

Our study confirms that informal investors exist in relatively large numbers throughout the UK adult population. 1.1 million informal investors provide £12.8 ($21) billion of investment finance annually. While concentrated among the more highly educated and the more securely employed, we see that the phenomenon is nearly ubiquitous across the UK economy. For those entrepreneurial owners of young companies having exhausted founder's resources and seeking external finance to support future growth, our findings offer some guidance in the capital search process. We have given a profile of the typical UK informal investor. Of particular interest is the finding that those persons with direct entrepreneurial experience are also the most likely group also to invest in other young firms. Owner-managers are particularly likely to become informal investors. Thus, a *'virtuous circle'* appears to exist. Successful entrepreneurs metamorphose into informal investors and, in turn, become an important source of both finance and relevant experience to other, as yet, un-established entrepreneurs. Therefore, entrepreneurs seeking external funds should place particular emphasis on finding such persons within their own or closely associated networks and social/business groupings. Our findings corroborate the relevance of government support for the formation of informal investor networks. This virtuous circle also can direct informal investors seeking appropriate new investment opportunities. Potential recipients of their funding and commercial expertise are likely to be found within sector and location specific networks which are already known to the investor.

This study is also important for those parties concerned with defining policy in the area of small firm support. Policy makers are concerned with both the supply of finance to nascent and growing businesses and the effective demand and utilization of additional resources to the nation's enterprises. Accordingly, they need to understand with confidence those critical metrics which define and elaborate the importance of informal investors to the aggregate economy. Our findings indicate that over one million adults have, over the last three years, become investors. Given the mean scale of investment at £35,000 ($58,000) it is likely that the majority of recipients are firms that have not yet had access to alternative and larger sources of finance from professional investors.

While the phenomenon is ubiquitous, the propensity to invest is not equally distributed through the adult populations. Our results would suggest that that informal investors can be profiled rather precisely. Essentially, we are looking for mid-career adult males of forty plus, who are well educated, come from socially more privileged sectors of society and, above all, have had direct experience of entrepreneurial activity through an involvement in start-up activity and especially as owner-managers of existing enterprises. We can also indicate that their distribution through the regional economy is not uniform with some regions clearly having a greater density of informal investors. While women are relatively poorly represented in this grouping, their general absence from this group is not primarily because of their gender. Thus, encouragingly, women confirming the other demographic variables noted, are nearly as likely as men to be informal investors. This significantly increases the future potential population of informal investors.

Introduction

In this paper, we use the term 'informal investor' to include all forms of non-institutionalised private investment including business angel activity. Informal investors may thus be defined as "private individuals who provide equity and other forms of non-collateral finance directly to new and growing businesses with which they have no family connections" (Mason and Harrison, 1996).

These investors include 'high net worth' individuals (often termed "business angels") who have typically earned rather than inherited their wealth (Freear, Sohl and Wetzel, 1994, 1995 and 2002; Wetzel, 1996). Their value to small and growing enterprises centers on their ability and willingness (Freear, Sohl and Wetzel, 1991) to invest relatively small sums of money at the earliest and most speculative stages of new firm formation and growth. This is a focus where established capital markets are likely to be less relevant for the entrepreneur seeking external funding (Linde and Prasad, 2000). Very often informal investor's involvement is the first commitment of external money following the often more subjectively allocated capital of 'family and friends' (Prowse, 1998). Such speculative investment is often a precursor to the high potential, young firm attracting more substantial sums of money from professional venture capitalists.

The interests of policy makers in informal investors has grown since Wetzel (1981 and 1983) first undertook sustained academic research in the USA in order to establish their existence and economic importance. The growing awareness of their ubiquity and their primary interest in young and growing businesses seeking relatively small tranches of finance has made informal investors an increasing focus of public enterprise policy both in the US and Europe (Mason, 1996). Governments' interest in informal investors has continued to grow as the overall importance of small and medium enterprises (SMEs) to the underlying strength of an economy, via their contribution to sustained employment and innovation, has become more widely appreciated (Birch, 1979; Audretsch and Acs, 1988; Rothwell, 1994; Storey, 1994; Westhead and Cowling, 1995; Westhead and Birley, 1995; Harding 2000a and 2002b). As early as 1991, the UK's Advisory Committee of Science and Technology (1991: 41) described the informal venture capital market as "a pre-requisite for a vigorous enterprise economy". Similar views have been regularly and consistently reiterated in governmental policy statements at both state and European Union level since the early 1990s (European Commission 1994, 1995, 1998, 2001)[1]. Yet, despite the continued commitment to this overall policy stance, there has been a dearth of serious academic scrutiny of the underlying logic of the promotion of informal

1 This is perfectly illustrated by HM Treasury/Small Business Service departments of the UK government releasing Bridging the Finance Gap: a consultation in improving access to growth capital for small businesses at the time of writing this paper in Spring/Summer 2003. This document cites continuing efforts by the UK government to increase the supply of informal investor finance.

investors. Lerner (1998) is an honorable exception in at least articulating and questioning the assumptions behind involving essentially amateur rather than professional investors at this challenging end of the capital market.

Despite the importance of informal investors being acknowledged in virtually every policy document that purports to address the 'problems' involved in the funding of early stage firms, our knowledge of the characteristics and behavior of these key economic agents remains incomplete and unsatisfactory. Theory is similarly underdeveloped beyond descriptive statistics and related taxonomies (Freear, Sohl and Wetzel, 2000). Poor public information on their collective numbers and activities creates problems of survey design, sample representativeness and challenges our ability to make robust statistical estimations (Farrell et al, 2003). Accordingly, the findings presented in this paper from a 2001 survey of over 5,000 adults in the UK allow us to start to make basic observations of the demography and behavior of informal investors with more statistical confidence than has been possible to date.

The rest of this paper is organized as follows; in Section III we review the literature and construct our hypotheses in Section IV. Section V discusses identification and sampling problems. We address difficulties in the popular methodologies used to estimate informal investor activity and suggest an alternative direction in Section VI. We then describe our data in Section VII and present sample statistics in Section VIII with a concurrent discussion. In Section IX we discuss our methodology and estimation approach. Section X presents the results of our econometric analysis where we identify the key characteristics that distinguish between those individuals involved or not involved in informal investment activity. We finally present our conclusions in Section XI. The paper concludes with some observations on the salience of our research findings to entrepreneurs, informal investors and government policy makers.

Literature Review

Informal investors play a key role in the financing of emergent businesses. Mason and Harrison (2001) identify three specific areas in which their activities are critical. Firstly, informal investors fill an important gap in the 'firm size-age finance continuum' (Berger and Udell, 1998). The introduction of external sources of informal investment allows young businesses a greater chance to develop to the stage and scale where they can attract and meet the rigorous commercial criteria of professional investors including formal venture capitalists. Yet, in the highly developed, UK venture capital market only 3% of total investment was invested at the start-up stage in 2001. Because of the high and relatively scale-insensitive transactions costs involved in both assessing and realizing a business opportunity, venture capital firms do not normally provide the small amounts of development capital appropriate to many growing firms (Murray, 1999; Harding 1999, 2000a). This bias towards scale exists in all venture capital industries but appears to be more prevalent in Europe than in the US (Murray, 1995; Murray and Lott, 1995). The 'classic' US venture capital industry is strongly oriented towards the discovery and promotion of exceptional young businesses (Bygrave and Timmons, 1992; Fenn et al, 1995). None the less, Freear and Wetzel (1990) observed that professional risk capital providers would not invest sums of less than £250,000 ($350,000). Contemporary scrutiny of the British Venture Capital Association's Member's *Directory 2002/3* would indicate that most venture capital firms are not interested in start-up or early-stage investments unless first round funds of the order of £3 million (>$4 million) and above can be profitably committed. Further, even those companies investing within the "equity gap" margin, accept that they continue to invest predominantly in larger "early stage" businesses in order to cover the costs of due diligence and governance on smaller projects (Harding 2000a and 2002b).

The contemporary situation facing young firms seeking sources of formal risk capital is getting worse. Despite the fact that the period to 1997-2001 saw the biggest ever annual rises in the funds raised and invested in the short history of the UK venture capital industry, the number of equity investments in the critical £500,000-1,000,000 equity gap range fell 10% over this period. In contrast, deals in the £1-5 million range grew by 35% over the same period (British Venture Capital Association annual statistics cited by HM Treasury & Small Business Service, 2003).

Secondly, there is an accumulation of evidence that the scale of informal investment activity is substantially larger than formal venture capital. Bygrave (2001), for example, using survey evidence from 29 countries, estimates that the ratio of informal to formal investments is of the order of 2:1. Given this noted dramatic increase in formal venture capital over the period to 1997-2001, this ratio suggests a substantial scale of informal activity. The materiality of informal investment is broadly supported by evidence from both US and European sources. Twenty years ago, Wetzel (1994) estimated that informal investors allocated twice the annual funds of the formal venture capital industry and, given their earlier stage focus, invested in five times as many companies. Gaston (1989) integrated three comparable US regional surveys in order to arrive at national statistics for the period 1985-87. He estimated from these secondary data that approximately three-quarters of a million (720,000) informal investors made half a million (489,600) investments to produce an annual flow of informal equity capital of $32.7 billion[2] in the USA.

Informal investors were shown to be the single largest source of finance to US small and medium enterprises. They operated at a scale significantly larger than formal US venture capitalists. European studies have broadly paralleled US findings on the importance of informal investors but at a relatively more modest scale. In the UK, Mason and Harrison, (1993) estimated the informal sector had raised £2 billion, or roughly twice the funds invested by the formal venture capital industry by the early 1990s. Thus, while the scale of differences may be debated, authors are uniform in their agreement that, in the US and the UK (i.e. the two most developed venture capital industries in the world), informal investors collectively allocate substantially more money to a greater number of young businesses than their formal venture capital industry counterparts.

The third reason why informal investment is important for younger businesses is that the investors can also make a substantial contribution to the human capital stock available to the portfolio business. Like venture capitalists, they are able to provide investees with business advice and assist processes of governance (MacMillan et al, 1989; Gorman and Sahlman, 1989; Sapienza, 1992) in addition to supplying finance

[2] At 95% confidence limits, the range of informal investment is between $19-52 billion.

for growth. This package has succinctly been termed "capital and consulting" by Warne (1988). The provenance of this advice dictates its value and relevance as risk capital investors are strongly influenced by their prior professional experience (Dimo 2002). Both social capital (Aldrich et al, 1987; Nahapiet and Ghoshal, 1998) and knowledge based assets (Kogut and Zander, 1993; Grant, 1996; DeCarolis and Deeds, 1999) contribute to the assistance that portfolio companies can receive from their professional investors (Markku, Autio and Murray, 2003). It has been identified in a number of SME 'survival' studies as the key contributory factor in determining longevity (Cressy, 1996; Cowling and Hayward, 2000; Taylor, 1999; Bosma et al, 2002), and similarly in SME 'growth' studies (Westhead and Cowling, 1995; Cowling, 2002a; 2002b). These positive effects occur as early stage, venture capital investors typically pursue a "hands on" modus operandi with the inexperienced and often untested new management teams of their portfolio companies.

Professional investors with a track record of several previous investments in similarly young and immature businesses can frequently provide valuable practical experience specifically relevant to development stage and the industry sectors of their portfolio companies. By adding their skills and expertise, including network contacts to other key strategic players (Birley, 1985), they give investee businesses access to strategically valuable knowledge. The visibility of these network links to successful investors is a 'signaling effect' (Stigler, 1961; Fiet, 1996; Prasad et al, 2000) which confers on the young firm a market credibility they would not otherwise possess at their stage of development (Harrison and Mason, 1992; Mason and Harrison, 1996; Lumme, Mason and Suomi, 1998). Thus, the true economic contribution of informal investors to their portfolio companies is the sum of their financial investment, their addition to the stock of operational knowledge (human capital) within the portfolio business and their certification or market signaling effect (Timmons, 1994; Wetzel, 1994). Each of these separate forms of resource is valuable to ambitious young businesses seeking to grow rapidly.

As the formal venture capital industry has expanded and venture capital firms have dramatically increased their funds under management, professional investor teams have been less prepared to invest scarce executive time (Gifford, 1997) on making and overseeing small investments (Bygrave and Timmons, 1992; Murray and

Marriott, 1998). Sources of seed capital focused on the financing new enterprise ideas at the pre-commercial stage have remained particularly scarce (Murray, 1998; Bank of England, 2001; Harding 2000a, 2002a). The shortfall in supply of finance in this investment category can be convincingly explained by the relatively poor, returns to early stage funds. Burgel (2000) in an analysis of individual UK fund performance from 1980 to 1995, shows the 'pooled IRRs' of early stage funds to be less than half the returns of Management Buy-Outs and two-thirds the returns of the All Funds category. The unattractiveness of early-stage investments to professional equity investors is compounded by the small amounts of capital that such stages consume and the commonly protracted periods from an investment to an attractive exit[3]. With high operating costs, limited returns and an inability to invest substantial funds, the disinterest of many venture capitalists can only be viewed as highly rational. This dearth of sources of early-stage, risk capital has been particularly problematic for policy initiatives designed to create a conducive environment for the formation and financing of high potential, new technology based firms (Roberts, 1991; Moore, 1994; Storey and Westhead, 1995; Murray and Lott, 1995). Accordingly, many governments' policymakers believe that this is an area of market inefficiency or capital rationing in which they have little choice but to become involved (Harding 1999, 2000b).

It is not surprising that the complementary involvement of informal investors prior to professional[4] equity financing (Prowse, 1998) has been seen by policy makers as a practicable and efficient means of resolving equity gap issues (Lerner, 1998) given the formal venture capital industry's widespread indifference to early stage investing. That informal investors concentrate at the smaller and earlier end of the market, are widely distributed in the economic community, and appear to be prepared to accept more modest returns than venture capital firms, makes them even more attractive as an instrument of policy.

Private and usually local networks of informal investors have been known to exist for some considerable time. Wetzel (1987) cites early work by Rubinstein (1958) and

[3] Interestingly, Burgel did not find that early-stage technology funds were more risky than later stage (MBO) funds if measured by the variance of terminal fund IRRs. MBO funds demonstrated a range of 72 percentage points compared to a range of 24 percentage points for technology venture funds.
[4] Professional investors may be defined as those venture capital firms raising and investing funds primarily from institutional sources, e.g. pension funds and insurance companies.

Hoffman (1972) on the existence and activities of informal investor networks in the US. Growing public intervention in this arena has been both a recognition of the potential importance of such sources of early-stage risk capital and a statement of policy ambitions to 'scale up' the level of such activities from a largely parochial focus to a national level of coverage. Accordingly, a number of local, regional and international initiatives to set up 'business angel networks' have attracted significant public funds (Steier and Greenwood, 2000; Harding 2002b). These networks are seen to have a major role in addressing endemic information asymmetries (Akerlof, 1970) and providing a means by which private investors could learn appropriate investment practices via association with more experienced investors. As a result, business angel networks have the goal of not only increasing investment *per* se but also increasing the stock of active and informed informal investors. For example, the UK government-supported "National Business Angel Network" (NBAN) seeks to increase the supply of and demand for informal investment via the co-ordination of both local and regional investor networks in addition to providing seminars and other training events. The US "Venture Capital Network" supported by the SBA has espoused a similar policy logic.

Hypothesis Development

The above review allows us to focus on a number of key issues purportedly characterizing informal investors' behavior, and to generate appropriate hypotheses for empirical testing.

Human Capital

The literature has stressed the importance of human capital endowments of the informal investor in determining the future success of the ventures selected for financing. Given that the investor also gives advice and counsel in addition to finance ("capital and consulting") the quality of the investor has a direct influence on the firm well beyond the time of the initial decision to invest. We would expect that a range of both formally and informally acquired skills and experience will be positively associated with investment activity.

> H1a: The propensity to make informal investments will increase with an individual's level of formal human capital (i.e. education)

H1b: The propensity to make informal investments will increase with an individual's level of informal human capital (i.e. age, experience)

H1c: The propensity to make informal investments will increase with an individual's level of entrepreneurial human capital (i.e. direct experience with the process of starting-up a new business)

Gender Effects

If specific forms of human capital provide an important explanation of the incidence of informal investment activity, then we might expect that the heterogeneous distribution of human capital within the adult population will also have an influence on who is, or is not, prepared to act as an informal investor. If having relevant management experience and/or direct entrepreneurial involvement are important pre-conditions for the propensity to invest, we would expect that a gender effect will be present given that males are more likely to have both senior management and entrepreneurial experience.

H2: Adult males have a higher propensity to make informal investments than adult females because of their greater likelihood of having had relevant managerial and entrepreneurial experience

Regional Effects

There is not likely to be an equal distribution of the stock of relevant forms of human capital across a nation. The clustering of economic activity into more advantaged regions with better developed institutional frameworks as well as countervailing public sector interventions at the regional level will influence both the distribution of existing stocks and the creation of new stocks of relevant investor skills and experience. These disparities will also effect the demand for finance from entrepreneurial businesses. Thus, we are likely to see these factors generating in aggregate a strong spatial influence on informal investment activity even after correcting for population densities.

H3: The propensity to make informal investments will differ between regions given spatial differences in economic activity

The three sets of hypotheses were formally tested using the combined results of the three annual sets of data provided by the GEM UK team.

Identification and Sampling Problems

On the demand-side, evidence reported in Cowling (2002), from a recent survey of 1,200 UK SMEs, shows that 6.7% of businesses had been in receipt of external equity investments. The great majority of these investments would have been made by non-professional 'micro-investors' who would not necessarily class themselves as "business angels" as defined by Freear, Sohl and Wetzel (1994) or Van Osnabrugge and Robinson (2000). To date, it has been notoriously difficult to quantify just how many informal investors there are in an economy because of the private and unrecorded nature of the transactions they undertake (Benjamin and Margulis, 1996). Wetzel (1987:299) described the US market as "virtually invisible and often misunderstood" while Prowse (1998:785) similarly observed that the US market "operates in almost total obscurity". These views have been confirmed by several contemporary authors notably Mason and Harrison. Because there is no universal legal onus on small and privately held enterprises to report their financing activities nor an obligation on informal investors to register their activities with a public authority, a complete record of this activity does not exist. Further, many informal investors actively seek anonymity (Wetzel, 1981). They are extremely wary of making public their activities because of their reported concerns of being inundated with unsolicited requests for financial support (Haar et al, 1988).

The result of this dearth of reliable information has meant that academic papers have had to heavily qualify the generalizability of their findings given the wide-spread use of 'convenience' samples including investor mailing lists, business angel network members' registers and personal reference (i.e. the 'snowball' sampling technique). An inevitable result of the inability to have a quantifiable confidence in the representativeness of small and idiosyncratic samples, is that there has been a wide variance in the estimates of the total size of funds invested by informal investors, the

average size of individual investments, the geographic scale of investor activity, and investor demographics and behavior. Farrell et al (2003) describe in detail the biases and errors stemming from convenience samples. They further observe that errors are further compounded by multiple definitions of the informal investment phenomenon. For example, looking at the UK market for informal investors in the early 1990s, Stevenson and Coveney (1996) managed to disagree markedly with Mason and Harrison's 1993 findings regarding a wide range of informal investor metrics. Median investment size was estimated at £10,000 by Mason and Harrison and £40,000 by Stevenson and Coveney. Similarly, the locus of activity of sampled investors was estimated at within radii of 100 miles and 200 miles by the two sets of authors, respectively. Both studies were based on convenience samples albeit the Stephenson and Coveney study exclusively used data from one UK based and commercial, business introduction service. Mason and Harrison (1997) plausibly explained the significant disparity and consequences of two studies' respective population estimates by giving a detailed analysis of the underlying data sources and the grave limitations of the sampling procedures necessarily employed.

In their response to Stevenson and Coveney, Mason and Harrison (1997) argued that "the informal venture capital market comprises an invisible population whose size and characteristics are unknown and unknowable." They further conclude that, as a consequence, separate studies will be unrepresentative and not fully comparable. Their strong statements suggest *in extremis* that the study of informal investors cannot be the subject of scientific enquiry. Given an "unknowable" population, an inevitable consequence is that individual study results can neither be tested (i.e. falsified) nor replicated with confidence. We argue that this pessimistic conclusion is only accurate when a convenience sample methodology is employed rather than the use of random sampling procedures from an identified population.

An Alternative Methodological Perspective

Despite problems of rigorous quantification, very few researchers would deny that informal investors are a major source of capital to young and primarily small firms. The body of evidence on their activities and their consequent importance as a source of enterprise finance is just too large and compelling. However, we agree with many of the authors cited that a critical weakness of a majority of previous studies is that

they have sought to identify samples of informal investors through a reliance on the convenience sampling techniques already described. They have then used the largely descriptive, univariate metrics generated from these data to come to broad and tentative conclusions on the characteristics of the underlying population of these investors. But, given that the sampling methods only identify active or potential investors (the later frequently being termed 'virgin' or 'latent' investors depending on their previous investment histories) no such generalizable conclusions can be made as to the incidence and importance of informal investors within a population which must necessarily embrace both investors *and* non-investors. Farrell et al (2003:2) acknowledge that this unsatisfactory situation has to be accepted at the onset of a new research area. "When fields of knowledge are young and uniformed, poorer-quality samples are sufficient for exploratory analysis hypotheses for future testing". However, they go on to observe sensibly that when important decisions of public policy have to be taken, such decisions necessarily require a much more robust empirical foundation. Given the present importance being accorded to the encouragement and promotion of business angel financing by government policy makers in several countries, the need for more sophisticated and quantitatively credible estimation techniques is now indisputable.

It is the explicit intention of this paper to bring new evidence to bear on this issue by building on the important contribution of Bygrave (2001) who made estimates on the scale of informal investment activity across twenty-nine countries. Using the Global Entrepreneurship Monitor (GEM) results, a multi-country comparative study of entrepreneurial activity (see Reynolds et al, 2001), he looked at informal investment *behaviors* rather than positively-captured, business angel activity. By so doing, Bygrave was able to estimate the size of total informal investment activity. This approach contrasts with a more narrow definition of business angels as 'high net worth individuals investing in fast growing firms' as employed by Freear et al (1994) and van Osnabrugge and Robinson (2000). Bygrave's study is important because it indicated the scale and ubiquity of the informal investor phenomenon. It also allowed perhaps a more realistic appreciation of modal activity. Bygrave showed that majority of informal investment activity is modest in scale, parochial in focus and frequently appears conditional on an existing familiarity between investor and investee. Accordingly , we need to be able to segment more accurately the different types of

investment activity and behavior of individuals acting in isolation or in networks. While many of the small companies receiving such investment may never grow substantially, they nevertheless contribute to productivity, innovation and employment. Therefore, they should not be excluded from any analysis seeking to measure entrepreneurial activity (Harding 2002c).

In order to contribute to the ongoing research effort to more rigorously define informal investment activity, our paper has three main objectives. Firstly, we seek to quantify just how many active informal investors there are in the UK adult population (with 'adults' defined as men and women of sixteen years of age and upwards). Second, we estimate the scale of the investments they make over a defined period of three years. Third, we address the question of who they are in terms of an array of personal, social and labor market demographics. These data are used to start to draw a 'profile' of the contemporary informal investor in the UK. It is hoped that this information and analysis can contribute to the findings of several country studies by other GEM members.

To answer these questions, we use data from a UK adult population survey conducted in 2001 as part of the GEM program. The planned annual repetition of this survey is important. In both the informal venture capital market (Freear, Sohl and Wetzel, 1994) and the private equity market (Brophy, 1997), the application and development of finance theory in the key area of Entrepreneurship has long been constrained by the absence of large-scale and longitudinal data sets (Mason and Harrison, 2001; Farrell, 2003).

Data

The data to be examined are derived from a UK[5] adult population survey carried out in July 2001 as part of the GEM program. The sample contains telephone interview records from a total of 5,026 adults. The initial sampling frame is weighted to take into account age and gender distributions in the adult population. An allowance is also made to ensure representative regional coverage. For the main questionnaire, information is collected on personal and labor market demographics. However, for

[5] Although termed a *UK* survey by GEM, the data in 2001 do not contain any reference to Northern Ireland's informal investor activity. Thus, this element of the survey should more accurately be termed British. However, in order not to confuse an international readership, the term 'UK' is used throughout.

those respondents specifically identified as being involved in any form of entrepreneurial activity, a further set of questions is asked relating to their business activities. For representatives from the majority of the UK adult population who are not involved in any form of entrepreneurial activity, they were only asked to complete the first part of the questionnaire. The actual survey question that we use to identify informal investors is:

"*Have you, in the past three years, personally provided funds for a new business started by someone else – this would not include buying publicly traded shares or mutual funds?*"

Thus, our survey question potentially includes an array of loan arrangements (debt) as well as equity based finance (informal venture capital). However, it could argue that any form of investment in a new business start is effectively risk capital given the significant prospect of loss[6]. None the less, in the event of business closure or default, the legal and commercial implications of providing debt or equity are quite different. Similarly, the asymmetric distribution of rewards between debt and equity in the event of a commercially successful project reflects the higher risk assumed by providers of equity. However, Mason and Harrison (2001) use the term 'informal venture' capital to capture *both* equity and non-collateral based lending by individuals. Gaston (1989) from his empirical work in the US suggests that the split between equity and loans for informal investment activity is of the order of 60:40. Thus, our survey focus maintains a degree of consistency with established definitions, terminology and practice. Further, we can have confidence that our survey question is appropriate for identifying informal investment activity in the UK, in whatever form it takes.

For the benefit of non-UK readers, we briefly outline the social classification system frequently used in UK surveys. The population is divided into six different groups according to occupation. These are:

A professional occupations (e.g. lawyers, doctors, scientists)

B managerial and technical occupations (e.g. teachers, white collar workers)

C1 skilled manual – high grade (e.g. master builders, nurses)

[6] There are sophisticated unsecured debt instruments that compensate for higher risks by requiring a participation in the capital gain of a successful project. However, this 'mezzanine' loan market is rarely used in small and relatively rudimentary, informal investor deal structures.

C2 skilled manual – low grade (e.g. electricians, plumbers)

D semi-skilled manual (e.g. bus drivers, lorry drivers, fitters)

E unskilled manual (e.g. general laborers, barmen, porters)

Having discussed the source of our data, and addressed some definitional issues, we now present the sample statistics together with a discussion of their importance.

Sample Statistics

The key figure is that 2.31% of the UK adult population was involved in informal investment activity in the three year period` 1999-2001. That is to say, some 1,100,502 adults have made informal investments in new businesses. This is a remarkable figure if compared to total formal venture capital activity. In the UK over the same period, British Venture Capital Association members[7] invested in a total of 3,598 UK businesses including 1,077 early stage investments.

Table 1 presents the sample statistics for the UK classified on the basis of the observed characteristics (personal, social, economic and regional) of these informal investors compared to non-investors. From Table 1, we observe that males are significantly more likely to be informal investors than females. The scale of the percentage difference is large and of the order of 2.75 times. This finding reflects a general phenomenon. Bygrave et al (2003) citing all 29 nations participating in the 2001 GEM survey found that only 30.1% of all informal investors were women. Informal investors are also more likely to be the main household income provider. There were no age differences apparent, although the mean age for informal investors in the UK is forty-five. There is some evidence to suggest that UK private investors are significantly older than their US peers (Cowling, Bygrave and Harding, 2003). This may be as a result of the comparatively greater difficulty in accumulating personal wealth in the UK in part because of its higher taxation rates (Harrison and Mason, 1992). Physical disability neither increased, nor decreased, the probability of being an informal investor. However, informal investors were more likely to have partners (marital or cohabiting).

[7] The BVCA represents virtually all professional venture capital firms in the UK. The 2001 survey was filled in by 97% of its 155 full (i.e. investor) members.

In terms of housing status, informal investors were most likely to be renting privately, although house owners also had a relatively high propensity to invest. These differences were found to be insignificant in a chi-squared test. None the less, in a UK context it is odd and counter-intuitive that the members of the category most likely to invest in other businesses were also more likely to be renting rather than owning property. Housing is commonly one of the first assets purchased by economically and educationally successful groups in the UK. This finding may be identifying subtleties of, for example, taxation strategies of high net worth individuals or their location in expensive areas where freehold ownership is not generally available.

Social class *continues* to matter in the UK. Fig. 1 highlights these differences.

Refer to Figure 1

Individuals in the professional class (A) were over six times more likely to be informal investors than those in the 'lowest' social class (E). Yet the multiple for moving from the lowest class, Group E, to the next lowest, semi-skilled workers in Group D, indicates the highest incremental change with a three fold increase in informal investment activity. This interesting result is not immediately intuitive. It might suggest that adults from the two 'lowest' social classes (C&D) would invest more if they had ownership of greater personal assets.

Employment status was also found to be an important distinguishing variable. Only individuals in full-time employment had a higher than average propensity to be informal investors. This finding contradicts the popular albeit largely unsupported notion that informal investors are typically wealthy, retired business people. Not surprisingly, the economically inactive, the unemployed and students were very unlikely to be involved in informal investment activity. No unemployed or student informal investors were found in our survey.

Educational status was a key determinant of informal investment activity.

Refer to Figure 2

From Fig. 2, we observe that informal investment activity strongly increases in line with the level of formal education. Individuals with any level of post-school education had above average propensities to be informal investors. There is a six fold magnitude in the difference in informal investment activity across the educational spectrum between individuals with a post-graduate level education and those with no formal qualifications. Yet, the positive effect of continuing education remains substantial even between the contiguous groups of graduates and post-graduates. This suggests that education, and particularly *higher* education, is a key indicator of an individual's propensity to become an informal investor. These data in the present survey corroborates both US (Aram, 1989) and UK (Stevenson and Coveney, 1994) evidence. The authors of these two studies found that 82% and 74%, respectively, of their US and UK samples were educated at least to undergraduate level.

Regional effects were also important, although only at the 5% level of significance. Four geographical regions had above average representations of informal investors. In descending order of magnitude these were: the West Midlands, Greater London, Yorkshire & Humberside, and the North West. A surprising finding is that, with the exception of Greater London, these regions are not typically associated with large stocks of young, fast growth, innovative businesses of the kind we would expect to be attractive to informal investors. West Midlands with its strong history of traditional manufacturing (e.g. cars, engines, tool making) is the region with the highest level of informal investment activity exceeding the economic 'hot spots' of Greater London, the South East and East Anglia. Two regions appear to have particularly low rates of informal investment activity. The North East has around one eighth and the East Midlands around one quarter of UK average informal investor activity.

But our key finding from Table 1 is that individuals *already directly involved in entrepreneurial activity* are significantly more likely to be making informal investments in other businesses. In short, entrepreneurs are the most likely members of the population to both understand what starting a new business entails and to be prepared to invest money in other entrepreneurs' new businesses. We employ three different measures of entrepreneurial activity: i) an individual involved in a new business start-up; ii) an individual involved in a job related start-up; and iii) an individual who is an owner-manager. All three categories are substantially above the

sample average with owner-managers having a higher predilection to act as informal investors than any other group in our survey. By contrast, we observe that individuals not involved in any entrepreneurial activity are very unlikely to be informal investors (Appendix 1). The difference between the two extreme groups is of the order of eight times. Interestingly, people involved in a business start-up as part of their normal employment are three times more likely to be informal investors than the average propensity of the adult population. The link between existing entrepreneurship experience and investment propensity strongly supports the evidence from earlier studies that informal investors are able bring more than just capital to the businesses they invest in. They additionally represent a significant potential contribution of industry knowledge, operational experience and network access (social capital).

Refer to Table 2

The spectrum of funding offered by informal investors reflects the diversity of both the supply and demand for early stage funding. Over 50% of the sample invested total sums well under £50,000 ($70,000) which can only be seen as seed scale or pre-commercial investment. However, the other half of the sample was investing sums which are of a material size to many new or young firms. While none of this funding is of a scale that would commonly secure the longer term financial security of a young high growth firm, these sums represent a significant contribution to the total resources of the nascent firm. For example, 4% of total investments by individuals in our sample exceeded a level of £1 million ($1.4m). Overall, a majority of informal investors provide levels of modest funding that professional investors are unlikely ever to consider supplying (Murray, 1999). Further, the provision of these funds may also allow the entrepreneur to leverage further sources of more traditional finance, e.g. bank debt.

The sample statistics indicate that the 'typical' informal investor in the UK is a male in his mid-forties, in full-time employment, living in private rented accommodation with a partner and, critically, already involved and experienced in entrepreneurial type activity. He is also very likely to come from a relatively high social class and be well educated. The median level of investment he will make is £35,000 ($50,000) over a three year period.

Methodology

Next we turn the focus of our attention to determining the propensity of our sampled adults to be an informal investor by employing a multivariate framework. Several of the descriptive variables are likely to be highly correlated, e.g. further education, social class, employment status. The interaction of these variables needs to be controlled in order to understand the true contribution of any one variable. The model we adopt is a binary probit regression given the nature of the dependent variable which is coded '1' if the individual is an informal investor and '0' otherwise. For ease of interpretation, we report the marginal effects calculated around the means of the independent variables. These indicate the increase (decrease) in probability of an individual in a specified category (i.e. gender, education etc.) becoming an informal investor[8].

The empirical results were generated using a basic probit model with the likelihood function:

$$\ln L = \sum\nolimits_{j} \ln \Phi (x_j b) + \sum\nolimits_{j} \ln (1 - \Phi (x_j b))$$

where Φ is the cumulative normal distribution.

If **b** and **V** are denoted as the coefficients and variance matrix. Then, for continuous variables the estimates reported show:

$$b_i^* = \partial \Phi(\mathbf{xb}) / \partial x_i \,\big|_{x=\bar{x}} = f(\mathbf{xb})\, b_i$$

where the *i*'s refer to the *i*th element of **b**. For dummy variables (our [0,1] coded variables) the estimates reported are for a discrete change in the respective variable from 0 to 1. This is calculated by $b_i^* = \Phi(x_1\mathbf{b}) - \Phi(x_0\mathbf{b})$.

[8] Rare event logistic analysis was used to test the robustness of the probit regression results presented in Section IX and Table 3. No significant differences were found in either variable coefficients or significance levels. The results of this logistic analysis are available from the authors on request.

The actual estimating equation can be expressed thus;

$$\Pr(\text{informal investor}=1) = \Phi(\beta_0 + \beta_i X_i)$$

where X is a vector of job, personal, social, and regional characteristics identified in the previous section.

Econometric Results

Refer to Table 3

From the probit estimates for informal investment propensity (Table 3), we observe a number of significant findings that challenge the initial conclusions inferred from the descriptive statistics. For example, adult males were only marginally more likely (1%) to be informal investors than females, when an array of other personal, social, labor market and regional characteristics are held constant. This is far less than the implied difference, i.e. 2.75 times, reported in the raw sample statistics. What this tells us is that it is other characteristics of men, not gender *per se*, that are driving a significant proportion of this observed male/female disparity in the propensity to make informal investments in the UK. This is an important finding given that women are frequently perceived as being less likely to engage in entrepreneurial or related investment activities (Brush, 1992, Ibarra, 1993, Cowling and Taylor, 2001). Our findings would suggest that further work on female involvement in informal investment activity within the UK is required.

The age – informal investment relationship is also interesting. Here we observe that the age variable itself is insignificant, although negatively signed. But the squared term, included to capture any potential non-linearities (Fig. 3), is significant and positive at the 10% level. This implies that at the upper end of the age distribution of the UK adult population, there is an increasing propensity to become involved in informal investment activity. To illustrate this, an increase in age from twenty years old to thirty only increases informal investment propensity by 0.5%. Yet an equivalent ten year shift from fifty to sixty years of age increases this propensity by 1.1%.

Refer to Figure 3

Thus, as an individual grows older, he/she becomes increasingly more likely to become an informal investor. This may reflect a number of things. For example, it may be that as a person approaches retirement they are looking for new challenges or outlets for their accumulated skills and knowledge (i.e. informal human capital). This greater experience may also modify and increase their acceptance/tolerance of the risk and uncertainty which is endemic to the start-up process. It may also be the case that people are at a stage in their lives where they have the largest pool of capital available for discretionary investment. In many professional and managerial careers there remains a strong positive correlation between age, seniority and earned income. In the pre-retirement period, incomes may be high and many of the living costs (e.g. children, housing) have either reduced or been concluded.

Having dependent children also reduces the propensity to become an informal investor. The magnitude of the effect is –0.7%. This might imply that having young children in the household is associated with increasing risk-aversion as priorities within the household turn to using available personal assets in order to provide a safe and secure environment for child rearing. Young adults of child bearing age are also likely to have had less opportunity and time to accumulate personal wealth or to earn high, age-related incomes. (Personal experience of all three authors suggests that having children is associated with a substantial decline in personal wealth for a considerable period of time.) This result is consistent with a 'life cycle' perspective of personal savings and expenditure (Modigliani, 1986). Studies of entry into self-employment studies indicate that the propensity to become self-employed (i.e. a risky activity) versus taking a waged job, when young children are present in the household, is reduced significantly (Cowling, 2003a).

Social class also continues to be important in the UK. But not in the way identified in the sample statistics reported in Table 1. There, we observed that the incidence of informal investment activity increased as we moved from the 'lowest' class through to the 'highest' class. By contrast, in the multivariate analysis, only individuals in the C1 class (skilled manual – high grade) were found to have a significantly above average

propensity to become informal investors. The scale of this effect, the increased probability, at +1.8% is higher than for any other social class.

Similarly, educational effects were also evident. Having a post-graduate degree increased the propensity to be involved in informal investment activity by +2.2% compared to all other educational levels. Although the other educational levels were not found to be statistically significant in the multivariate analysis, the general pattern of informal investment activity being positively associated with more education still remains. This finding suggests that the human capital of the individual is important in the decision to undertake informal investment activity. Given the scale and range of complexities involved in the investment decision, the analytical skills stemming from a higher level of formal education would reasonably appear to be an asset for any potential investor.

In terms of the geography of informal investment activity, we also observe differences across regions. The findings broadly confirm the univariate statistics from Table 1 in that the populations of the North East and East Midlands both have significantly lower propensities to become informal investors. The magnitude of these effects is -1.4% in both cases. All other regions are not significantly different from each other. This suggests that the observed differences in the proportion of informal investors in the adult population across regions is, for the most part, a result of differences in the characteristics of the population rather than region-specific factors such as culture, investment flows or institutional infrastructures. Holding these personal, social, economic and labor market characteristics constant across regions would result in a fairly equitable spread of informal investment activity across the UK, with the two previously identified regions being the exceptions.

Finally, we observe, once again, that being involved in entrepreneurial activity in one's employment, be it on your own account or as an employee within a company, significantly increases an individual's propensity to make informal investments in other businesses. Here, we note that owner-managers had the highest propensity to be informal investors with a marginal effect of +3.9% compared to individuals not involved in any entrepreneurial activity. In addition, founders of new businesses and those involved in a start-up as a part of their normal job responsibilities, both had

higher (and equal) probabilities of being informal investors than non-entrepreneurially involved respondents. The scale of the effect here is +2.6%. This is reassuring in the sense that recipient businesses are potentially benefiting not only from an injection of risk capital but also from access to additional entrepreneurial human capital in their involvement with an informal investor.

Conclusions and Discussion

We set out to quantify just how many informal investors there are in the British adult population using a new, and large-scale, data set. This estimation is important as informal investors are allegedly believed to play a vital role in funding early stage businesses, as well as providing valuable experience and advice. We find that 2.31% of the total adult population of the UK has recently provided informal investment to businesses. We can therefore deduce that the actual number of active informal investors in the UK over the last three years is just over one million (1.1 m). This compares to a total of just over one thousand (1,077) UK companies receiving early stage investments from the British venture capital industry over the same period. The assumption that informal investing is a widespread source of financing to privately held businesses is corroborated.

We then posed the question of exactly who these informal investors were in terms of an array of personal, social, labor market and regional characteristics. From univariate, descriptive statistics, we noted that the 'typical' informal investor in the UK is most likely to be male, in full-time employment and, importantly, already engaged in some form of entrepreneurial activity. He will also be well educated, be in a high social class and aged in his mid-forties. The median level of investment he will be making is £35,000 ($50,000), over a three year period. Yet, a significant proportion of this investor subgroup within the overall population (16.7%) is also making very substantial investments with a median value of £500,000 ($825,000). This scale of investment suggests that at least a proportion of informal investment activity is likely to be bridging the gap between more traditional, debt-based financial sources, and formal venture capital.

Scaling up the sample findings would indicate that the total informal investment flow to new businesses from the UK adult populace is in the region of £12.8 billion per

annum. This represents 1.3% of total UK Gross Domestic Product at current prices in 2001. Importantly, this figure is over seven times larger than the contribution of classic venture capital (i.e. start-up, other early-stage and expansion finance) from professional venture capitalists in 2001 which was £1,729 million or 0.175% of GDP.

However, the scale of the disparity in the investment activity between formal and informal venture capital can be over-estimated. Bygrave et al (2002) show that only some 12.6% of informal investment is allocated to recipients who are not either a member of the informal investors family, friends nor work associates. Thus, using this ratio, only £1,612 million is available to UK applicants for risk capital that have no ties to the investor other than the attraction of their proposal. At this level, the meritocratic funds, i.e. allocated optimally without reference to family or friendship factors, provided by informal investors and venture capital professionals are of the same order of magnitude.

This study provides important new findings based on the statistical robustness of a population wide UK sample. The results confirm both the relatively high level of underlying informal investment activity which, although concentrated by social class, employment status and education, is widely distributed throughout most regions. With the exception of two English regions, the North East and East Midlands, informal investors are as likely to be found in areas with more traditional industry structures as in the burgeoning service based economies of Greater London and the South-East of England. The scale of activity, its ubiquity and the relatively small median investment values confirm that informal investment activity is of particular importance for the support of new and/or small enterprises. Informal investors do help address the critical area of the 'equity gap' (Macmillan 1931) by providing sums of both debt and equity finance that would be of little interest to professional investors including most venture capital firms. However, given that equity gap issues also embrace demands for finance that are measured from hundreds of thousands to millions of pounds sterling, individual investments by the majority of informal investors are unlikely to meet fully the financial demands of strongly growth oriented businesses (Bank of England, 2001). Informal investment activity of any scale would frequently demand informal investor syndicate activity (Bygrave, 1987). None the less, informal investors are

rightly of interest to policy makers concerned with the provision of finance to the wider SME sector.

The importance of informal investors is likely to increase at times when capital markets are depressed and venture capital firms are concentrating on the less risky and more lucrative activities of later stage investments, particularly management buy-outs and buy-ins. UK venture capital statistics by the British Venture Capital Association indicate that professional investors are indeed concentrating their funds and activities on these later stage opportunities thereby potentially diverting funds away from the critical support of start-up and early growth stages[9]. MBOs and MBIs alone represented 57% of total UK investment by British venture capitalists in 2001, and 91% if total 'expansion finance' is also included. It is therefore of some concern that recent industry reports in the UK (*Real Deals,* 10th April, 2003) have indicated that the number of active angel investors has fallen in 2003 and that a number of angel networks set up in the bullish years of the technology boom prior to 2001 are now struggling to survive. The active policies of the UK government to support private and institutional investment in entrepreneurial businesses has placed the UK at the top of the ranking as the most conducive fiscal and regulatory environment in Europe for private equity in a benchmarking survey conducted by the European Venture Capital Association (EVCA, 2003). Yet, despite these significant policy initiatives, in the short run, informal investors appear to be as sensitive to underlying economic conditions as their professional venture capitalist peers. Despite the attractiveness of informal investment, it is far from being an 'easy options' for policy makers focused on encouraging the supply of early-stage investment to SMEs.

The 2001 UK GEM survey was less able to answer authoritatively questions as to who received the these informal funds. There is some indication that family and friends are the major recipients of these transfers. Farrell et al (2003) examining Canadian data categorize informal investors into three categories, namely, those that invest purely in family members only; at 'arms' length only'; and in 'combination' (i.e. investing in both the previous groupings). These authors also showed that over

[9] Caution is needed in making such statements. Most VC management companies raising capital from limited partners for an MBO or later-stage fund are not normally in direct competition with early-stage fund raisers. From the perspectives of the investors or the VC management company, the two investment classes are not close substitutes.

successive rounds of finance, the importance of family-only investments decreased to zero by the third round of financing. This direction of investment flows has major implications for government actions. Firstly, it cannot be assumed that financial support for family or close friends can be exclusively analyzed as rational investments. Secondly, the government's support for the creation of business angel networks assumes that information asymmetries are a major barrier in this market. However, if the provider and user of informal investments are already well known to each other, or even related, such an information barrier is unlikely to be material. Few persons would need an introduction service in order to invest in their own family or friends. Thirdly, and most importantly, the exchanges dictated by kinship or friendship cannot plausibly be viewed as a market. If the provision of finance is largely conditional on blood or friendship ties, the market model with its underpinnings of rationality and optimization is inappropriate. Confirming Wetzel's (1987) comments, the conceptualization of informal investors' activities as a market remains problematic when compared to the more instrumental and disciplined behavior of formal venture capital firms.

These concerns re-inforce the need for a more robust taxonomy. This has also been recognized by other academics. Sørheim and Landström (2001) sought to classify informal investors by both activity and competence. But to define and categorize the spectrum of informal investors into communities of more value by virtue of their internal consistency and inter-group disparities remains. The efforts of the national GEM teams have started to give us more credible data from which policy deliberations can be made with greater clarity. Yet, the encouragement, incentivisation and education of the informal investment sector remains a considerable policy challenge. None the less, given their importance as measured by both aggregate scale and early-stage focus, it is a challenge few governments can afford to ignore.

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Table 1

Sample statistics

Variable	***Informal investor***	***Not informal investor***	***Significance***
Male %	3.45	96.55	
Female %	1.25	98.75	****
Main h/hold income provider	2.84	97.16	
Not main h/hold income provider	1.58	98.42	***
Social class			
A	3.76	96.24	
B	2.93	97.07	
C 1	2.91	97.09	
C 2	2.47	97.53	
D	1.84	98.16	
E	0.60	99.40	***
Marital status			
Partner	2.82	97.18	
Single	1.82	98.18	
Widowed/divorced	1.40	98.60	**
Labour market status			
Full-time work	3.64	96.36	
Part-time work	1.76	98.24	
Inactive	0.79	99.21	
Unemployed	0.00	100.00	
Retired	1.55	98.45	
Student	0.00	100.00	****
Housing status			
Council renter	1.40	98.60	
Home owner	2.39	97.61	
Private renter	3.07	96.93	
Other	1.06	98.94	N.s
Educational qualifications			
None	0.91	99.09	

School	1.58	98.42	
Post-school	2.48	97.52	
Degree	3.08	96.92	
Higher degree	5.49	94.51	****
Disabled	1.02	98.98	
Not disabled	2.39	97.61	N.s
Age (mean)	45.27	44.42	N.s
Region			
Scotland	2.13	97.87	
North East	0.34	99.66	
North West	2.41	97.59	
Yorks & Humber	2.63	97.37	
East Midlands	0.57	99.43	
West Midlands	4.19	95.81	
East Anglia	1.63	98.37	
Greater London	3.21	96.79	
South East	2.30	97.70	
South West	2.11	97.89	
Wales	1.92	98.08	**
Not entrepreneur	1.33	98.67	
Business start-up	6.03	93.97	
Job related start-up	6.96	93.04	
Owner-manager	10.34	89.66	****
N obs	114	4824	
% of adult population	2.31	97.69	

Table 2

Scale of informal investment activity 1999-2001

Investment size £s (£1 = $1.4)	% of informal investors	Within group median investment £s
<10,001	22.92	5,000
10,001 – 50,000	30.21	20,000
50,001 – 250,000	30.21	100,000
>250,000	16.67	500,000*
Total	100.00	35,000

* excludes a single investor with in excess of £15 million ($21m) of funds invested

Table 3

Probit model of informal investor propensity

(informal investor=1, else=0)

(marginal effects reported)

Variable	*Df/dx*	*Z-stat*	*Significance*
Male	0.010	2.78	****
Age	-0.001	-1.38	
Age squared	0.001	1.84	*
Main income provider	-0.001	-0.35	
Kids	-0.007	-1.95	*
Disabled	-0.007	-0.87	
Marital status			
Partner	0.006	1.33	
Single	-0.003	-0.46	
Base = widowed / divorced			
Social class			
A	0.006	0.55	
B	0.011	1.15	
C 1	0.018	1.89	*
C 2	0.012	1.38	
D	0.010	1.03	
Base = E			
Labour market status			
Full-time	0.004	0.46	
Part-time	-0.000	-0.05	
Retired	-0.008	-0.85	
Base = student, inactive, unemployed			

Housing status			
Council rent	0.002	0.14	
Homeowner	0.003	0.23	
Private rent	0.010	0.55	
Base = other			
Educational qualifications			
School	0.003	0.39	
Post-school	0.007	1.01	
Degree	0.012	1.23	
Higher degree	0.022	1.94	*
Base =none			
Region			
Scotland	-0.004	-0.62	
North East	-0.014	-2.24	**
North West	0.003	-0.53	
Yorks & Humber	-0.003	-0.55	
East Midlands	-0.014	-2.54	**
West Midlands	0.010	1.43	
East Anglia	-0.007	-1.02	
South East	-0.004	-0.87	
South West	-0.007	-1.18	
Wales	-0.006	-0.94	
Base = Greater London			
Entrepreneur type			
Business start-up	0.026	3.35	****
Job related start-up	0.026	2.89	****
Owner-manager	0.039	5.49	****
Base = not entrepreneur			

N obs	4294		
-2 log likelihood	-437.71		
Prob>chi squared	0.00001		
Pseudo r squared	0.16		

Table 4

Expected and Actual Results of Hypotheses

Hypotheses:	Expected sign	Actual Sign
H1a Education	+	(+)
H1b Age	+	(+)
H1c Entrepreneurial Experience	+	+
H2 Gender Effects	+	+
H3 Regional Effects	+/-	+/-

Figure 1

Informal investment propensity and social class

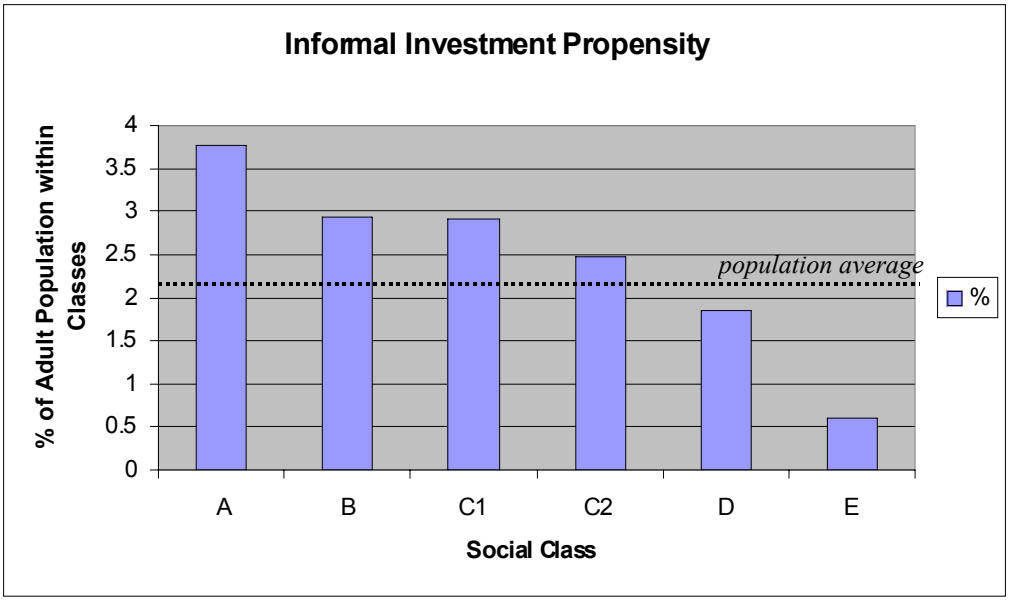

Figure 2

Informal investment propensity by educational qualification

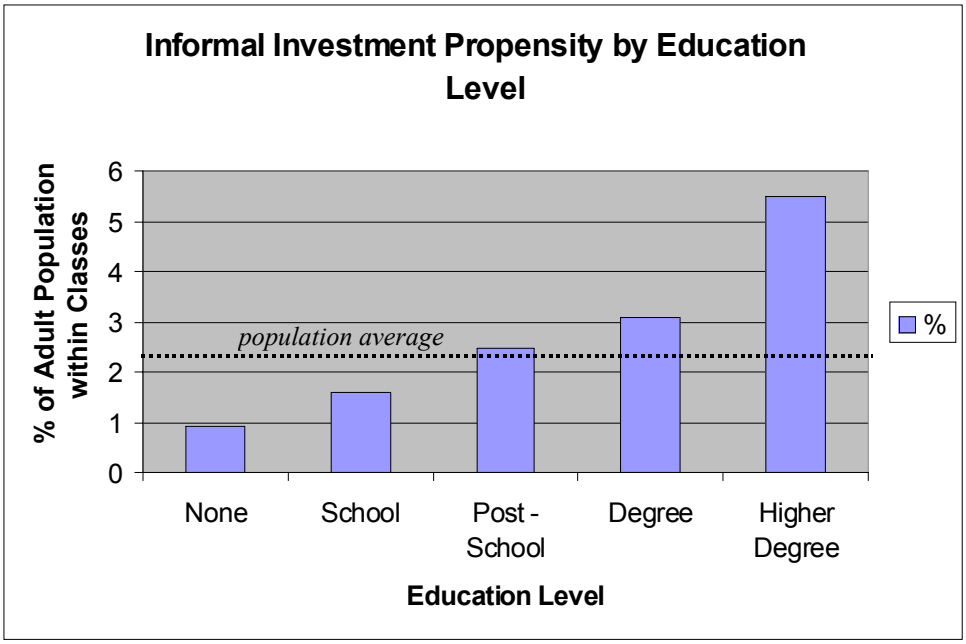

Figure 3

Informal investment propensity by age of adult