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Entrepreneurial aspiration and transition into self-employment: evidence from British longitudinal data

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This paper is about whether transitions into self-employment are preceded by well-formed entrepreneurial aspirations, and the extent to which aspiration and actual transition are associated with the same factors. It analyses data from a British general purpose longitudinal survey, allowing the tracking of stated entrepreneurial aspiration through to self-employment transition one or more years later. The majority of transitions are not preceded by a statement of aspiration a year earlier and therefore many new ventures may be hastily conceived. Studies which identify nascent entrepreneurs from a sample of the general population and subsequently trace new venture creation may therefore miss significant numbers of entrepreneurial transitions. Although first noted by Katz (1990), this issue has attracted relatively little research attention since. The paper adopts the novel approach of allowing unexplained heterogeneity in the formation of aspirations to be correlated with that in the self-employment transition choice. Aspirations are associated with displacement factors such as low job satisfaction, but this finding is not translated into an association with transitions. Aspirations are not found to be associated with intentional activity such as active saving, or with correlates of personal efficacy such as financial wealth and educational background. Aspirations display regional variation with some regions having higher levels of aspiration that do not translate into a higher start-up rate. These findings reinforce a strong conclusion that policy should address the level of preparedness for new business start-up amongst aspiring entrepreneurs.

Keywords: self-employment; entrepreneurship; entrepreneurial aspiration; transitions.

1. Introduction and background

This paper is concerned with the transitions into self-employment and the association between those transitions and previously-stated aspirations towards entrepreneurship. Previous research has examined entrepreneurial aspirations or intentions within representative samples of individuals. However, analysis of the extent to which those translate into new ventures has been limited, with further systematic research needed. A major thrust of the literature is that entrepreneurs, whether potential or actual, are different from non-entrepreneurs (Gartner 1985). Entrepreneurs may cite multiple motivations for preferring entrepreneurship to organizational employment (Birley and Westhead 1994). They may differ from non-entrepreneurs in terms of personal characteristics, family and social background and personal resources (Carroll and Mosakowski 1987, Bates 1995, Kolvereid 1996a,b, Delmar and Davidsson 2000).

Cognitive or psychological/behaviour factors may also be important in determining who becomes an entrepreneur (Gatewood *et al.* 1995, Kreuger *et al.* 2000, Simon *et al.* 2000, Carter *et al.* 2003) – indeed some authors argue that behavioural influences are pre-eminent (for example Gartner 1989). A largely economic literature focuses on the constraints and opportunities offered by the external environment (see Le (1999) and Parker (2004) for surveys).

Comparative evidence highlights considerable variation in entrepreneurial aspiration or intention across nations and cultures (for example, Reynolds *et al.* 1994, Delmar and Davidsson 2000, Blanchflower *et al.* 2001).¹ Blanchflower *et al.* (2001) report high rates of response to the question in the International Social Survey Programme (ISSP) ‘would you prefer to be self-employed’ (rather than an employee): Norway = 27%; Sweden = 39%; Great Britain = 45%; USA = 71%. Tkachev and Kolvereid (1999) report that 37% of Russian students sampled state a preference for self-employment. Such questions may identify broad aspiration towards entrepreneurship on an open time-scale. Tighter definitions (to be discussed further below) yield lower rates of potential entrepreneurship, but still find widespread regional variation. For example, the Global Entrepreneurship Monitor (GEM) programme finds for 2005 that rates of ‘early stage entrepreneurial activity’ among the population vary from under 2% for Hungary to 25% for Venezuela, with most advanced industrialized economies clustered between 5 and 10% (Minniti *et al.* 2006).

Entrepreneurial intention has attracted substantial cognitive research. A common approach (for example Krueger *et al.* 2000) is to contrast a model of planned behaviour in which entrepreneurship follows from individual assessment of self-efficacy (Ajzen 1991), with ‘entrepreneurial event’ models in which displacement, for example, caused by job dissatisfaction or loss overcomes inertia to remain in organizational employment (Shapiro 1982). Both models contrast the potential for entrepreneurial activity with intention. An individual may have entrepreneurial potential (in terms of competencies and resources), but lack entrepreneurial intention. Evidence reported by Kreuger *et al.* (2000), drawn from a sample of university business students, supports the entrepreneurial event model. The conclusion that there is little evidence for self-efficacy is also supported by the subsequent research (Gatewood *et al.* 1995, Tkachev and Kolvereid 1999, Krueger *et al.* 2000).

By convention those intending and preparing a new business have been termed nascent entrepreneurs. Preparation for entrepreneurship can include business plan development, market research activity and the identification of market opportunity, the use of private or public sector business support services, and engagement in preparatory training. Shook *et al.* (2003) point out that activity at each stage of new venture creation may be influenced by a range of individual characteristics. These may include psychological and cognitive as well as personal characteristics (demographic status, ability and past experience). While rates of preference for entrepreneurship may be high, levels of nascent entrepreneurship, combining aspiration and preparation, are typically much lower. Delmar and Davidsson (2000) report nascent entrepreneurship of between 2 and 3% in the general population in Norway and Sweden and compare these to rates of almost 4% obtained from comparable survey work for the USA (Reynolds 1997). Rates of nascent entrepreneurship are estimated at 6.2% of all adults in the US Panel Study of Entrepreneurial Dynamics (PSED) data set (Reynolds *et al.* 2004).²

Previous research on entrepreneurial transitions is sparse because investigation requires longitudinal analysis. Early research has been criticized for working backwards from existing entrepreneurs to examine recollected information about the new venture start-up process (Reynolds and Miller 1992). Contemporary work, for example using the PSED, defines and identifies nascent entrepreneurs in the general population and tracks these as they achieve success in establishing a new venture (Gartner *et al.* 2004). Such work has enriched researchers' understanding of the process of new venture formation and the characteristics of successful nascent entrepreneurs. However, because it identifies nascent entrepreneurs and then only tracks these, it provides limited insight into the extent to which transitions may be more spontaneous and/or achieved by individuals who were not at a particular point in time identified as nascent entrepreneurs. The present paper seeks to address this limitation.

Other research tracks transitions into entrepreneurship, or more precisely self-employment, using nationally representative general longitudinal surveys. The present study falls into this category. Such surveys track transitions into self-employment regardless of any previous intent or aspiration and of preparatory action. This advantage comes with costs – notably that self-employment status may not fully equate with the creation of a new business venture and that available information on planning or preparation for entrepreneurship may be limited. Most previous work on such surveys is concerned with transition into self-employment and ignores prior aspiration. The sole exception is Katz (1990), using the US Panel Study on Income Dynamics (PSID). The present paper uses the British Household Panel Survey, a nationally representative longitudinal survey of around 5000 households which follows the design of the PSID, to refine, deepen and update the analysis of Katz.

The purpose of this paper is to document the scale of transitions from new venture aspiration through to self-employment for the UK in terms of a commonly described conceptualization of the entrepreneurial process (see, for example, Reynolds *et al.* 2004). We also undertake an analysis of individual non-cognitive characteristics associated with entrepreneurial aspirations and with transition into self-employment. Specifically we are concerned with three questions. First, to what extent are transitions into self-employment preceded by statements of entrepreneurial aspiration and (within the limitations of the survey available) preparatory activity. Second, are the characteristics of those in the general population with stated entrepreneurial aspirations different from those without? Third, are the characteristics of those with stated entrepreneurial aspirations who subsequently transition into self-employment different from those without? Previous studies have not addressed these issues using nationally representative longitudinal surveys of the general population. A particular innovation is that the empirical model investigates whether the unexplained heterogeneity amongst aspiring entrepreneurs is correlated with that of those who subsequently transition into self-employment.

The remainder of the paper is structured as follows. Section 2 discusses the conceptual framework for the paper. Section 3 provides further details on the methodology and the data source. Section 4 discusses empirical findings, evaluating rates of transition from entrepreneurial aspiration to business start-up, and an analysis of the factors associated with aspiration and transition, as captured through a range of personal characteristics. Section 5 presents an assessment of the results obtained and overall conclusions.

2. Conceptual framework

Various studies have examined the sequence of events leading to entrepreneurial start-up (Carroll and Mosakowski 1987, Katz 1990, Reynolds and Miller 1992, Carter *et al.* 1996, 2003, Parker and Belghar 2006, Rotefoss and Kolvereid 2005). With the exception of some personal, perhaps financial, commitment from the nascent entrepreneur, the absence of any common sequence of events is a frequent conclusion to emerge from this research (Reynolds 1997). Some gestations are very quick; others take years. The reasons given for choosing entrepreneurship are not particularly different from those given by choosers of other occupations. Carter *et al.* (2003) provide a detailed review of recent research, including their own. A related literature on self-employment as an occupational choice identifies a range of demographic characteristics associated with this choice (see Le (1999) and Parker (2004) for recent surveys).

However, this research offers few clues as to what factors are associated with nascent entrepreneurship or with the transition from aspiration to actual entrepreneurship. This is a dynamic transition, and so investigation must rely on a longitudinal study, informed by an appropriate dynamic conceptual framework. The absence of longitudinal analysis in much previous work is a serious limitation. Recent work using the US PSED has begun to address this (Gartner *et al.* 2004). Cross-sectional analysis of existing entrepreneurs is likely to be contaminated by 'recall' bias (retrospection), and may fail to address causality between new venture creation and associated traits and factors. Furthermore, tracking studies of nascent entrepreneurs tend not to provide a control group comparison (for example Gatewood *et al.* 1995). So while such studies may be informative about differences between successful and unsuccessful nascent entrepreneurs, such comparisons do not control for the 'selection bias' that arises because nascent entrepreneurs may not be a random sample of the population at large. Consequently the relationship between the determinants of entrepreneurial intent and those of entrepreneurial realization is not addressed. These were concerns taken up by Reynolds and Miller (1992) insofar as they suggest the use of general-purpose surveys rather than relying on recall information obtained from those already engaged in entrepreneurship.

A seminal contribution which uses longitudinal data is provided by Katz (1990). He identifies aspirations towards self-employment in the general employed population using data from the first wave of the US PSID. Of 2251 wage and salary earners in the 1968 sample, only 1.5% (33) aspired to self-employment. Of these 27 made some attempt between 1968 and 1972 to prepare for self-employment but only 6 of these actually became self-employed. However a further 57 (2.5%) did not state an aspiration but actually transitioned into self-employment. A small number stated an intention to change to another waged or salaried job but transitioned to self-employment instead. Katz's research reveals that a significant proportion of entrepreneurial start-ups can and do occur in the absence of prior stated intention. This is an important finding which appears to have been largely ignored in subsequent work. Katz concludes that confining study to intending entrepreneurs results in missing a huge proportion of those who actually become business owners.

A recent integrative approach to understanding transitions into entrepreneurship is provided by Rotefoss and Kolvereid (2005). This work draws closely on the conceptual approach described by Katz (1990), and examines transition behaviour amongst nascent Norwegian entrepreneurs. They highlight two issues not addressed

by Katz: first that many new ventures are founded by those currently self-employed (multiple founders) and second that not all new business ventures require the individual to transition into self-employment. This research highlights the importance of entrepreneurial experience in predicting business start-ups, as well the role of human resources (education). It also concludes that regional influences, such as local unemployment conditions and industrial specialization, may also predict transition behaviour. Further related work using the PSED has been undertaken by Carter *et al.* (2003) and Parker and Belghar (2006).

Informed by these recent longitudinal approaches, figure 1 describes conceptually the transition into entrepreneurship in a manner appropriate to our data source. It illustrates the non-linearity between aspiration or intention and subsequent action as suggested by the previous research. The starting point is the pool of economically active population from whom transitions into entrepreneurship arise. The status of the economically active in the survey is observed at an initial point in time t . At the same point in the time we are able to observe those within this group who state an expression of entrepreneurial aspiration (by answering 'yes' to a question on whether they would like to start a new business in the next 12 months). This in effect identifies those at the start of the new venture gestation process. At a subsequent point in time, $t+1$, we are able to observe who has undertaken preparatory training between t and $t+1$. For those who subsequently transition into entrepreneurship we presume that this indicates preparatory activity undertaken during the gestation phase. Economic status is observed at $t+1$ and from this information we identify those who have transitioned into entrepreneurship from sole engagement in other forms of economic activity. The transition may therefore have occurred subsequent to an expression of entrepreneurial aspiration and training in preparation for a new job. As we use a general purpose survey, transitions are observed even in cases where there is little apparent new venture gestation. So a transition may also have occurred despite no evidence of aspiration 12 months previously and/or evidence of preparation for a new job. These transition routes are also shown in the figure. Such new venture transitions are not typically observed by dedicated, even longitudinal, surveys of nascent entrepreneurship. This is because such surveys pre-screen from the general population on the basis of evidence for gestation activity and then observe transition rates from this pre-screened group.

Even though an individual may express an aspiration for new venture creation within the next 12 months, it may in practice take longer to achieve the transition; because our survey instrument revisits all individuals (households) at regular annual intervals we are able to observe delayed transitions, as well as observe whether any transition into entrepreneurship was unsuccessful. The right-hand side boxes in figure 1 show the various possible transition combinations between observation points $t+1$ and $t+2$.³

We will assess rates of transition between the various stages: the transition into gestation, the transition from gestation into entrepreneurship and subsequent rates of transition onto entrepreneurial success (that is remaining in self-employment) or back out into some other status (closure of new venture).⁴ Consideration of these possible transitions leads to the following hypotheses for investigation:

Hypothesis 1: all transitions into entrepreneurship (self-employment) are preceded by expressions of entrepreneurial aspiration.

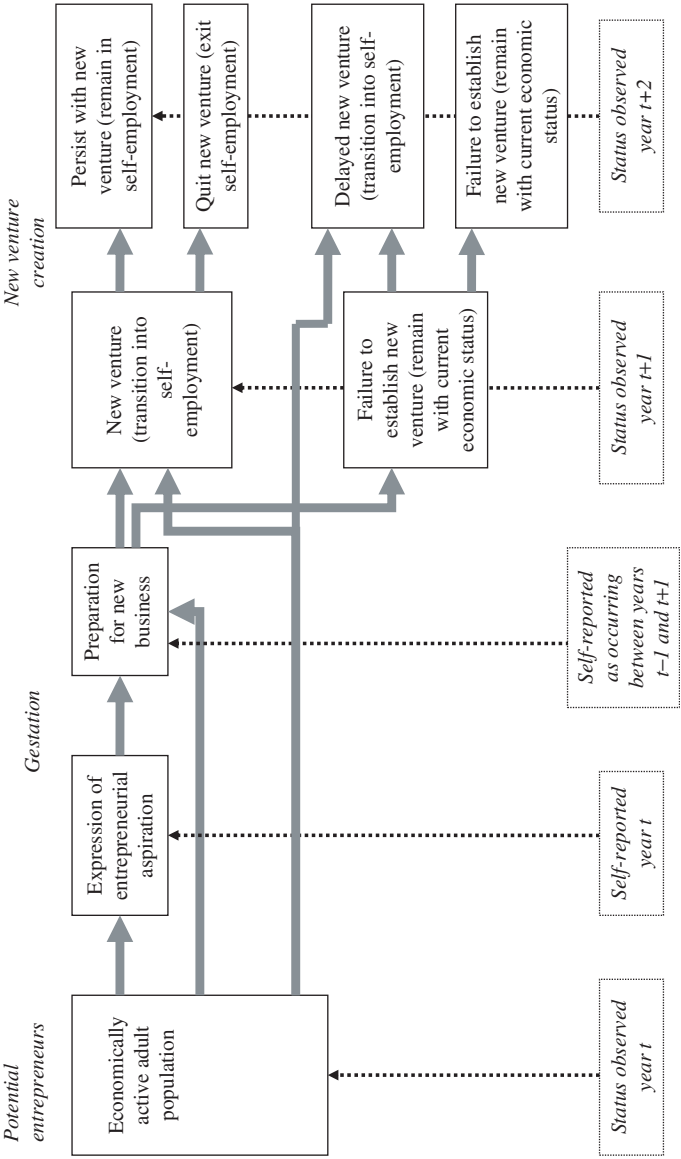


Figure 1. The entrepreneurial process.

Hypothesis 2: all transitions into entrepreneurship (self-employment) are preceded by preparation in the form of training for a new job.

These hypotheses presume that all entrepreneurs follow a common transition route, as shown along the top row of figure 1, from aspiration through preparation to the establishment of a new venture. As the figure suggests alternative transition routes are theoretically possible, and the purpose of addressing these hypotheses is to investigate this. In particular we seek to establish whether it is legitimate to identify nascent entrepreneurs from a population representative sample and draw representative conclusions about entrepreneurial dynamics from tracking these individuals, rather than the full initial sample.

The remainder of the analysis undertaken is concerned with the extent to which aspiring entrepreneurs can be distinguished from those with no entrepreneurial aspiration, and the extent to which successful aspiring entrepreneurs can be distinguished from unsuccessful ones. Demographic characteristics may discriminate between potential entrepreneurs and non-entrepreneurs for a number of reasons. Age and educational attainment may predict entrepreneurial potential because human capital and experience may promote the entrepreneurial process. Older and better qualified individuals may be better able to assess their self-efficacy, as might individuals with an entrepreneurial family background. Evidence supporting a relationship between educational background and nascent entrepreneurship is reported by Reynolds *et al.* (2004), and with entrepreneurial transition by Bates (1995) and Parker and Belghar (2006). Entrepreneurial awareness and skills may be passed from parents to children. Evidence for a positive effect from parental entrepreneurship has been found by de Wit and van Winden (1989) and Matthews and Moser (1995) *inter alia*.

Gender may be associated with entrepreneurial potential because males and females may have different attitudes to risk (Watson and Robinson 2003). Men may have better access to start-up capital because of lender discrimination. This may encourage aspirations as well as facilitate actual new venture start-up. Men may also possess different attitudes towards business leadership enhancing their interest in business start-up activity. Marital status may also be associated with entrepreneurial potential because of lender discrimination, since marriage may be equated with financial stability. Married individuals may have employed partners who, because of regular salary income allow risk-spreading within the family. However, paid employment may be relatively more attractive to married individuals with greater family commitments because it is less risky.

Ethnic status is often regarded as associated with entrepreneurial potential and attitudes to entrepreneurship may differ across cultures. Again discriminatory practices may lead to a greater 'push' towards entrepreneurship within minority ethnic groups. Paid employment may be more difficult to obtain. Poor dominant language skills may limit employment options, and small, family business ventures may provide economic opportunities which mitigate this. Gender, ethnicity, and indicators of family background have been found in previous research to correlate with indicators of entrepreneurial aspiration and nascent entrepreneurship (Kolvereid 1996b, Delmar and Davidsson 2000, Reynolds *et al.* 2004, Rotefoss and Kolvereid 2005), as well as with transitioning into self-employment or

entrepreneurship (Carroll and Moskowski 1987, Bates 1995, Henley 2004). The following hypothesis follows from this:

Hypothesis 3a: Individuals who express entrepreneurial aspiration have a different demographic profile and background characteristics compared to those who do not.

Hypothesis 3b: Individuals who subsequently transition into entrepreneurship (self-employment) also have a different profile and background compared to those who do not.

Specifically, older individuals, those with higher educational attainment, men, those with an entrepreneurial family background and those who are members of minority ethnic groups are more likely to display entrepreneurial aspiration and are more likely to transition into entrepreneurship.

A second theme in the literature concerns the quality of the current experience in paid employment. The theoretical justification for this follows from the concept of the 'entrepreneurial event'. Poor experience in paid employment, indicated by low job satisfaction across various dimensions, may push individuals towards new venture creation. Aspirations and actions directed towards entrepreneurship may reflect assessment of the relative attractiveness or 'credibility' of alternatives, as much as the recognition of potential future opportunity (Krueger *et al.* 2000). An individual's perceptions about current paid employment may be self-fulfilling if they are seeking internal justification for entrepreneurial aspiration. Kolvereid (1996a,b) suggests that perceptions of job security in organizational employment and of the high workload associated with self-employment may discourage the formation of entrepreneurial intentions, although the prospect of improved earnings may act as a positive driver. The following hypotheses follow from this.

Hypothesis 4a: Individuals who express entrepreneurial aspiration have a different current employment experience compared to those who do not.

Hypothesis 4b: Individuals who subsequently transition into entrepreneurship (self-employment) also have a different experience compared to those who do not.

Specifically those who express lower levels of current job satisfaction are more likely to display entrepreneurial aspiration and are more likely to transition into entrepreneurship.

A third theme concerns access to financial resources. Financial background and access to capital may distinguish potential entrepreneurs from non-entrepreneurs. Financial wealth may correlate with education and experience, so contributing to the potential entrepreneur's assessment of self-efficacy. In economic models of entrepreneurship, where access to financial resources are constrained, personal financial wealth may encourage entrepreneurship. The possession of illiquid wealth, most notably housing, may provide collateral against which borrowing can be secured. Evidence of a relationship between financial resources and nascent entrepreneurship is sparse. Reynolds *et al.* (2004) suggest that home ownership, especially for ethnic minorities, may be positively associated with nascent entrepreneurship. Previous economic research has highlighted potential links between housing wealth and entrepreneurial activity,⁵ as well as the role of windfall financial gain in relaxing capital constraints. A fuller discussion of these relationships is to be found in the literature on transitions into self-employment or entrepreneurship, with evidence for capital constraints found by, *inter alia*, Bates (1995), Evans and Jovanovic (1989), Evans and Leighton (1989),

and Georgellis *et al.* (2005). However Hurst and Lusardi (2004) find that any correlation is only at very high levels of wealth.⁶ Parker and Belghar (2006), using the PSED, find that new venture establishment is negatively associated with active saving behaviour. Informed by this theme we investigate the following hypotheses:

Hypothesis 5a: Individuals who express entrepreneurial aspiration have a different wealth profile, in terms of financial wealth and access to housing wealth, compared to those who do not.

Hypothesis 5b: Individuals who subsequently transition into entrepreneurship (self-employment) have a different wealth profile compared to those who do not.

Regional variation in nascent entrepreneurship and in rates of transition into entrepreneurship has been extensively discussed in the literature (Bull and Winter 1991, Shane *et al.* 1991, Reynolds *et al.* 1994, Tamasy 2006). Official data reveal varying rates of self-employment across UK regions with high rates in the South and low rates in the North of England.⁷ The clearest reason for regional variation in entrepreneurship is that economic activity varies regionally and so market potential for new ventures is variable (Rotefoss and Kolvereid 2005). Variations in regional industrial structure may also affect levels of entrepreneurial activity, as well as variations in economic geography (clustering, urbanization, agglomeration). For example Bates (1995) points out that barriers, such as capital constraints, vary considerably across small business industry groups. A second explanation concerns regional variation in cultural attitudes towards entrepreneurship. For example, Davidsson (1995) has addressed the significance of this in the Swedish context. Anecdotal discussion often asserts that entrepreneurial ‘spirit’ is stronger in some regions of the UK than in others.⁸ This may be where levels of economic activity are higher (or perhaps because it is higher). In regions of the UK such as the North East of England and South Wales the legacy of former coal-mining and iron and steel industries has left communities with a strong ‘collectivist’ culture. The desire to ‘branch-out on your own’ into a new business venture may be viewed less positively. A third consideration concerns government policy towards entrepreneurship. Business support towards small businesses within the UK is devolved to regional government in Scotland, Wales and Northern Ireland. Even within England regional variation in the interpretation and implementation of policy may vary because of different approaches taken by different regional development agencies. This leads to the following hypothesis.

Hypothesis 6: Regional variations in levels of entrepreneurial aspiration are significant, and individuals in different regions have differing propensities to transition into entrepreneurship (self-employment).

3. Methodology and the BHPS data source

The empirical analysis in this paper draws on a major British social science research resource – namely the British Household Panel Survey (BHPS). This is a nationally representative survey funded by the UK Economic and Social Research Council, designed as a general purpose survey similar to the US Panel Study of Income Dynamics and the German Socio-Economic Panel. Households are sampled according to a stratified random cluster sample drawn from the population of British household

postal addresses in Great Britain.⁹ The original household sample was recruited in 1991, and follow-on rules are established to track newly-forming households involving originally-enumerated household members.¹⁰ The survey instrument is a questionnaire involving a household section, containing questions on housing and household structure, and sections administered to all adult household members (including new household members at each wave). The individual section contains a core of 'modules' covering demography and fertility, education, employment, health and finances, along with a rotating set of questions on values and opinions. Households are re-interviewed annually. Annual re-interviewing is a compromise – individual decision choices are rarely if ever made to conform to an annual cycle, but higher re-interviewing frequency would be prohibitively expensive.

For empirical purposes entrepreneurship is defined by self-employment status. Self-employment in the UK is defined by tax status – that is registered with the tax authority as an own-account worker or business owner with approval to pay income tax (and social security contributions) through an end of year assessment, rather than through the UK pay cheque deduction system known as 'Pay-As-You-Earn' (PAYE). The BHPS identifies self-employment on this basis.¹¹ An individual with multiple employments may hold one job for which tax is deducted through PAYE, and operate a business or own-account employment (self-employment) through which tax is assessed on an annual basis. For our purposes an individual transition into self-employment either by switching from organizational (PAYE) employment to self-employment, or by newly registering as self-employed in addition to holding an established organizational employment. This overcomes a difficulty with the earlier work of Katz (1990) which assumes that transitions into entrepreneurship involve a discrete switch from organizational employment (Rotefoss and Kolvereid 2005).

From Wave 8 (1998) onwards all adults who are economically active are asked about entrepreneurial aspirations, as part of a prospective question concerning career plans. The precise wording is as follows:

(E101) I am going to read out a list of things which you may or may not want to happen to your current employment situation. For each one can you please tell me whether you would like this to happen to you in the next twelve months. Would you like to ... start up your own business (a new business)?

The response to this question identifies entrepreneurial aspiration. For each individual subject up to five annual observations of the answer are available. Since the survey records the career status of every individual, assuming that they remain in the sample from one particular year to the next, there are up to four individual observations which match entrepreneurial aspiration or intention to subsequent actual new venture creation.

Points of observation (t , $t+1$, $t+2$) along the conceptual framework set out in figure 1 correspond to survey sweeps in the empirical analysis. In theory of course the time durations between t and $t+1$ and $t+1$ and $t+2$ could vary considerably between individuals and may not necessarily coincide with annual observations. In practice, however, households are surveyed annually, mainly during the period September to December. Table 1 summarizes the proportions of respondents with entrepreneurial intentions ('aspiring entrepreneurs') for each of the five available survey waves from 1998 to 2002. We restrict the sample to those between the ages of 18 and 64 years. In 1998, 13.7% of those in work would like to start a new business (column 1). This includes those currently self-employed who may wish to move into

Table 1. Entrepreneurial aspiration.

	<i>Would like to start a (new) business in the next 12 months</i>	
	<i>All currently working</i>	<i>Employees with no current own business</i>
1998	695/5073 (13.7%)	581/4468 (13.0%)
1999	637/5010 (12.7%)	535/4410 (12.1%)
2000	639/4963 (12.5%)	532/4391 (12.1%)
2001	548/4930 (11.1%)	457/4349 (10.5%)
2002	544/4235 (11.4%)	453/4213 (10.8%)

Source: Author's tabulations from BHPS Waves 8 to 12.

a new venture. The rate declines in later years to around 11%. Amongst those currently in employment (i.e. excluding those currently running one venture who would like to start a different or additional venture) the rates of intention are lower but not much lower, at 13.0% in 1998 falling to 10.8% in 2002 (column 2). One possible explanation for the decline is that rates of sample attrition are greater amongst those with entrepreneurial aspiration. However, we can find no evidence for any systematic attrition which may have impacted differentially on those with entrepreneurial aspirations.¹² The period in question is one of sustained economic growth in the British economy, and so a more plausible explanation is that as economic conditions improve (and therefore the availability and quality of paid employment) entrepreneurial aspirations lessen.

General purpose surveys such as the BHPS allow thorough career tracking of individuals. The BHPS allows sample tracking into self-employment regardless of whether an individual has entrepreneurial aspirations. However, definitions of nascent entrepreneurship combine aspiration or intent with some indicator of preparatory action. General purpose surveys typically do not ask explicit questions about activity preparatory to the establishment of a new venture, such as information on business plan preparation and the use of business support services. In the BHPS the following question about preparatory training is asked:

(D67/D70): Apart from full-time education have you taken part in any other training schemes or courses at all since 1st September (previous year) or completed a course of training which led to a qualification? Was this course or training ... to prepare you for a job or jobs that you might do in the future?

Table 2 summarizes the level of positive response to this question. Column 1 shows that rates of training to prepare for a future job vary between 18 and 21% of all currently working depending on the year. Column 3 shows that the incidence of training is slightly higher amongst the employed compared to the self-employed. It is higher still amongst those who declare a desire to start a new business within the next 12 months (columns 2 and 4). Column 4 shows that between 24 and 27% of all employees who aspire to start a new business venture have engaged in recent training in preparation for a new job.

Hypotheses 1 and 2 are investigated by tabulating the numbers of individuals who proceed through the decision structure conceptualized in figure 1. Hypotheses 3 to 5 are investigated using univariate and multivariate analyses, to establish possible association with individual traits and perceptions. While it would be attractive to relate entrepreneurial aspiration and transition directly to constructs capturing

Table 2. Training undertaken to prepare for a new job.

	<i>All currently working</i>	<i>Currently working and wanting to start a new business</i>	<i>Employees with no current own business</i>	<i>Employees with no current own business and wanting to start a new business</i>
1998	919/5025 (18.3%)	152/685 (22.2%)	863/4402 (19.6%)	142/571 (24.9%)
1999	970/5042 (19.2%)	139/637 (21.8%)	911/4433 (20.6%)	126/535 (23.6%)
2000	1024/4983 (20.6%)	148/618 (24.0%)	967/4399 (22.0%)	139/532 (26.1%)
2001	1024/4955 (20.7%)	138/548 (25.2%)	963/4363 (22.1%)	124/457 (27.1%)
2002	886/4812 (18.4%)	132/544 (24.3%)	814/4226 (19.3%)	115/453 (25.4%)

Source: Author's tabulations from BHPS Waves 8 to 12. Sample sizes vary from table 1 due to item non-response in both tables.

self-efficacy or intentionality, the BHPS does not contain adequate information to allow this. For each individual all characteristics are as recorded at or prior to the time of any stated entrepreneurial aspiration and are always prior to possible transition into self-employment. The BHPS contains detailed qualitative information on individual attitudes towards current organizational employment at the time at which entrepreneurial aspirations are being formed. Quantitative indicators of the employment experience, such as salary and travel to work time, are also available. Extensive detail on individual and household finances and wealth is a particular strength of the BHPS. This covers a range of resources available to aspiring entrepreneurs including financial investments, saving from current income and housing wealth.

4. Empirical findings

4.1 Rates of transition

Rates of transition can be calculated from wave to wave of the survey (over a 12-month interval). Although we begin with samples in paid employment with no current business venture of between 4617 and 4547 in any particular year, cell sizes become smaller in the latter stages of transition into self-employment, after accounting for initial aspiration and preparatory training. One solution is to pool information from successive waves on each transition route. In some cases therefore the sample will contain repeated observations on the same individual but for different transition sequences. Figure 2 combines observations from three sets of transitions (1998–1999–2000, 1999–2000–2001 and 2000–2001–2002) to provide a pooled sample of 13 751 transitions. This is a legitimate technique to increase cell sizes and therefore to improve the robustness of any conclusions drawn, providing that the underlying behavioural processes underlying entrepreneurial decision-making do not change over the period. Since the period is after the change of government in 1997 with no subsequent major changes in government stance towards small business support this is reasonable.¹³ So figure 2 reports cell frequencies which are averages across the three pooled sets of transitions.¹⁴

Figure 2 shows that 1648 transitions (12%) begin with a stated aspiration to start a new business venture in the next 12 months. As with other major surveys such as GEM and ISSP, this is a nationally representative estimate of

13 751 individual-year observations on employees with no current business ventures	Engaged in training to prepare for a new job?	Yes: 1648 [12.0%]	Moved into self-employment $t+1$?	Yes: 602 [36.5%]	Still in self-employment $t+2$?	Yes: 28 [4.7%]	Yes: 15 [53.6%] No: 11 [39.3%] Unknown: 2 [7.1%]
		No: 11 621 [84.5%] Unknown: 482 [3.5%]		No: 1045 [63.4%] Unknown: 1 [0.1%]		No: 542 [90.0%] Unknown: 32 [5.3%]	
Would like to start a (new) business in next 12 months? (Observed at t)	Engaged in training to prepare for a new job?	Yes: 1648 [12.0%]	Moved into self-employment $t+1$?	Yes: 602 [36.5%]	Still in self-employment $t+2$?	Yes: 28 [4.6%]	Yes: 33 [68.8%] No: 12 [25.0%] Unknown: 3 [6.2%]
		No: 11 621 [84.5%] Unknown: 482 [3.5%]		No: 1045 [63.4%] Unknown: 1 [0.1%]		No: 888 [84.9%] Unknown: 110 [10.5%]	
	Engaged in training to prepare for a new job?	Yes: 1648 [12.0%]	Moved into self-employment $t+1$?	Yes: 602 [36.5%]	Still in self-employment $t+2$?	Yes: 41 [1.2%]	Yes: 22 [53.7%] No: 18 [43.9%] Unknown: 1 [2.4%]
		No: 11 621 [84.5%] Unknown: 482 [3.5%]		No: 1045 [63.4%] Unknown: 1 [0.1%]		No: 3366 [94.4%] Unknown: 160 [4.5%]	
	Engaged in training to prepare for a new job?	Yes: 1648 [12.0%]	Moved into self-employment $t+1$?	Yes: 602 [36.5%]	Still in self-employment $t+2$?	Yes: 110 [1.3%]	Yes: 58 [36.4%] No: 40 [36.4%] Unknown: 12 [10.9%]
		No: 11 621 [84.5%] Unknown: 482 [3.5%]		No: 1045 [63.4%] Unknown: 1 [0.1%]		No: 7777 [91.1%] Unknown: 649 [7.6%]	

Source: Computed from BHPS

Figure 2. Transitions into self-employment, pooled observations 1998–2002.

entrepreneurial aspiration. However this aspiration rate is about twice as high as the level of UK 'total entrepreneurial activity' reported by GEM, because the GEM concept measures those who are aspiring to start a new business venture and have taken some action towards creating the business within the last year. This implies that around half of those aspiring to start a new business venture within the next year have not yet taken action or committed resources towards meeting that goal. The aspiration rate figure is however below the level of interest in self-employment reported by ISSP data (Blanchflower *et al.* 2001). This is because the question asked by the ISSP does not place any time limit on the achievement of the aspiration.

In wave $t+1$, 602 aspiring entrepreneurs (4.4% of the sample) report that they have engaged in training in preparation for a new job. This equates to a rate of nascent entrepreneurship broadly consistent with previous research, albeit research based on dedicated surveys with more detailed information on new venture preparation activity. This can be regarded as a lower bound estimate on the rate of nascent entrepreneurship in the UK. From this point 28 individuals (that is 4.7% of those just described as nascent entrepreneurs) actually transition into self-employment, either full-time or part-time, after 12 months. Owing to sample attrition or missing information, we do not have information on the transitioning of 32 individuals. The 'failure rate' of aspiring entrepreneurs at this point is 90%.

It is clear that only a minority of transitions into self-employment occur following declared aspirations to start a new business and training in preparation for a new job. Some 48 individuals transition into self-employment following a declared aspiration towards entrepreneurship, but without preparatory training. This gives a rate of transition of 4.6% of the total, almost exactly the same as from those who engaged in training (4.7%). These individuals may have engaged in other preparatory activity, such as business plan preparation or the consultation of business support agencies, but we have no survey information on this. Figure 2 reveals significant numbers of transitions into self-employment from individuals with no declared entrepreneurial aspiration in the previous year – 41 from those who had engaged in training to prepare for a new job and 110 from those who had not. These rates are considerably lower at 1.2 and 1.3%, respectively. Difference in the rates of transition according to prior aspiration is confirmed by an analysis of variance test, $F=110.4$ [p -value=0.000]. Almost half of transitions into self-employment (110 out of 227) occur following no aspiration stated a year before to start a new venture and no formal preparatory training.

Persistence in self-employment through to year $t+2$ varies across the transition routes: 15 out of 28 who transitioned with prior entrepreneurial aspiration and training remained in self-employment through to year $t+2$. The same proportion (22 from 44) that transitioned without prior aspiration but with training remained in self-employment. A total of 33 from 48 of those with prior aspiration but no training remained in self-employment. This higher rate suggests that those who undertake training are more likely to identify at an early stage that a new venture is not succeeding and therefore exit in a controlled manner, avoiding, for example, unnecessarily high debts or losses. The lower rate of persistence from those without aspiration and training (58 from 110) indicates that hastily conceived ventures established by poorly prepared entrepreneurs are less likely to survive.

The table also shows the rate of delayed transition into self-employment, two years after being asked about entrepreneurial aspiration. A total of 193 such transitions occur, compared to a total of 227 known transitions after one year. Rates of transition

are higher from those who originally had an aspiration to start a new business (4.0% of those with training; 3.5% of those without) compared to those without aspiration (1.1% and 1.2%, respectively). Again an analysis of variance test confirms a significant difference, $F = 151.7$ [p -value = 0.000].

To conclude, hypotheses 1 and 2 are rejected. Significant numbers of transitions into self-employment occur regardless of prior entrepreneurial aspiration, and regardless of prior training in preparation for a new job. This need not imply that such transitions are wholly spontaneous or ill-prepared, rather that aspirations are formed over a period of less than one year and that any preparatory activity does not include formal training. A strong conclusion to emerge is that the length of time between the formulation of an entrepreneurial aspiration and subsequent transition into self-employment may vary enormously, and that there may be significant heterogeneity in the degree of preparation undertaken. Such a high new venture failure rate may give policy-makers cause for concern. However policies to reduce failure rates, such as the provision of better training and preparation, may only achieve more orderly exit from unsuccessful new ventures. If this results in entrepreneurs being able to avoid heavy financial loss through more measured exit strategies, then early support may have some merit. It may also serve to reduce the large numbers of apparently hastily conceived new ventures.

4.2 Characteristics of aspiring entrepreneurs and those who transition into self-employment

Table 3 documents differences between those who aspire to start a new business and those who do not, divided according to whether individuals transitioned into self-employment between year t and $t+1$ or not. The sample is the pooled set of individual-year observations used in figure 2, but limited to those observations for which all the descriptive information used is available. This reduces the sample to 14 593 observations. In 1707 cases the individual expected to start a new venture. Of these 96 were followed by a transition into self-employment and 1611 were not (at least within a year). The remaining 12 886 cases are those where no aspiration to start a new venture was expressed a year earlier, and of these 166 did subsequently transition into self-employment. With the proviso that small cell sizes may reduce statistical precision, column (5) reports t -tests for the difference between the mean of the aspiring sample and the non-aspirers. Column (6) reports t -tests for each difference in the mean between those who transition into self-employment and those who do not.

We begin with consideration of hypothesis 3. We anticipated that entrepreneurial aspiration would rise with age. However, aspiring entrepreneurs are on average 3 years younger, but with no apparent age difference between those who transition to self-employment and those who do not. As anticipated aspiring entrepreneurs are less likely to be female, and even less so if they transition into self-employment. They are also more likely to be from an ethnic minority and even more so if they transition into self-employment. Those married or in a co-habiting partnership are a little less likely to aspire to start a new venture, but are more likely to transition into self-employment.

The individual's highest education qualification is categorized at four levels above no formal qualifications. The lowest category (O-Levels/GCSEs) denotes examinations passed at age 16 years attempted at around the earliest point that an individual may currently leave compulsory schooling.¹⁵ The next category (A-levels) is

Table 3. Univariate analysis.

<i>Means</i>	<i>Aspire to start new business</i>		<i>Not aspire to start new business</i>		<i>Difference in means, aspiration (p-value)</i>	<i>Difference in means, transition (p-value)</i>
	(1) <i>Transition to self-employment</i>	(2) <i>No transition to self-employment</i>	(3) <i>Transition to self-employment</i>	(4) <i>No transition to self-employment</i>		
<i>Observations</i>	96	1611	166	12720		
<i>Demographics/human resources</i>						
Age (years)	35.2	35.5	38.2	38.7	<0.001	0.081
Female	0.281	0.375	0.409	0.532	<0.001	<0.000
Ethnic minority	0.073	0.055	0.036	0.029	<0.001	0.097
Married/Co-habiting	0.750	0.717	0.789	0.750	0.005	0.288
Divorced/Separated	0.063	0.073	0.042	0.066	0.214	0.276
Highest qualification:						
College degree	0.219	0.174	0.217	0.166	0.270	0.029
College diploma or equivalent (HND)	0.146	0.079	0.084	0.076	0.332	0.071
A-levels or equivalent (at age 18 years)	0.198	0.222	0.217	0.227	0.555	0.518
O-levels/GCSEs or equivalent (at age 16 years)	0.354	0.377	0.301	0.366	0.363	0.123
<i>Background</i>						
Self-employed parent	0.167	0.151	0.205	0.138	0.157	0.018
Self-employed parent who employed others	0.146	0.078	0.133	0.075	0.397	<0.000
<i>Current job quality and satisfaction</i>						
Travel to work time (minutes)	26.88	23.62	27.02	23.25	0.345	0.005
Would like fewer hours	0.396	0.379	0.355	0.344	0.004	0.463
Would like more hours	0.063	0.091	0.084	0.061	<0.001	0.448

Satisfaction score – pay	4.573	4.554	5.133	4.985	<0.001	0.921
Satisfaction score – job security	4.813	5.156	5.289	5.401	<0.001	0.005
Satisfaction score – work	4.823	4.984	5.651	5.412	<0.001	0.838
Satisfaction score – overall	4.448	4.848	5.542	5.362	<0.001	0.043
Gross monthly pay (£s 1995 prices)	1275	1294	1299	1230	0.016	0.393
Personal wealth						
Gross house value (£s 1995 prices)	60395	71462	84595	71697	0.571	0.353
Housing equity (£s 1995 prices)	34395	37815	52913	42537	<0.001	0.234
Monthly active saving (£s 1995 prices)	54.44	62.91	65.99	74.05	0.005	0.271
Annual investment income (£s 1995 prices)	208	305	674	331	0.411	0.090
Housing tenure status						
Owner	0.604	0.706	0.682	0.672	0.001	0.033
Outright owner	0.052	0.079	0.120	0.135	<0.001	0.113
Renter – private landlord	0.198	0.092	0.096	0.080	0.011	0.003
Renter – social landlord	0.146	0.123	0.102	0.113	0.148	0.814
Region						
South of England	0.479	0.419	0.488	0.426	0.727	0.054
English Midlands	0.188	0.194	0.174	0.176	0.064	0.965
North of England	0.198	0.258	0.192	0.267	0.318	0.009
Wales	0.031	0.058	0.042	0.047	0.086	0.457
Scotland	0.104	0.070	0.102	0.084	0.093	0.224

Source: Author's computations from BHPS Waves 8 to 12.

Italics indicate p -value < 0.10.

attempted at age 18 years as university or college pre-qualifying examinations.¹⁶ Higher (or tertiary) education qualifications are divided into two categories. The first captures all higher education qualifications below bachelor's degree, including vocational qualifications such as the Higher National Diploma (HND). The second tertiary education qualification category is a bachelor's degree.¹⁷ There are no significant differences in the educational attainment of those who aspire to start a new venture and others. However, in line with expectation, those who transition into self-employment are more likely to have college-level or other higher education qualifications.

In order to assess family background influences, we use self-reported information in the BHPS on the employment activity of both parents when each respondent was 14 years of age. Two indicators are constructed; the first being whether either of the respondent's parents were self-employed, and the second whether they were self-employed and employed other people. The table shows that there is no significant difference in the averages between those who aspire to start a new venture and those who do not state an aspiration. However, there are significant differences in the average transition rates into self-employment. Those who had a self-employed parent are significantly more likely to transition into self-employment. Those who had a self-employed parent who employed others are almost twice as likely to transition.

The results point to significant demographic and background differences between those who do and do not state aspirations to start a new venture. Age, gender and ethnicity and marital status are significant discriminators of entrepreneurial aspiration. Consistent with previous research (Delmar and Davidsson 2000, Reynolds *et al.* 2004, Rotefoss and Kolvereid 2005), gender, ethnicity, education and family background also distinguish those who transition into entrepreneurship. In most cases these findings are in line with expectations – however although a higher level of education is associated with entrepreneurship, entrepreneurial aspiration is higher amongst younger individuals. The young may aspire to start new ventures but lack the resources, skills and experience to do so. The results regarding the relationship between marital or co-habitation status and entrepreneurship are conflicting, and reflect our initial uncertainty as the direction of any association. The lower level of entrepreneurial aspiration amongst the married or co-habiting may reflect different attitudes to risk and personal priorities held by individuals with family commitments. The higher rate of transition may be gender-specific. For example, married women may have a higher likelihood of starting a business venture because of the protection offered by their spouse's income. Multivariate analysis may therefore reveal if this finding is robust.

A range of potential associations relating to experience in previous employment are investigated to assess hypothesis 4. The first element of potential job dissatisfaction is travel time.¹⁸ For those who transition into self-employment, travel to work time in previous employment was significantly higher, on average by 3 to 4 minutes (14 to 16%). This is regardless of whether they expressed an aspiration to start a new venture. This suggests that, for some, starting a new business venture from a location at or close to home may be seen as an opportunity to avoid long commuting hours. Aspiring entrepreneurs are more dissatisfied with hours spent at work. They are more likely to want to work both longer hours and shorter hours. Entrepreneurship may be seen both as an opportunity to work harder at something worthwhile and as an opportunity to down-shift. Almost 40% of aspiring entrepreneurs who transition into self-employment report that they would like to work fewer hours.¹⁹ By comparison

34% of those who do not aspire to start a new venture and remain in paid employment report a desire to work fewer hours. Dissatisfaction with current employment spills over to differences in mean values of other indicators of job satisfaction. All those in current employment are asked to evaluate aspects of their current employment – pay, job security, the nature of the work and an overall assessment. Answers are on a centred Likert scale from 1 (completely dissatisfied) to 7 (completely satisfied). In all cases mean scores are significantly lower for those who state an entrepreneurial aspiration. Only for job security are satisfaction levels lower for those who transition into self-employment. This difference indicates that those considering entrepreneurship may already be signalling to employers a lower level of commitment. This contributes to cognitive dissonance about job security and provides employee self-justification for any decision to quit and start a business venture. Scores for pay satisfaction are significantly lower for those aspiring to start a new venture, despite actual gross pay being over £60 per month higher on average. These findings are consistent with previous research which finds a concern for job security is associated with a preference for organizational employment, whereas economic opportunity is more likely to be cited as a reason for preferring self-employment (Kolvereid 1996a,b). In summary hypothesis 4a is supported, with entrepreneurial aspirations associated with current job dissatisfaction across a range of dimensions. However, there is little difference between those who transition into self-employment and those who do not. Dissatisfaction with current employment may initiate entrepreneurial aspirations but it is clearly insufficient on its own to prompt occupational transition.

Hypothesis 5 concerns the financial resources of potential entrepreneurs. Here the table reveals some significant and unexpected differences. Aspiring entrepreneurs report significantly lower levels of housing equity (i.e. net of any outstanding mortgage debt). They do not have significantly higher levels of gross housing wealth and this implies higher levels of personal indebtedness.²⁰ There are, however, no significant differences between the housing wealth of those who subsequently transition into self-employment and those who do not. Aspiring entrepreneurs appear to be significantly less motivated to save. Average active saving levels are £54 and £63 per month for those transition and non-transition groups, compared with £66 and £74 per month for non-aspirers. This finding is consistent with results reported by Parker and Belghar (2005). No significant difference is maintained between those who transition into self-employment and those who do not. Aspiring entrepreneurs enjoy a less secure position in the housing market, as seen in housing tenure – they are less likely to be owners and outright owners with no mortgage liability, and more likely to be in rental tenure. The results are striking and suggest a more complex association between entrepreneurship and financial resources than expressed in Hypothesis 5. Specifically they suggest that entrepreneurship may be perceived as a route to acquiring wealth by those with higher debt and/or those with lower levels of saving activity. In practice it is likely to be difficult for such individuals to transition into entrepreneurship because of low financial resources and less access to borrowing if debt levels are already high. Public policy is often directed towards alleviating the capital constraints faced by nascent entrepreneurs. These findings suggest that policy might equally be directed towards encouraging more careful financial planning, and raising awareness of the financial commitment involved. While such a strategy may not improve start-up rates, it may benefit survival rates.

The final panel of table 3 categorizes the sample into three English regions, as well as Wales and Scotland. A greater proportion of those who transition into

self-employment are in the South of England and in Scotland compared to those who do not. Successful aspiring entrepreneurs are less likely to be found in the English Midlands, in the North of England and in Wales. For example, 48% of individuals who aspire to entrepreneurship and subsequently transition are located in the South of England whereas only 42% of those who aspire but do not transition are in this region. This difference is correspondingly reversed in the case of the Midlands, the North and Wales. Column 5 shows that a significantly higher proportion of aspiring entrepreneurs are in the Midlands and in Wales and a lower proportion in Scotland. Column 6 confirms a significantly high proportion of transitions into self-employment in the South of England and a significantly low proportion in the North of England.²¹ This is consistent with official published rates of self-employment, and suggests that public concern about regional differences in entrepreneurship should be directed towards investigation of variations in the rates of transition from aspiration to new venture creation.

Overall the data indicate considerable heterogeneity amongst those who transition into self-employment, with few systematic differences other than in demographic and family background. Stronger systematic differences are found for aspiring entrepreneurs. As noted in previous research these non-cognitive differences may be indicative of underlying cognitive differences. It is possible, however, to conclude that whatever the source of these, they do not translate into explanations for actual entrepreneurial transitions.

4.3 Multivariate analysis of entrepreneurial aspiration and transition into self-employment

Univariate analyses ignore correlation between the various drivers considered, and so do not allow consideration of marginal associations with entrepreneurial aspiration and transition into self-employment. An examination of the correlation matrix for characteristics discussed reveals strong correlations between the various measures of job satisfaction, and amongst the various indicators of financial and housing capital resource, suggesting that particular marginal associations may be different from those shown in table 3.²²

Table 4 reports regression analysis of the transition from entrepreneurial intention to new venture start-up, using a bivariate probit model (Greene 2003: 710–719). This allows for interdependent modelling of the two choice processes: aspiration to entrepreneurship and transition into self-employment.²³ Specifically it investigates whether an aspiration to begin a new venture confers an otherwise unmodelled advantage in the likelihood of transition into self-employment. Previous research has not attempted this. The potential interdependence of the two decisions is captured through a model parameter which estimates the degree of correlation between the unexplained components in each choice model. The positive reported value for the error correlation at the foot of the table reveals the strength of the interrelationship between the two choices. Those aspiring to start a new business venture a year before are more likely, other explained factors being equal, to transition subsequently into self-employment. Successful transition is more likely if aspirations are well formed in advance.

The results suggest that a range of other influences may play a part. Turning first to the demographic associations, the impact of age is modelled through a

Table 4. Bivariate probit regression model of entrepreneurial aspiration and transition into self-employment.

	(1)	(2)	(3)	(4)
	(1) <i>Aspiration to start a new business</i>		(2) <i>Transition into self-employment</i>	
	<i>Coefficient</i>	<i>p-value</i>	<i>Coefficient</i>	<i>p-value</i>
<i>Demographics/human resources</i>				
Age	0.0258	0.010	0.0353	0.051
Age squared	−0.00053	< 0.000	−0.00052	0.023
Gender (reference: male)	−0.3341	< 0.000	−0.2978	< 0.000
Ethnic minority (reference: white)	0.3422	< 0.000	0.0990	0.433
Marital status (reference: single):				
Married/Co-habiting	0.0131	0.752	0.0695	0.366
Divorced/Separated	0.1893	0.005	−0.0268	0.842
Highest qualification (reference: no qualifications at age 16 years or above)				
College degree	−0.1304	0.022	0.0485	0.626
College diploma	−0.0550	0.400	0.0863	0.439
A-levels (at age 18 years)	−0.1398	0.006	−0.0786	0.394
O-levels/GCSEs (at age 16 years)	−0.0597	0.197	−0.0684	0.413
<i>Background</i>				
Self-employed parent	0.0860	0.122	−0.0363	0.737
Self-employed parent who employed others	−0.0277	0.704	0.2899	0.024
<i>Current job quality and satisfaction</i>				
Travel to work time (minutes)	−0.0007	0.304	0.0019	0.088
Hours of work (reference: content with current hours)				
Would like fewer hours	0.0635	0.040	0.0598	0.291
Would like more hours	0.1733	0.001	0.0687	0.496
Satisfaction score – pay	−0.0352	0.001	0.0368	0.069
Satisfaction score – job security	−0.0104	0.919	−0.0372	0.037
Satisfaction score – work	−0.0304	0.033	0.0369	0.173
Satisfaction score – overall	−0.1006	< 0.000	−0.0423	0.163
Gross monthly pay £000s	−0.0039	0.847	−0.1093	0.010
<i>Personal wealth</i>				
Gross house value £0000s	0.0116	< 0.000	0.0060	0.252
Housing equity £0000s	−0.0053	0.174	0.0053	0.330
Monthly active saving £s	−0.0002	0.080	−0.0002	0.276
Ann. investment income £000s	0.0056	0.510	0.0190	0.084
<i>Housing tenure status (reference: owner with mortgage)</i>				
Outright owner	−0.1865	< 0.000	−0.0642	0.485
Renter – private landlord	0.1173	0.035	0.2756	0.003
Renter – social landlord	0.0589	0.233	0.0963	0.292
<i>Region (reference: South of England)</i>				
English Midlands	0.0748	0.063	−0.0263	0.718
North of England	−0.0192	0.604	−0.1440	0.040
Wales	0.1465	0.027	−0.0707	0.593
Scotland	−0.0499	0.382	0.1003	0.279
Intercept	−0.3900	0.044	−2.5094	< 0.000
<i>n</i>			14593	
Log likelihood			−6164.5	
Error correlation (<i>p</i> -value)			0.347 (< 0.000)	

Source: Author's computations from BHPS Waves 8 to 12. Italics indicate *p*-value < 0.10, **bold italics** indicate *p*-value < 0.05.

quadratic (square) function, as in much previous research. This is because age may proxy for employment experience, with the impact of additional experience attenuated over time. The coefficients imply that age is positively associated with entrepreneurial aspiration until the mid-20s, but thereafter aspirations decline as individuals get older. The likelihood of transition into self-employment peaks at the age of 34 years and declines thereafter. So although the young are most likely to state entrepreneurial aspirations it is not until individuals reach their mid-30s that they will have acquired sufficient experience to make a transition into self-employment most likely. Results for gender and ethnicity confirm the earlier findings. The reference category for marital status is single (never married). The univariate results suggested that rates of aspiration were lower amongst those married or co-habiting. The regression results show that, although rates of aspiration are lower, other things being equal, a married or co-habiting individual has a greater likelihood of entrepreneurial aspiration than a never-married person. A married person may be a safer risk for a capital lender, even though fewer married people on average express entrepreneurial aspirations. For those divorced or separated the difference with those who are single is statistically significant. The dissolution of a marriage partnership may prompt individuals to re-assess a variety of life goals and aspirations, one of which might concern employment status. Only the associations with gender and age remain significant in the transition equation. Women are significantly less likely than men, other things being equal, to transition into self-employment. This may be due to discrimination by external support agencies such as capital lenders; it may be the result of differences in motivation.

The coefficient estimates reveal that higher levels of education are associated with a lower likelihood that an individual will aspire to start a new venture. Those with higher educational attainment may be better informed or better able to judge the potential for success as an entrepreneur. This is particularly so in the case of those whose highest qualification is a degree or age 18 years school examinations. A greater sense of realism may lower stated aspirations. Paid employment opportunities may be better for the more educated, so reducing the need to consider entrepreneurship as an alternative. College diploma holders are slightly less likely to hold entrepreneurial aspirations than those with no formal qualifications but not significantly so. This reflects the more vocational nature of such qualifications which prepare individuals for craft- or trade-based businesses where self-employment opportunities are greater. Educational attainment is positively associated with subsequent transition into self-employment, but not with any degree of statistical significance.²⁴

There is a positive association between entrepreneurial aspiration and parental self-employment, although only significant at the level of 10%. There is a much stronger positive association between parental background as an employer and the likelihood of transition into self-employment. These results reinforce the earlier conclusion of a stronger association between demographic and background factors and entrepreneurial aspiration than with actual transitions. Individuals raised in successful entrepreneurial families may be both better prepared and have gained a more positive perception of entrepreneurship as a career choice.

Table 4 also reinforces the earlier conclusions concerning the relationship between entrepreneurial aspiration and current employment experience. Although dissatisfaction across a range of dimensions of current employment may be associated with the expression of entrepreneurial aspiration, it is only dissatisfaction with job

security and actual pay levels that are associated with self-employment transitions.²⁵ This is consistent with new venture establishment being perceived as a route to financial success. The effect of any perceived or actual threat to continued paid employment encourages new venture creation. The earlier conclusion of a limited association between financial resources and entrepreneurship is confirmed. Adequate finance is likely to be essential to success, but appears not to be a key criterion in the decision to start a new venture. It could be concluded that it is too easy to start a poorly-financed venture. Entrepreneurial aspiration is positively associated with gross housing wealth, but negatively associated (7% significance) with active saving behaviour. From this it appears that entrepreneurial aspiration is perhaps (weakly) associated with an individual's perception of their overall level of prosperity rather than active behaviour to improve that individual's financial position. No such association is readily apparent for transitions into self-employment, apart from the weakly significant positive association with the level of annual investment income already observed in the univariate analysis.

Regional differences in levels of entrepreneurial aspiration and transition may be moderated once demographic variations are controlled. The regression results show that, relative to the South of England, individuals in Wales and to a lesser degree in the Midlands are more likely to express entrepreneurial aspiration, other things being equal. However those in the North, given aspirations and all other factors, are significantly less likely to transition into self-employment. Aspiration levels in the North are, other things being equal, lower than in the South of England but not significantly so. This result allows us to hone the earlier conclusion that public policy should pay attention to regional variation in entrepreneurial aspiration. In particular, policy-makers need to address attitudinal or behavioural barriers to entrepreneurship which prevent individuals in regions such as the North of England from creating new business ventures, given aspirations and given personal and financial resources. For a region such as Wales the relevant policy issue is similar – aspiration levels appear to be high but these aspirations do not translate into a high level of business start-ups. Entrepreneurship policy should be devolved to the regional level in order that the balance between raising aspiration and overcoming barriers to new venture start-up can be tailored to region-specific concerns.

5. Conclusions

This research shows that the majority of transitions into self-employment appear to be conceived over a time period of less than one year. Studies which identify nascent entrepreneurs from a sample of the general population at a point in time and subsequently trace their new venture creation activity to a further point in time may therefore miss significant numbers of actual entrepreneurial transitions at that second point in time. This conclusion was pointed out by Katz (1990), but has since attracted relatively little research attention. An important implication is that we do not know the extent to which conclusions about the drivers of entrepreneurial dynamics in the general population, drawn from longitudinal tracking analyses of nascent entrepreneurs, may be biased. So, this paper has shown that a complementary analysis of general purpose longitudinal surveys, representative of the whole population, can provide insight. Information on nascent entrepreneurial activity in general purpose longitudinal surveys can be limited.

Entrepreneurship researchers should press the managers and funders of such surveys to address this gap.

What seems certain is that the time span between the formation of entrepreneurial aspiration and actual transition is subject to wide variation. It may be very wide, ranging from several years to time periods of only a few months or weeks. Many transitions take place without preparatory training. This does not mean a complete lack of preparatory activity. Other forms of activity such as market research, consultation with business support agencies, etc., may occur. However this paper's findings raise concern about the chances for survival and for growth of new business ventures formed by individuals whose intentions are formed rapidly and who appear not to have sought preparatory training. Even with better preparation and more considered decision-making start-up rates may not increase. However, policy directed here could achieve a more orderly exit at an earlier stage from unsuccessful ventures, reducing economic and social 'collateral damage' from bankruptcy and financial distress.

The findings in the paper confirm the existence of significant heterogeneity amongst aspiring entrepreneurs and amongst those who transition to entrepreneurship. These two decision processes are found to be highly interdependent, in the sense that unexplained factors in the aspiration equation are highly correlated with those in the transition equation. This may point to common cognitive influences which are not captured by the quantitative and qualitative information on traits and characteristics found in large-scale surveys. The formation of aspirations does appear to conform in part to an 'entrepreneurial event' model insofar as they are correlated with negative perceptions of current paid employment. However we cannot rule out the self-fulfilling nature of such perceptions – they may indicate that those who like the idea of entrepreneurship seek internal self-justification. This correlation does not carry over into an association with actual transitions, suggesting that it takes more than current job dissatisfaction, possibly self-justified, to translate intention into action.

A further key finding is that entrepreneurial aspirations do not relate systematically to financial resources. Indeed many aspiring entrepreneurs may hold such aspirations because they see a new business venture as a route towards financial security, rather than as the risky deployment of financial resources. Certainly we find no positive association between entrepreneurial aspiration and intentional financial preparation such as active saving or the achievement of greater housing equity. The absence of any link should give policy-makers cause for concern, and combines to reinforce a conclusion that better education about preparation needed to prepare for a successful new business venture is required.

There is a strong regional dimension to the distribution of entrepreneurial aspiration. In some regions, with Wales being an example, aspiration levels seem high given other influences. What this paper has shown is that these do not necessarily translate into a high new venture start-up rate. This represents an avenue for further research and is something to which policy-makers may wish to give attention. Detailed qualitative and case study research may be needed to investigate the potential role of cultural heritage and regional variation in the interplay between intention formation and capacity to act on those intentions. This does strengthen the argument that regional or even local approaches to small business support policy are more appropriate than national solutions.

Finally this research finds support for earlier work insofar as entrepreneurial choice is moderated by a range of demographic influences. These reinforce a number of well worked themes – notably that policy must continue to address low levels of interest in entrepreneurship amongst women, and amongst those with low educational attainment. In the latter case the solution may be to improve access to vocational training. It also shows that for minority ethnic members entrepreneurship is a popular occupational choice. Here the issue is whether this is a genuine choice or one forced upon individuals because economic opportunities elsewhere are limited. Finally this research finds support for a demographic theme less well-addressed in the literature – that parental entrepreneurial background is a predictor of transitions into self-employment. This points to the deep-seated nature of some of the processes driving business start-up rates, and shows that there are influences on levels of entrepreneurial activity which are not amenable to quick policy solutions.

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Notes

1. Further work (Scheinberg and MacMillan 1988, Shane *et al.* 1991) finds similar variation, but from a recall investigation of the reasons given for choosing entrepreneurship from existing entrepreneurs.
2. Gartner *et al.* (2004) provides detailed analysis of the PSED. Shaver *et al.* (2001) contains discussion on defining nascent entrepreneurship using this data source.
3. In principle we could observe further combinations of transitions in observation point $t + 3$ and above, although the numbers of possible combination patterns increases geometrically.
4. As Headd (2003) has shown closure of a new small business venture may not necessarily indicate failure but rather a planned exit or business development strategy. For example, a new venture established by someone observed to be self-employed may grow to the point that it becomes incorporated and therefore the self-employed owner becoming an executive employee. Earlier discussion of this point is provided by Ronstadt (1986).
5. Some economic analysis reports associations between self-employment rates and housing wealth (for example Black *et al.* 1996, Henley 2004).
6. A recent paper by Georgellis *et al.* (2005) provides a survey of this literature and further highlights a lack of consensus. They also conduct their own research on the impact of financial windfalls on the transition to self-employment using the same data survey as used in this paper. They conclude that while inheritances raise the probability of transition, lottery wins lower it.
7. Official labour force survey data from the UK Office for National Statistics reveals that in Spring 2005 the rate of self-employment was 9.8% of the working age population. However this rate varied from only 5.6% in the North East 'Government Office' region of England to 12% in the South East region of England. Rates for Scotland and Wales were below the UK average at 7.4% and 8.8%, respectively (Source: *Regional Trends*, issue 39, May 2006, UK Office for National Statistics).
8. Tamasy (2006) investigates variation in regional entrepreneurial dynamics in Germany and concludes that public policy should pay attention to regional variation in attitudes towards entrepreneurship.
9. The far north of Scotland is excluded because of the prohibitive sampling costs. The original survey excludes Northern Ireland. Booster samplers for Wales and Scotland recruited in 1999 and a sample for Northern Ireland recruited in 2001 are excluded from the analysis. Technical details are provided in Taylor *et al.* (2004) and Lynn (2006).
10. Sample attrition rates in the BHPS are generally low and certainly comparable to those achieved in other similar household panels. As is typical with household panels the highest attrition rate of individuals was between Waves 1 and 2 (12%). Attrition between Waves 2 and 3 was 7% of the original individuals and subsequently averaged 2.4% of the original sample between waves. In common with nearly all previously published research using this data source, we treat attrition as a random event.

11. For those whose main occupation is self-employment, the survey provides some further information on the type of self-employment. Between 1998 and 2002 between 38 and 40% of the self-employed were running or in partnership in a business or professional practice. A further 40 to 43% were own-account workers, with the remainder working as freelancers, subcontractors or other unspecified categories of self-employment. These categorizations are self-reported and therefore dependent on the manner in which respondents interpret the categories.
12. It has been noted that attrition amongst the self-employed was a problem with the PSED survey (see discussion in Reynolds and Curtin 2004). One explanation for possible higher attrition amongst nascent entrepreneurs is that they are too busy to respond to follow-up surveys.
13. Support for small businesses is, in England, the responsibility of the Small Business Service. Although this was established in its present form in 2000, it was not until December 2002 that it published the outcome of a strategic review which has informed subsequent policy. In Wales and in Scotland support for small business has been devolved to regional economic development agencies throughout the period in question.
14. Results for the three separate sets of transitions beginning in 1998, 1999 and 2000 are available on request from the author. Proportionate cell frequencies are generally very stable across each set of transitions for cells at the start of the decision trees, but frequencies vary when cells become very small at the lower end of the trees. This suggests that the pooled results reported in figure 2 may allow robust conclusions to be drawn.
15. Schooling is current compulsory in the UK to age 16 years. The age was raised from 15 years in the early 1970s. Older respondents would therefore have had the opportunity to leave school a year prior to these examinations. Until the late 1980s students took either 'O-level' examinations or 'Certificate of Secondary Education' (CSE) examinations. Subsequently an integrated system of 'General Certificates of Secondary Education' (GCSE) was introduced.
16. These courses are taught in either schools ('sixth form') or in further education sectors colleges. A-levels are formal examinations – the category used in the analysis also includes other vocational qualifications taken for higher education pre-qualifying, which are deemed to be equivalent to A-levels.
17. All those with postgraduate degrees (masters or doctorate) are assumed previously to have achieved a bachelor's degree.
18. Travel-to-work time may proxy for location, if for example travel-to-work times are significantly in congested metropolitan areas, or in deep rural areas where employment opportunities are sparsely located. Self-employment rates may be higher in both.
19. This conclusion contrasts with other research which shows that subjects are likely to report a perception that organizational employment is preferable in terms of work load (Kolvereid 1996a,b). A possible explanation for this, worth further investigation, may be that long hours are acceptable under self-employment, if they are perceived to be accompanied by greater autonomy or improved opportunity to accumulate wealth.
20. Wave 10 of the BHPS asks for details of non-mortgage debt. Those who aspire to start a new business venture in that wave of the survey have higher non-mortgage debt, although (perhaps because of the small sample size) the difference is not statistically significant.
21. A total of 19.4% of all aspiring entrepreneurs are in the Midlands compared to 17.6% of those without aspiration. This difference, as reported in the table, is significant at a level of 0.064. The corresponding figures for Wales are 5.6% and 4.7% and for Scotland 7.2% and 8.4% of the samples. Some 48.5% of all those who transition into self-employment are in the South of England compared to 42.5% of those who do not. This difference, as reported in the table is significant at a level of 0.054. The corresponding figures for the North of England are 19.5% and 26.6% of the samples, respectively.
22. The correlation matrix is available on request from the author.
23. We do not consider the decision to undertake training in preparation for a new job for two reasons. The first is the concern that this provides only partial information on any preparation for a new business venture launch. The second is that a three-way partition of the sample results in very small cell sizes. Modelling of this more complex decision process would be a topic for future research.
24. Some previous research has noted that the relationship between education and transition into entrepreneurship may not be particularly robust (Carroll and Moskowsi 1987, Evans and Leighton 1989).
25. It should also be noted that at a given level of actual pay a higher satisfaction score with job pay is associated with a higher likelihood of subsequent transition into self-employment at a significance level of 8%. Two individuals paid the same salary may express different levels of satisfaction with pay. The one with the higher satisfaction is more likely to transition into self-employment. A possible explanation for this result is that for an individual reporting higher satisfaction the instrumental value of a given level of pay may be higher because it is perceived as supporting entrepreneurial objectives, perhaps through allowing a more rapid acquisition of start-up capital requirements.

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