Self-employment and attitudes towards risk: Timing and unobserved heterogeneity

Sarah Brown *, Michael Dietrich, Aurora Ortiz-Nuñez, Karl Taylor

Department of Economics, University of Sheffield, 9 Mappin Street, Sheffield S1 4DT, United Kingdom

ABSTRACT

We explore the relationship between self-employment and attitudes towards financial risk using individual level data drawn from the US Panel Study of Income Dynamics (PSID), which includes measures of individuals’ attitudes towards hypothetical gambles allowing us to explore the implications of interpersonal differences in risk attitudes for the probability of self-employment. Our empirical findings suggest that willingness to take financial risk is positively associated with self-employment. By exploiting the panel aspect of the PSID, we find evidence, whilst controlling for unobserved individual heterogeneity, consistent with a causal relationship between attitudes towards risk and self-employment with attitudes towards risk measured prior to becoming self-employed having a statistically significant positive influence on the probability of future self-employment.

1. Introduction and background

Over the last three decades, there has been considerable interest amongst both academics and policy-makers in the determinants of self-employment. Such interest is not surprising given that self-employment and entrepreneurship have been regarded as avenues for raising employment with self-employees and entrepreneurs creating their own jobs as well as potentially creating jobs for others thereby serving to alleviate unemployment and poverty. Recent literature has explored the choice between self-employment and paid employment as well as the division within self-employment between own-account and employer status (see Earle & Sakova, 2000), where individuals compare the utility derived from each sector and then decide which sector to enter. Within this framework, the influences of risk and risk preference have attracted considerable interest. For example, Parker (1997) models self-employment assuming that individual heterogeneity is determined by entrepreneurial ability. In this framework, the probability of self-employment increases (decreases) in ability (risk). Whilst Van Praag and Cramer (2001) allow individuals’ expectations of entrepreneurial talent to vary with personal characteristics, where the expected returns from entrepreneurship depend on the individual’s assessment of his/her ability and on attitudes towards risk.
Despite the interest in attitudes towards risk in both the economics and psychology literature, recent empirical research has focused on the attributes of the self-employed generally rather than on their propensity to take risk per se (see Le (1999) and Parker (2004) for comprehensive reviews). Such an approach is not surprising given that attitudes towards risk are difficult to measure. Consequently, the standard approach to their measurement entails the use of proxies related to an individual’s propensity to engage in ‘risky’ behaviour or individuals’ responses to hypothetical situations. For example, Barsky, Juster, Kimball, and Shapiro (1997) adopt an experimental approach to elicit individual preference parameters: participants were asked to respond to situations regarding their willingness to gamble lifetime income. In a similar vein, Brown, Farrell, Harris, and Sessions (2006) explore the relationship between employment type and risk preference by analysing a set of proxies for risk preference, whereby some of the proxies capture risk loving behaviour (expenditure on gambling, smoking and alcohol) whilst others capture risk averse behaviour (expenditure on life and contents insurance).

Thus, although empirical studies acknowledge the role of attitudes towards risk in influencing self-employment, the lack of measures of risk attitudes precludes its inclusion in many empirical studies. In one of the few papers, which employs a more direct measure of attitudes towards risk based on the reservation price that individuals are prepared to pay for a hypothetical lottery ticket, Hartog, Ferrer-i-Carbonell, and Jonker (2002) find that, in general, risk aversion is lower for the self-employed in the Netherlands. In a similar vein, Ekelund, Johansson, Jarvelin, and Lichtermann (2005) explore the influence of risk aversion on the probability of being self-employed in Finland. Their findings support an inverse relationship between risk aversion, measured using psychometric data relating to harm avoidance, and the probability of self-employment. More recently, Masclet, Colombier, Denant-Boemont, and Lohéac (2009), analysing risk preference within the context of a lottery choice experiment, find that the self-employed are significantly less risk averse than salaried workers and students.

It is important to acknowledge that there are a number of studies in the existing literature which do not report evidence supporting an inverse relationship between risk and aversion and self-employment. For example, there has been some debate in the applied psychology literature relating to the hypothesis that entrepreneurs have a relatively high risk propensity with Miner and Raju (2004) reporting evidence based on meta analyses that entrepreneurs are relatively more risk avoidant. Moreover, they argue that the stage at which a firm is in the growth cycle may be an important influence on the relationship between propensity to take risk and entrepreneurship. Using the 1980 US Panel Study of Income Dynamics (PSID), to explore the choice between self-employment and public sector employment, Tucker (1988) finds that personal risk-taking preferences do not play a significant role in explaining entrepreneurial occupational choice. Similarly, Parker (2008) uses the 2003 PSID to analyse entrepreneurship among married couples in the US and finds that attitudes towards risk have a statistically insignificant effect on the propensity to be a business owner.

In this paper, we further explore the relationship between attitudes towards risk and self-employment using panel data drawn from the PSID, which includes information on self-employment and individuals’ risk attitudes. In contrast to previous studies, which have tended to focus on cross-section data or specific waves of panel data, we exploit the panel aspect of the PSID, which allows us to use time lags to explore issues related to causality, which have been alluded to in the existing literature but, due to data limitations, have not been the focus of empirical scrutiny. Furthermore, our analysis of panel data allows us to control for unobserved individual heterogeneity, thereby making an important contribution to the existing literature on self-employment, which due to data limitations has generally not accounted for such unobserved effects.

2. Risk attitudes and self-employment

The obvious problem with exploring the relationship between self-employment and attitudes towards risk from an empirical perspective lies in locating a suitable measure of attitudes towards risk. For this purpose, we exploit data from the US PSID, which is a representative panel of individuals ongoing since 1968 conducted at the Institute for Social Research, University of Michigan.

The 1996 PSID survey includes a Risk Aversion Section containing information on individuals’ attitudes towards risk. The Risk Aversion Section includes five questions related to hypothetical gambles with respect to lifetime income analysed by Barsky et al. (1997). To be specific, all heads of household were asked the following question (M1): Suppose you had a job that guaranteed you income for life equal to your current total income. And that job was (your/your family’s) only source of income. Then you are given the opportunity to take a new, and equally good, job with a 50–50 chance that it will double your income and spending power. But there is a 50–50 chance that it will cut your income and spending power by a third. Would you take the new job?\(^1\) The individuals who answered ‘yes’ to this question were then asked (M2): Now, suppose the chances were 50–50 that the new job would double your (family) income, and 50–50 that it would cut it in half. Would you still take the job? Those individuals who answered ‘yes’ to this question were then asked (M3): Now, suppose the chances were 50–50 that the new job would double your (family) income, and 50–50 that it would cut it by 75%. Would you still take the new job? Individuals who answered ‘no’ to Question M1 were asked (M3): Now, suppose the chances were 50–50 that the new job would double your (family) income, and 50–50 that it would cut it by 20 per cent. Then would you take the job? Those individuals who replied ‘no’ were asked (M4): Now, suppose that the chances were 50–50 that the new job would double your (family) income, and 50–50 that it would cut it by 10 per cent. Then would you take the new job?

\(^1\) As Luehr and Stafford (2005) point out, it is important to acknowledge that the question states that the new job will be ‘equally as good’ such that there is no difference in the non monetary characteristics of the jobs. Without such a qualification, individuals may be less willing to accept the gamble if there are non monetary attachments to their current job (Barsky et al., 1997).
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