

Self-Employment Longitudinal Dynamics: A Review of the Literature

Yannis Georgellis, John G. Sessions**
and Nikolaos Tsitsianis¹

ABSTRACT

We review longitudinal studies on self-employment dynamics, classifying studies into those that examine transitions into self-employment, and those that examine self-employment exit and survival. A number of hypotheses from both the economic and social-psychological literatures are examined vis. the effects on self-employment dynamics of financial, human and social capital, intergenerational effects, and labour market hardships.

1. INTRODUCTION

AFTER DECADES OF COMPARATIVE NEGLECT, self-employment has re-emerged as an important aspect of many developed economies. The apparently intractable unemployment rates of the late 1970s and early 1980s, coupled with the findings of a series of studies showing a superior job creation performance for small firms (Birch 1987; Storey, 1987), incited academics and practitioners to consider self-employment as a way of re-integrating displaced workers into the labour market.² The Australian 'New Enterprise Incentive Scheme', for example, provides training and income support to unemployed individuals who wish to enter self-employment. Similarly, the UK government offers transfer payments to the unemployed whilst they start their business. Indeed, there seems to be a general consensus that self-employment plays an important role in the restructuring of industry and it is often interpreted as a sign of macro-economic vitality [Bechhofer and Elliot (1985), OECD (1986), Blau (1987), Aronson (1991), Bögenhold and Staber (1991), OECD (2000)].

But self-employment has more to offer than just unemployment alleviation. It has long been argued that the entrepreneurship engendered by small enterprises is essential to economic growth [Schumpeter (1934)]. Adopting this view, Blanchflower and Meyer (1994) argue that the lack of entrepreneurs is one of the main reasons for the poor economic performance of Eastern European countries in recent years. Self-employment may also provide an out-

let for ethnic/racial groups facing consumer and employer discrimination, a view reflected in the large number of government schemes in the US that encourage the growth of minority small business. Non-pecuniary rewards such as greater autonomy, flexible working schedules and job satisfaction make self-employment an attractive alternative for a growing number of workers [see, for example, Blanchflower and Oswald (1998), OECD (2000)].

Interest in self-employment has also been spurred by the belief that actual and/or potential entrepreneurs face a distinct set of economic incentives, allowing for a number of hypotheses of labour market behaviour and performance to be tested. For example, a number of studies have tested the notion that individuals respond to risk-adjusted relative earnings opportunities, the hypothesis that self-employment is an alternative form of employment for disadvantaged individuals ('Disadvantaged Theory'), and that individuals who change jobs frequently are more likely to become self-employed ('Reactive Cultural Theory'). Other studies focus on differences in the returns to education [Wolpin (1977)], the importance of ethnicity and migration [e.g. Light (1972), Clark and Drinkwater (1998)], the magnitude of managerial talent across individuals [Lucas, (1978)] and the role of an individual's risk aversion [Kihlstrom and Laffont (1979)]. The possibility that a relatively high proportion of self-employed in the labour force exerts a political influence in shaping policies that are more favourable to business has attracted some attention recently [Fölster and Trofimov (1997)]. Finally, an increase in entrepreneurial activity has the potential to reduce the overall burden of pensions, social welfare and health costs [OECD (2003)]. All this suggests that analysing why workers choose to become self-employed, why some are successful in their endeavour, and why others fail, is important for our understanding of labour markets.

Until recently, the majority of studies examining self-employment have adopted a cross-sectional framework that essentially examines the propensity to be self-employed at a point in time. While this is useful, it cannot tell us about the conditions that determine whether an individual becomes self-employed. Cross-sectional studies, therefore, necessarily obfuscate the dynamics associated with the self-employment decision. The issue is especially perplexing when interpreting the role of wealth in the self-employment transition — are wealthier individuals more likely to enter self-employment, or does self-employment enable individuals to accumulate more wealth [see Holtz-Eakin, Joulfaian and Rosen (1994a, 1994b)]? Cross-sectional estimates necessarily confound the determinants of switching and survival.³ Longitudinal studies, on the other hand, mitigate possible endogeneity issues and raise confidence that past values are a cause rather than a consequence of self-employment.

In what follows we review *longitudinal* studies of self-employment, focusing on both *transitions* into self-employment and self-employment survival. However, we occasionally refer to the results of eminent *cross-sectional* studies, for comparison purposes only.

2. TRANSITION INTO SELF-EMPLOYMENT

Research on the transition into self-employment has focused on the following key themes, vis: (i) financial capital; (ii) relative earnings prior to and after the transition; (iii) intergenerational links; (iv) personal characteristics (vis. education, labour market experience, family background and flexibility); (v) labour market hardships and (vi) immigration.

2.1 Financial capital

A key factor considered in the self-employment literature is the potential for capital constraints to limit the access of budding entrepreneurs to external sources of finance, thereby jeopardising both the growth and survivability of their enterprise. Theoretical work emphasizes the lack of sufficient start-up capital and/or sufficient access to credit markets as a binding constraint on individuals' choice between paid employment and self-employment [see for example, Stiglitz and Weiss (1981), Coate and Tennyson (1992)]. Initial capital, resulting from accumulation, inheritances, gifts, loans or housing equity, is often required to set-up a business and their availability, in principle, affects not only the establishment but also the viability of the business. At an empirical level, the role of financial capital has been investigated mainly with discrete models of career choice. The theoretical models employed in these analyses imply that if the lack of finance is found to reduce the probability of self-employment, then this constraint also retards self-employment income.

Support for this thesis is derived from a number of studies that find the probability of transition to self-employment to be significantly lower amongst relatively less wealthy individuals. Indeed, the gap between actual and desired entrepreneurship appears to be greatest in those areas most afflicted by unemployment and poverty, the North of England being a particular case in point [Blanchflower and Oswald (1998)]. Evans and Jovanovic (1989) examine US transitions from employment to self-employment, proxying capital constraints by net family assets and find that such assets exert a non-linear (concave) effect on the probability of transition. They conclude that this phenomenon might reflect a wealth effect increasing the demand for leisure and/or a higher degree of risk aversion accompanying the pre-transition wealth, offsetting the positive effect of transitions from the relaxation of the capital constraint. Similar results are reported in Evans and Leighton (1989) who examine the impact of assets and income on the transitions from wage employment into self-employment for 1976-78, 1978-80 and 1980-81. Specifically, they find that an increase in the level of family net worth increases an individual's propensity to become self-employed in a more linear fashion — the quadratic influence of assets on self-employment propensities, although significant in 1978-80 and 1980-81, is much less pronounced than Evans and Jovanovic's (1989) study.

Holtz-Eakin, Joulfaian and Rosen (1994b) assess the impact of inheritance, liquid assets, and home ownership on the transitions to self-employ-

ment in 1981 and 1985 of employees who had received inheritances in 1982 and 1983. Their results regarding the presence of liquidity constraints are mixed — inheritances increase (at a decreasing rate) the probability of transition, whilst liquid assets and home ownership are insignificant contributors.⁴ Other longitudinal studies by Evans and Jovanovic (1989), Evans and Leighton (1989), Johansson (2000a), Taylor (2001) and Georgellis *et al.* (2005a) tend to confirm the non-linear effect of wealth on the probability of self-employment transition. The nonlinearity is consistent with the idea that large wealth levels or large windfall gains provide financial security and may accelerate labour market withdrawal. It might be the case that as wealth increases the degree of risk-aversion rises. Because self-employment is assumed risky, this may deter entry into self-employment [Le (1999)]. It is also possible that increased wealth allows individuals greater scope to pursue non-profit objectives — so, in general, an increase in access to finance may have conflicting effects on the numbers of the self-employed [Burke, Fitzroy and Nolan (2000)].

Longitudinal studies have been somewhat remiss — certainly relative to cross-sectional studies — in accounting for intergenerational and interfamily transfers of financial and non-financial resources. This dearth motivates Dunn and Holtz-Eakin (2000) to examine how intergenerational transfers impact on young male transitions over the period 1966-1982. Employing various measures of financial resources, they find robust evidence that family assets raise significantly the probability of transition, *ceteris paribus*. Such a finding is consistent with Sanders and Nee (1996) who find that both the non-business assets and, especially, the total assets of an individual's parents are significantly positive predictors of his probability of transition, implying that the parents' business assets are more closely linked to their progeny's self-employment ambitions.⁵

Bruce (1999) provides longitudinal evidence of married women's transitions into self-employment, from either paid employment or outside the labour force, conditioned on their husband's self-employment experience. Both husband earnings and household capital income exert a small, yet significant, impact on the transition probability. It would thus seem that a husband's labour market income represents a stable income source, which reduces the risk of self-employment. It is interesting to note that household income from capital becomes insignificant when the husband's self-employment experience is controlled for, indicating that the latter influences the married woman's transition probability in a non-financial way.

Johansson (2000a) uses Finnish micro data to examine transitions from paid employment to self-employment over the period 1987-94. In addition to the wealth variable, the author adds an indicator of whether the worker is a homeowner, as houses are often used as collateral for bank loans [see Black, de Meza and Jeffreys (1996)]. Both wealth and home ownership are found to have a significant positive effect on self-employment entry, implying

the presence of liquidity constraints. The quantitative impact of the wealth variables are, however, not particularly large and as the author cautions: ‘... since the variables are rough proxies for the individual’s net worth, the results should be interpreted with caution’ [Johansson (2000a), p. 132]. In a similar manner, Johansson (2002) examines Finnish entries emanating from unemployment and reports that the probability of transiting from unemployment into self-employment is also an increasing function of wealth.

The role of liquidity constraints as a deterrent to entrepreneurship has also been investigated in the context of *racial differences* in self-employment rates. Meyer (1990) provides early longitudinal tests of the liquidity constraint hypothesis by examining why the self-employment rate among blacks in the US is just one-third of the corresponding rate for whites. He finds that although an individual’s net worth raises the probability of self-employment in cross-section estimates, its importance in transition estimates is marginal — increasing net worth by \$100000 raises the transition rate by only 0.017 percentage points. As Meyer (1990) concedes, this is not surprising given that most businesses require only a small amount of capital, their owners rarely borrow, and entry into self-employment has a small impact on proprietors’ portfolios. Interestingly, his results also show that blacks are not over-represented in industries that require relatively little starting capital (e.g. service sector, local or interurban passenger transit) or in those industries where whites frequently patronise black businesses. In their seminal cross-sectional study, Borjas and Bronars (1989) suggested that the low black self-employment rate is due to consumer discrimination and that this will induce more (less) able whites (blacks) to become self-employed. Meyer (1990) criticises these findings and argues that the test is a general test of negative selection for blacks, rather than a test of consumer discrimination *per se*. Fairlie (1999), who examines transitions from paid employment into self-employment for black and white males, provides further support for the lending discrimination hypothesis.

To summarise, although the impact of personal wealth on the decision to transit into self-employment differs across studies, it appears that wealthier people are more likely to become self-employed, *ceteris paribus*. This claim is, however, open to the objection that other interpretations of the correlation are feasible. One possibility, for example, is that inherently acquisitive individuals both start their own business and forego leisure to build the family assets. In this case, there would be a higher probability of self-employment even if liquidity constraints did not exist. Furthermore, the existence of liquidity constraints could be taken as support for the view that liquidity constraints are the cause of the mismatch between actual and desired entrepreneurship. The argument is not, however, clear-cut. As Blanchflower and Oswald (1998) argue, we cannot rule out the possibility that the correlation between wealth and entrepreneurship is because wealthy people are less risk-averse and thus more prone to go into business. As Holtz-Eakin, Joulfaian

and Rosen (1994a, 1994b) point out also, since people save to start a business there will be an upward bias in any attempt to estimate the impact of assets. Moreover, there seems to be an entry barrier to self-employment that protects less productive individuals — as mentioned above, high pre-transition wealth levels may be indicative of an individual's labour market quality. As far as the effect of inheritance or windfall gains is concerned, the receipt of inheritance exerts two contradictory effects on lifetime wealth accumulation. The direct effect is to raise wealth, while the indirect effect is to lower savings which in turn reduces the present value of the lifetime savings [Holtz-Eakin, Joulfaian and Rosen (1993)]. If inheritance exceeds a certain threshold, an individual's propensity to become self-employed starts to decline.

2.2 Labour earnings before transition and the determinants of self-employment earnings following the transition

One of the factors considered by the would-be entrepreneurs is the pecuniary rewards in the paid employment sector. For those working in the wage employment sector, wages play a crucial role. People with low earnings may be more likely to become self-employed. The explanation here is that the labour earnings can be viewed as the opportunity cost of becoming self-employed. In this case high earnings tend to depress the probability of becoming self-employed since an individual has more to lose by becoming self-employed. However, (high) wages earned prior to entering self-employment can be regarded as a measure of the labour market quality of an individual, but at the same time suggest that an individual has a higher chance of discovering profitable self-employment opportunities [Johansson (2000a)].

A number of studies condition on wage earnings and find that low paid workers are more likely to become self-employed. Such findings support Evans and Leighton's (1989) hypothesis that individuals with more unstable labour market histories are more likely to enter self-employment, *ceteris paribus* [Evans and Jovanovic (1989), Meyer (1990), Blanchflower and Meyer (1994) and Johansson (2000b)]. Interpreting earnings as a measure of the opportunity cost of leaving their current labour force status could imply that individuals with higher earnings will be less likely to switch into a different labour status, *ceteris paribus* [Min (1984), Johansson (2000b)]. This is also evident in the work of Holtz-Eakin, Joulfaian and Rosen (1993 and 1994a), who find that higher earnings depress transitions to alternative employment states.

Self-employment labour income is also examined as a dependent variable. Evans and Jovanovic (1989) report a positive correlation between entrepreneurial earnings and initial assets, which might imply that wealthier people start businesses with more efficient capital levels. However, as the firm grows over time, the importance of the initial liquidity constraint will diminish. Evans and Leighton (1989) report earnings equations for newly self-employed and wage workers and find that male workers who fail in self-employment return to wage employment at similar wages to those they might

have been expected to earn had they not tried self-employment. Other findings suggest that the returns to experience in self-employment are significantly lower than those in wage employment. This could imply that human capital accumulation is valued relatively low in self-employment and/or those individuals who become entrepreneurs later in their careers (and who have thereby accumulated more wage experience) are relatively poorer workers. In a pair of studies, Holtz-Eakin, Joulfaian and Rosen (1993; 1994a) examine the effects of inheritance on self-employment earnings. The former study reports that inheritance exerts a small, but significant, negative impact — doubling the size of an inheritance from \$100000 to \$200000 reduces earnings by just \$1000 (1982 dollars). In contrast, the latter study finds that the receipt of inheritance exerting a substantial impact on earnings — a \$150000 inheritance raises average 1985 self-employment income from \$80000 to \$95000.

Hamilton (2000) uses US data to construct earnings profiles using various measures of self-employment income. The OLS estimates suggest that labour market experience, job tenure, and educational attainment all impact more highly on employed than self-employed earnings.⁷ He also tests the 'self-employment scarring' hypothesis — does the self-employment experience carry a stigma upon returning to paid employment? His results suggest that it does not — the wages of workers immediately prior to entering self-employment, and the wages of entrepreneurs immediately after returning to paid employment, are in general not significantly different from the earnings of non-transiting employees, and in some specifications are actually higher. This finding is in line with Evans and Leighton (1989) but contrasts with Williams (2000), who finds that the labour market return to self-employment experience is significantly less than the return to wage and salary experience among adult women who ultimately return to wage employment. Although no such differential is found for adult males, this lends support to the theory that self-employment can lead to a decrease in income over the longer term. Williams (2004b) analyses this issue for teenagers and young adults and reports both positive and negative effects.

A somewhat different approach is adopted by Schiller and Crewson (1997), who examine transitions into self-employment and then classify the entrepreneurs as either 'successful', if they earned more than \$15000 in the year following the transition, or 'unsuccessful' otherwise. They report a series of regressions (decomposed by gender) and discern that the profile of the latter group looks more like that of wage earners in terms of gender (females), intelligence, self-control and work experience. For males, the increased responsibilities of marriage may lead to greater initiative and more careful pre-entry assessment. Education emerges as a significant factor, as does previous self-employment experience, whereas wage experience is insignificant. For females, the probability of entrepreneurial success increases with age and labour market experience.

It is evident that the transition into self-employment is not always associated with higher labour earnings, implying that non-pecuniary aspects of self-employment are likely to influence individuals' decision to become entrepreneurs. On the other hand, for highly paid professionals, self-employment earnings after transition are often following the superstar model [Rosen (1981) and MacDonald (1988)], a fact that most empirical studies fail to control for.

Finally, to gain a greater appreciation of these findings one needs to acknowledge the issue of the reliability of self-employment earnings. Blau (1987) and Pissarides and Weber (1989) argue that the self-employed are likely to under-report their earnings, by, on average, 1.2-1.6 per cent. It is known that self-employment status allows individuals to exploit loopholes in the tax system. However, the above studies suggest that the level of under-reporting is reasonably low. Parker (1999) adjusts self-employment earnings using the weights derived by Pissarides and Weber (1989) and concludes that the estimates are virtually unaffected.

2.3 Intergenerational links

A number of recent studies examine the link between parental labour status and the probability of becoming self-employed, based on the argument that intergenerational transfers of wealth relax individuals' capital constraints. Parental labour market status may act also as a proxy for intergenerational transfers of human capital and entrepreneurial ability — individuals are likely to follow their parents' occupation, either because of fewer psychological barriers in doing so, or simply because they may inherit or take over the family business.

Dunn and Holtz-Eakin (2000) focus on young men and find that having a father who is self-employed has a strong positive effect on the probability of self-employment. In particular, their results support the view that the intergenerational correlation in self-employment runs predominately through parental human capital and entrepreneurial ability rather than through wealth. Interestingly, they find that such transfers run most strongly along gender lines — the probability of a son becoming self-employed is higher if his father, but not his mother, was self-employed.

Hout and Rosen (2000) find that a father's occupational category significantly affects the likelihood of self-employment for his son. Men from clerical, retail and manual origins have significantly lower self-employment rates than do men whose fathers held professional, business, and agricultural occupations. Men who grew up in households with no self-employed parents are less likely to become self-employed.

Schiller and Crewson (1997), Bruce (1999), and Fairlie (1999) investigate the impact of intergenerational links across racial and gender lines. Schiller and Crewson (1997), focusing on gender differences in self-employment transitions, find that having a mother with managerial experience is a major influence on female transitions, while having a father with managerial

experience has no significant effect on male transitions. Bruce (1999) finds that a husband's earnings and household income from capital exert a small, yet significant, effect on the transition probability of married women. Fairlie (1999) finds that having a self-employed father is important in explaining black, but not white, transitions over the period 1968-89. The education of father — a proxy for parental wealth — is insignificantly related to the transitions of both races.

The effect of intergenerational links on self-employment transitions can be examined under the broader spectrum of social capital. Although the value of social capital has not been widely acknowledged in economic studies of self-employment, sociologists have long recognised its importance. In one of the first expositions on the subject, Loury (1977) defined social capital as the set of social resources that aid in the accumulation of human capital. More recently, Glaeser, Laibson and Sacerdote (2000, p.4.) define individual social capital as '... a person's social characteristics — including social skills, charisma, and the size of his Roladex — which enables him to reap market and non-market returns from interactions with others. As such, individual social capital might be seen as the "social component of human capital" [see also, Putman (1993), Gomez and Santor (2001), and Blumberg and Pfann (2001)]. Intergenerational links, as a component of social capital, reduce the effects of uncertainty and increase the expected returns of self-employment. Other economic benefits for a currently self-employed individual arising from intergenerational links include beneficial behavioural emulation generated by positive role models, personal contacts, and community effects that provide access to labour market information and improve performance as well as social norms that reinforce productive behaviours. The intergenerational effects support the notion. Unlike physical capital, which is generally observable, intergenerational links are much less tangible because they exist in relations among persons and are composed of social resources that provide useful 'capital' for individuals.

2.4 Individual characteristics

Education

Educational attainment might influence the probability of becoming self-employed through several channels. Lucas (1978), for example, argues that education enhances an individual's managerial skills and ability and thereby her probability of entering and staying in self-employment. On the other hand, higher levels of education may act as a deterrent to self-employment entry by facilitating entry into the wage sector. Relatively more educated individuals may realise greater utility streams by entering and remaining within paid employment, because of better prospects of promotion and increases in pay.

Education is generally insignificant in longitudinal studies of the transition to self-employment [see, for example, Schiller and Crewson (1997); Bruce (1999), Johansson (2000a)]. Three exceptions are Blanchflower and

Meyer (1994), Moore and Mueller (1998), and Schuetze (2000)]. Blanchflower and Meyer (1994) control for a vast array of types of occupational status and find education to exert a positive influence on the self-employment rates of young US males. Moore and Mueller (1998), not controlling for occupational status, find that university graduates are more likely to enter self-employment than college graduates. However, not controlling for occupational status may introduce an omitted variable bias, as occupational status is positively correlated with both educational attainment and the propensity to be self-employed. In a similar fashion, failure to control for financial capital, which is positively correlated with the probability of transition, may bias the results.⁸

Nevertheless, the insignificance of education is consistent with Wolpin's (1977) argument that the difference in the returns to education reflects employer screening in paid employment. It also reflects Lentz and Laband's (1990) view that potential entrepreneurs do not need particularly great formal skills since an integrated perspective of the firm can only be obtained by actual exposure to the firm. Indeed, general education focuses on the accumulation of knowledge rather than on the acquisition of practical know-how. In addition, education is likely to affect the self-employment choice by reducing the coefficient of variation in self-employment earnings. Indeed, there is no apparent theoretical rationale linking formal education and the choice between self-employment and paid employment — in sharp contrast to the extensive evidence of a positive link between education and earnings.⁹ Finally, human capital may also have an indirect effect in that the more skilled and able self-employed are likely to find it easier to raise external finance (such as equity and loans) for their business. Indeed, Bates (1990) and Cressy (1996) argues that this indirect effect totally explains access to finance and, therefore, human capital and not finance is the main constraint in self-employment rates.

Labour market experience

The decision whether or not to enter self-employment is affected by labour market experience. Over time, individuals attached to a specific profession continue to invest in specific human capital. Therefore, we might expect to see a positive correlation between work experience and the transition to self-employment. However additional experience, or learning on the job increases productivity, which in turn increases job security and other pecuniary and non-pecuniary rewards at the workplace, thus lowering the likelihood of switching into self-employment.

The empirical evidence, although mixed, seems to lend support to the hypothesis that workforce experience is associated with self-employment entry [Evans and Jovanovic (1989)]. Evans and Leighton (1989) find that individuals with longer job tenures are significantly less likely to switch into self-employment, while previous self-employment experience significantly raises the probability of transition. This is consistent with Jovanovic's (1982) propo-

sition that individuals learn from past experiences and prior self-employment experience is an invaluable asset.¹⁰ Indeed, Evans and Leighton (1989), Taylor (2001) and Georgellis *et al.* (2005a) all find that individuals with previous self-employment experience are more likely to re-enter self-employment than those who have never run their own business.

Holtz-Eakin, Joulfaian and Rosen (1993, 1994a and 1994b), through a different line of reasoning, argue that an individual's age may be correlated with his attitudes toward risk and the various non-pecuniary aspects of self-employment, as well as with the individual's years of labour market experience and, hence, human capital. In their 1994b study, the probit estimates assigned to the age variables imply a concave relationship between age and transition with older individuals less likely to switch into self-employment.

Gender differences in the US are investigated by Schiller and Crewson (1997), who find age and work experience to increase the entrepreneurial probability of men. For women, however, a different picture emerges; whereas age increases the probability of transition, work experience suppresses the probability of moving into self-employment. Bruce (1999), focusing solely on transitions of married women, finds that married women are more likely to enter self-employment either early or late in their working lives, while those working part-time are less likely to switch into self-employment. Clain (2000) provides similar evidence. Georgellis and Wall (2005) find significant gender differences in the self-employment transition probabilities in Germany, attributing such differences to women's different occupational strategies and the different constraints that women face.

While general human capital appears to have little or no effect, specific human capital appears positively to affect self-employment propensities. Individuals attached to a specific profession continue to invest in specific human capital over time. Studies into the success of newly founded businesses indeed find a positive relationship between work experience and business success [see, for example, Bates (1990); Brüderl, Preisendörfer and Zoergel (1992), Cressy (1996)].

One might expect to find a uniform relationship between labour market experience and the decision to become self-employed. Indeed, the empirical evidence appears to support the hypothesis that age and workforce experience is positively and significantly associated with the probability of becoming an entrepreneur. However, studies by Evans and Leighton (1989), Blanchflower and Meyer (1994), Schiller and Crewson (1997) and Moore and Mueller (1998) posit that wage experience or job tenure are either unimportant or suppress entrepreneurial supply. Similar results are depicted by the age coefficients employed by Dunn and Holtz-Eakin (2000). As stated above, it is possible that additional experience or learning on the job increases the stream of utilities and, hence, lowers the probability of entering self-employment — at least if we ignore transitions from unemployment and parenthood. Postponing the self-employment decision can, however, also be interpreted as a decision to invest

in additional skills in order to increase the resources needed to make future self-employment decision more viable.

With reference to age, it is well documented in sociological and psychological studies that older workers may be relatively disinclined to the more demanding work entailed by self-employment. Introspection suggests that older individuals are less likely to take risks, whilst the responsibility implied by self-employment can be mentally demanding and entails more risk and less security. On the other hand self-employment, as an alternative to retirement, ensures work continuity for employees towards the end of their normal working life. Younger individuals may be more eager to become self-employed but often lack the necessary capital and experience to become entrepreneurs. Hence the probabilities of entering and surviving self-employment may increase with age. According to OECD (2000) a self-employed person is not likely to be young: the average age of self-employed persons is just over 42 years, in comparison to 37 years for the dependent employee.

Labour market experience may, furthermore, be viewed as an index of accumulated general knowledge and which provides an alternative tool for testing Lucas' (1978) and Calvo and Wellisz's (1980) hypothesis that individuals who possess more learning ability and skills are associated with higher levels of entrepreneurship. The reason for this is that there is a focus on knowledge of the workings of the labour and product markets rather than the more theoretical knowledge offered by formal education. Labour market experience can thus be viewed as a better measure for the empirical evaluation of propositions addressed by the theoretical literature.

Social capital and family background

While the value of social capital has not been widely acknowledged in economic studies of self-employment, sociologists have long since recognised its importance [see, for example, Blumberg and Pfann (2001)] in dampening the effect of uncertainty on the self-employment decision. Social capital is obtained through one's social relations and their accessible resources and may cushion the effect uncertainty can have on the expected stream of future earnings [Kim and Laumann, (2001)]. Therefore, more social capital reduces the expected variance of future earnings, thus increasing the propensity to become self-employed [for more general notions on social capital, see Coleman (1988) and Dasguptha (1999)].

Family background variables, as part of social capital, have also been emphasised as important determinants of self-employment transition probabilities. The general picture that emerges is that family size, the number of children, and marriage, all have a non-negative influence on self-employment transition — the only exceptions being Evans and Jovanovic (1989) and Evans and Leighton (1989) as regards marriage, and Meyer (1990) as regards family size. Females whose husbands are already self-employed are especially likely to transit [Bruce (1999)].

Responsibility for dependent children is likely to inhibit the movement into self-employment, as it redirects resources (both monetary and non-monetary) away from investing and developing an entrepreneurial venture. Furthermore, the larger the risk associated with self-employment income, the more problematic it is for parents with dependent children to embark upon an entrepreneurial venture. Family members collectively can, however, provide a source of informal labour in a family business. It is worth pointing out that the link between self-employment and child-care responsibilities is well established in the literature, especially for female would-be entrepreneurs [Connely (1992), Caputo and Dolinsky (1998), Boden (1999) and Hundley (2000)]. These studies reveal that children are positively related to the probability of self-employment, although recent studies have called into question the relationship between self-employment and time spent with children. Hildebrand and Williams (2003) undertake a pan-European study and find that self-employed males unequivocally spend less time with their children than their wage counterparts, whereas only in two countries do self-employed females spend more time with their offspring. These findings confirm the findings of an earlier study by Gustafsson and Kjulin (1994), who find that Swedish females spend less time on child-care when the spouse is self-employed. As Williams (2004a) explains, increased childcare concerns increase the hazard of exit from self-employment for both males and females in the European Union. The negative effects found suggest that programmes to encourage self-employment, especially among women, may be most effective if they are coordinated with programmes to improve child-care opportunities as well.

Flexibility

It is well recognised that the self-employed are substantially more satisfied than employees [see, for example, Taylor (1996), Blanchower, Oswald and Stutzer (2001), Kawaguchi (2003), Benz and Frey (2003), Green and Tsitsianis (2004)]. One of the contributing factors for such an empirical regularity is that an individual in self-employment is perceived as having greater control over working schedules (flexible hours). Indeed, flexible daily scheduling of work is considered and documented as one of the allures of self-employment [Parasuraman and Simmers (2001), Devine (1994) and Williams (2000)]. Interestingly, the majority of workers who are working from home are self-employed [Edwards and Field-Hendrey (1996)]. Blank (1989) claims that most women show a lower degree of attachment to paid employment and show greater propensities to becoming self-employed, because they attach greater value to flexible working schedules than men. Unlike employees, who can often rely on colleagues elsewhere in their company to deal with health and safety, personnel and payroll issues, many self-employed must perform these tasks on their own, in addition to producing goods and services. This results in greater work burdens, especially for those self-employed that employ personnel. Presumably this argument may apply to both genders, increasing

thereby the demand for flexibility [Parker and Olufunmilola (2005)]. However, it is well documented that working females do more home production and devote more time to child-care than males [Boden (1999) and Bond and Sales (2001)], which results in an increased demand for flexibility.

2.5 Labour market hardships

Economic theories on the determination of self-employment can generally be categorised into two contrasting schools of thought according to their respective central assumption on the role of unemployment. The so-called 'recession push' school assumes that self-employment is largely opportunistic and that self-employed workers are merely responding to the environmental circumstances in which they find themselves in a particular place or a particular time. In contrast, the 'entrepreneurial pull' school assumes that entrepreneurs are individuals with particular abilities and argues that self-knowledge of these particular abilities urges them to engage in risk-taking entrepreneurial pursuits.¹¹

Focusing on the results of longitudinal studies, Evans and Leighton (1989) find that those who switch from salaried work to self-employment 'tend to be people who were receiving relatively low wages, who have changed jobs frequently, and who experienced relatively frequent or long spells of unemployment' (p. 532). Another variable capturing the labour market opportunities or used to measure the stability of an individual in the labour market is the frequency of job changes. The authors find significant evidence that supports the hypothesis that there is a positive relationship between the number of jobs held and the propensity to be self-employed. This result is consistent with the view held by some sociologists that 'misfits' are pushed into self-employment. Unlike the uniformly positive effect of previous self-employment experience, the effect of previous unemployment is not consistent across years: it is positive and insignificant for 1976-1978, negative and insignificant for 1978-1980 and positive and significant for 1980-81.

In a similar vein, the Canadian study by Moore and Mueller (1998) accounts for the frequency of job turnover and reports that workers with a history of employment instability are more likely to move into self-employment. Probit regressions show that the importance of push factors differ along gender lines. Specifically, for males the unemployment rate coefficient is positive and significant but the spell length, although positive, is not. The opposite result holds for females. As far as the stability of an individual in the labour market is concerned, it has a positive impact on both genders but it appears to be significantly more important for males.

The notion that rising unemployment levels reduce the opportunity cost of entering self-employment is also supported by Schuetze (2000) for Canadian and US males. The author finds that a 5 percent increase in the unemployment rate leads to about a 1.9 percent increase in the self-employment rate for both countries. To investigate the issue further, the author

decomposes the sample into incorporated self-employed, unincorporated self-employed as well as full-time/part-time self-employed. In almost all cases, the coefficients on lagged unemployment rate are positive and significant. Males self-employed in incorporated businesses constitute the only exception where the coefficients are insignificant but they retain their positive sign.

Lin, Picot and Yates (1999) carry out another Canadian study examining the effect of regional variation in unemployment conditions (between 1976 and 1997) on men and women. For men and women combined, the fixed effects model full pooling GLS regression results reveal a significant, but small, negative relationship between self-employment and unemployment. On average, a one percent increase in the unemployment rate is associated with 0.05 percent decrease in the overall self-employment rate. The results across gender lines reveal that the unemployment impact on men's self-employment is slightly more pronounced than on women, suggesting that men are more sensitive to unemployment fluctuations.

For the US labour market, Schiller and Crewson (1997) consider the effect of unemployment duration (weeks) on self-employment decisions. They also consider the influence of weeks in unemployment on entrepreneurial success, measured by annual self-employment income above \$15,000 (the median of sampled wage earners in 1989). Unemployment duration is negatively correlated with entrepreneurial supply, but in an insignificant fashion for both males and females. With reference to entrepreneurial success, weeks in unemployment do seem to matter, especially for men. The corresponding coefficients remain negative but are significant for males and for men and women combined.

A comparison of labour dynamics on both sides of the Atlantic is offered by Alba-Ramirez (1994), who focuses on US and Spanish displaced workers and examines whether their current unemployment status affects their probability of self-employment transition. The findings of this study indicate that longer unemployment duration is positively associated with self-employment entry, with the effect being stronger in the US than Spain. Additional Spanish evidence by Carrasco (1999) reports that the receipt of unemployment benefit significantly reduces the probability of entry into both wage employment and (especially) entrepreneurship. In Finland, Johansson (2002) finds a positive yet quantitatively small effect of unemployment duration on self-employment transition. In Germany, transitions tend to emanate from amongst the unemployed, whereas the individuals are reluctant to leave paid employment [Constant and Zimmermann (2004)].

It would appear that the empirical evidence to date could be interpreted as supporting either, both or neither school of thought. The self-employed are a very heterogeneous group and, *a priori*, there is no strong reason to expect that their response will be similar across countries or different time periods, or even across different legislatively-enshrined controls. Moreover, an increase in the inflow rate may be followed by a surge in outflows from self-

employment, rendering the outflow rate a lagged function of earlier inflows, irrespective of the economic conditions (the churning effect). Finally, the unemployment push hypothesis is a hypothesis about the flow of individuals becoming self-employed while the cross-sectional studies refer to the stock of self-employment. A more appropriate test would be if the inflow into self-employment moves cyclically or counter-cyclically, not whether the stock moves in such a fashion. These findings although convey a positive relationship between unemployment and self-employment.

There is a strong case to break down the various self-employment flows by their sources and/or destinations and attempt to analyse the behaviour of each sub-flow separately. Clearly, this approach makes an analytical and empirical distinction between the inflows from employment, unemployment and economic inactivity respectively (in so far as the available data permit). Thus, if the 'unemployment push' hypothesis holds, we would expect to see a positive relationship between the unemployment rate and the sub-flow from unemployment to self-employment; or, alternatively, we would expect to see the unemployed exhibiting higher propensities to become self-employed. It might be argued, however, that when examining such hypotheses, it is the perception of the tightness of the labour market held by the relevant actor at the time which is equally or more important. In practice, unemployment rates vary with time, regions and countries, hence, it is unlikely to exert a uniform influence on each individual, on each region, or on each country at any point in time.

2.6 Self-employment and immigration

Migration in pursuit of improved living standards has been studied extensively in the literature [see, for example, Mesnard (2004) for a review]. In the self-employment context, non-natives often view self-employment as a means of entering the labour market. A dominant theme suggests that some immigrants engage in self-employment and ethnic business as a means of self-preservation when faced with unfavourable competition in the labour market. Interestingly, those who are more endowed with certain cultural values and organizational capacities are more likely to succeed [Ward and Jenkins (1984), Light and Rosenstein (1995), Sanders and Nee (1996), Clark and Drinkwater (2000; 2002)]. Recent surveys on the rising empirical literature on self-employment in a comparative setting, investigating research in the US, Europe, and other immigration countries, include Blanchflower, Oswald and Stutzer (2001), and Blanchflower (2000; 2004).

Because of potential self-selection, hence higher levels of unobservable motivation, it might be expected that immigrants would be more inclined towards entrepreneurial activities than natives. Early evidence provided by Borjas (1986) reveals that not only is immigrant status important but so too is the number of years that have elapsed since immigration. The author also shows that not only self-employed immigrants have higher annual incomes

than salaried workers, but they also have higher incomes than comparable self-employed natives. Lofstrom (2002) extends these findings, documenting considerable differences in earning and education between migrant self-employed workers and employees. Yuengert (1995) explored this possibility and found a positive and significant coefficient on the ratio of the home country self-employment rate to the overall US rate. However, in an extension to this analysis, Fairlie and Meyer (1996a; 1996b) found that this effect was not statistically significant. The authors, in their wide-ranging study of ethnic/racial groups by gender, offer evidence that individuals are pulled rather than pushed into self-employment. Fairlie (1999) finds that blacks account for a small fraction in the US self-employment rates due to education, assets and parental education.

Outside of the US labour market, the Canadian study by Kuhn and Schuetze (2001) found that changes in observable characteristics such as immigration cannot explain changes in either male or female transition probabilities. It seems that as the immigrants 'assimilate' in the Canadian labour market, any cultural or educational disadvantages diminish. Li (2001), analysing data from the Canadian Immigrant Longitudinal Data Base, suggests that male immigrants are more likely than female immigrants to be self-employed, as well as those with greater human capital endowments. Chiang (2004) examines the self-employment experience of Taiwanese in Australia. Similar to Ip's (1993) earlier findings on the status of Asian immigrants in Australia, this study shows that Taiwanese immigrants do not take full advantage of their previous educational attainment and labour market experiences in order to get gainful employment. For many, however, unemployment is only a transitory state as they resort to self-employment as a means of not relying on welfare benefits.

In Europe, British ethnic evidence suggests that self-employment is a way out of discrimination in the paid employment sector [Clark and Drinkwater (2000)]. Immigrants enjoy higher pecuniary rewards in the self-employment sector and the rise in the respective rates has been seen as natural. Clark and Drinkwater (2002) expand on their previous work and find that members of ethnic minorities who live in enclaves are endowed with high rates of unemployment and they are less likely to become self-employed than comparable individuals who live in less concentrated areas. In contrast, although self-employed workers of ethnic origin in Germany seem to earn as much as natives, their respective rates have remained relatively low. One explanation is based on the existence of institutional barriers to entry. Empirical evidence of the immigration process in Germany can be found in, amongst others, in Zimmermann, (1995). A recent study by Constant, Shachmurove and Zimmermann (2003) further examines non-native self-employment and reveals that the probability of self-employment increases with age (although at a 'discounting rate') whereas earnings increase with longer tenure in the business and decrease with marriage. Furthermore,

Constant and Zimmermann (2004) report that immigrants (apart from Turks and ex-Yugoslavs) in Germany are much more likely than natives to transit into self-employment when previously unemployed.

Self-employment is identified as an important channel by which to escape unemployment, and this is a relevant and applicable strategy especially for migrants. Immigrants who have the means to engage successfully in self-employment can better themselves financially, possibly as an avenue of upward mobility. Also immigrants have access to informal loan arrangements, which operate within certain groups (Basu, 1998). This practice lowers barriers to entry. The problem is that such arrangements, although acknowledged, are very difficult to capture empirically. Given the widespread belief that minorities are 'pushed' into self-employment because they face discrimination in the wage employment sector, these findings have important implications for economic policy. For example, the governmental self-employment assistance programmes, rather than creating new opportunities, may result in increasing the stock of unemployed individuals crowding into the self-employment sector in response to declining opportunities in the paid employment sector.

2.7 Summary

Our review of longitudinal studies on self-employment entry reveals a welcome agreement in the empirical literature on the main factors that affect individuals' decision to become entrepreneurs. Consistent with the findings of cross-sectional studies, longitudinal studies confirm the presence of capital constraints as an impediment to entrepreneurship, but although financial capital in the form of family assets increases self-employment propensities, their quantitative impact is not so outstanding. Wealthier individuals are more likely to transit into self-employment, *ceteris paribus*, whilst windfalls raise the probability of transition at a decreasing rate and larger gains reduce the probability of transition amongst relatively wealthier respondents. The significance of intergenerational links, especially that of 'father self-employed' reflects the possibility that respondents are inheriting the physical and/or human capital requisite for self-employment and supports the notion of knowledge spillovers and role models. It is interesting to note that high formal education exerts an insignificant effect on self-employment transitions, while measures of labour market experience — such as tenure in the labour market or age — have positive impacts. With reference to family background, namely marital status and the presence of children, the empirical evidence suggests a non-negative significant effect on the transition probabilities, suggesting that the influences are rather weak. Furthermore, the flexibility and other non-pecuniary aspects of self-employment seem to be one of the strongest attractions, a fact that only relatively recently attracted sufficient attention in the empirical literature. Finally, self-employment among immigrants and ethnic groups is quite common and it seems to be driven by similar motivating forces.

3. SELF-EMPLOYMENT SURVIVAL/EXIT

Once individuals have entered self-employment, the question arises as to what factors determine their survival and subsequent success. From a theoretical perspective, several studies have examined the behaviour of recent self-employed entrants and produced a number of hypotheses about this phenomenon. Lucas (1978), for example, argues that those entering entrepreneurship are characterised by larger endowments of entrepreneurial ability and skills than their salaried counterparts. Jovanovic (1982), on the other hand, assumes that uncertainty is prevalent during the early stages of business formation. As time elapses, entrepreneurs learn of their own abilities by participating in the actual running of the business and noting how well they perform. Those who revise their ability estimates upwards tend to expand output, in contrast to those who tend to contract or dissolve their businesses because of the downward path of their managerial ability estimate.

Social-psychological research found psychological test score patterns and educational attainment to be key determinants of entrepreneurial success, suggesting that individuals are endowed with differing levels of business acumen [Shapiro (1975), Douglas (1976)]. Although significant differences between entrepreneurs and non-entrepreneurs have been observed, however, no compelling profile of successful entrepreneurs has been developed [Wortman (1987)]. Indeed, relatively little is known about the ability of small firms to survive subsequent to entry. Studies by Hall (1987) and Evans (1987a, 1987b) found that smaller firms have both higher growth and failure rates than their larger counterparts. Acs and Audretsch (1994) claim that small firm turbulence is particularly high in capital-intensive industries where firms must learn quickly or else face extinction.

Evans and Leighton (1989) provide some of the early longitudinal evidence of entrepreneurial survival. They find that the returns to wage and business experience in self-employment are significantly lower than they are in wage employment. One possible interpretation is that human capital accumulation through wage experience is not valued highly in self-employment. Another explanation is that individuals who become entrepreneurs later in their careers, and who have thereby accumulated more wage experience, are relatively less productive/able workers. In addition, previous unemployment experience is negatively correlated with self-employment survival.¹²

Bates (1990) studies small business longevity in the US and suggests that human and financial capital inputs have significant power to distinguish the successful (i.e. active) entrepreneurs from those who had discontinued operations. He finds in particular that more educated entrepreneurs are more likely to survive and concludes that the individuals who survive in self-employment possess greater business acumen, labour market skills, and access to capital compared to those who do not survive.

Meyer (1990) and Fairlie (1999) offer further US evidence. Meyer (1990) finds that the impact of net worth on survival is always small and insignificant, irre-

spective of the logistic specification used — giving \$100000 in net worth to each self-employed individual would only lower the failure rate from 0.307 to 0.300. More educated and married individuals are more likely to survive in self-employment, whilst older individuals are more likely to depart from self-employment. Fairlie (1999) adopts a logistic regression approach to examine the determinants of transition out of self-employment (to wage employment) across racial (black/white) lines. The relationship between education and exit probability suggests a weak negative relationship for both races. The education of an individual's father is negatively correlated with the exit probability amongst whites, but the relationship is less clear amongst blacks. For whites, having a self-employed father is an insignificant predictor of transition, suggesting that the intergenerational link is important for entry into self-employment but not for exit from self-employment. In comparison, the coefficient for blacks is negative and significant.

There are also important racial differences in the effects of assets on the exit decision. First, interest income reduces transitions by both blacks and whites to the wage sector. The effect amongst blacks, however, is only weakly significant. Second, older and/or married whites (but not blacks) are more likely to survive in self-employment, whereas children and disability play little role for either race. Fairlie (1999) finds no evidence that receipts from insurance payouts and inheritances have any effect on either black or white survival. These findings contrast the findings by Holtz-Eakin, Joulfaian and Rosen (1994a) who find evidence of liquidity constraints claiming that inheritances reduce the exit rate from self-employment. Moreover, if new enterprises with sufficient capital survive longer, then liquidity constraints might also exert an indirect effect on the long-run number of self-employed, working through the initial level of capital.

Blanchflower and Meyer (1994) consider youth self-employment in the US and Australia, estimating probit equations for the probability of moving from self-employment to paid employment. In the US they find that older, white, male entrepreneurs are more likely to remain in self-employment *ceteris paribus*, and that education and marital status are insignificant markets of transition. In Australia, however, the authors find evidence that those with either low or high qualifications are more likely to transit into wage employment. Moreover, the exit rate from self-employment declines with the duration of self-employment. Unlike US youth survival, in Australia it does not depend on age or gender.

Lin, Picot and Yates (1999), using Canadian data for 1993, find the transitions among job leavers demonstrate that a high proportion of both males and females leaving self-employment do so to work for others rather than to enter unemployment. In addition, younger Canadians are subject to relatively higher turnover in self-employment — they are not only more likely to enter, but are also substantially more likely to leave self-employment than older workers. In their quits equations, the authors identify that the dominant

predictors of survival are age below 44 and post-secondary education (marginally significant at 10 percent). On the other hand, the dominant predictors of failure are the presence of children and being female. The unemployment rate and having a self-employed spouse are insignificant by any conventional standards. Kuhn and Schuetze (2001) findings accord — at least to an extent — with Lin, Picot and Yates (1999).

Carrasco (1999) uses longitudinal Spanish data to investigate the influence of individual characteristics and the business cycle on the probability of male self-employment duration. The results indicate that the hazard rate decreases with the duration of self-employment. An interesting finding is that although unemployed workers are more likely to transit to self-employment, past unemployment experience is negatively associated with self-employment survival. Having a job before the start of the current self-employment spell has a stronger impact on the hazard of unemployment than employment. Given the small sample size, the small fraction of that sample that transits out of self-employment, and the short time horizon (maximum two years), the author concedes that the lack of statistical precision is not surprising.

Pfeiffer and Reize (2000) decompose the sample into old and new federal German states and find that subsidising firms leads to a reduced survival probability in the new German federal states whereas in the old states the impact is insignificant. The authors claim that survival might not have been the main objective amongst ex-East German entrepreneurs but the receipt of the governmental funding, without ignoring the lack of knowledge about capital markets. The labour market experience variable, namely the age of the firm founder, has a significant, non-linear influence on survival probability of the start-up. The survival probability reaches its peak between 30 and 45 years in the old German states and between 40 and 50 years in the new German states. The size of a company, as measured by its initial number of employees, has no measurable effects on survival probability. On the other hand, gender effects have measurable effects: start-ups by women have a lower survival probability.

In Finland, Johansson (2001) reports that house ownership, age and previous unemployment experience are positively correlated with self-employment exit. For women there is a clear effect of age on the risk of exiting, with younger individuals of both genders less likely to survive in self-employment. Furthermore, education seems to accelerate the departure to paid employment whilst decelerating the departure to unemployment. House ownership as a proxy for wealth decreases the risk of exiting into paid employment, particularly for males, whereas for females this effect is less pronounced. The study also finds that whether unemployment is a destination state depends crucially on marital status, particularly for males.

Cressy (1996), Blanchflower and Oswald (1998), Taylor (1999) and Georgellis et al. (2005b) carry out analyses of British business longevity. Cressy (1996) utilises a rich data set of some 2000 individuals who opened

business accounts with National Westminster Bank in 1988. The vast majority of these accounts (80 per cent) were 'entirely new', with 12 per cent being purchases of existing business, and the remaining 8 per cent being upgrades from other (e.g. personals) accounts. Cressy finds that only 38 per cent of the individuals were still self-employed in 1992, the year that study ends. He concludes that human capital is the 'true' determinant of self-employment survival, claiming that the correlation between financial capital and survival is spurious. Provision of finance is demand-driven, with banks supplying funds elastically and business requests governing take-up. Firms self-select for funds on the basis of the human capital endowments of their owners.

Blanchflower and Oswald (1998) investigate data regarding education and employment status collected in waves four (1981) and five (1991) of the National Child Development Study (NCDS). The authors focus on those individuals who had entered self-employment four years prior to 1991 (i.e. 1987) and who were still self-employed in 1989. Their analysis suggests that current entrepreneurs consider capital constraints to be the single most important impediment to entrepreneurship (mentioned by 25 per cent of all respondents).

Taylor (1999) analyses data for both males and females and finds that approximately 40 per cent of self-employment ventures initiated since 1991 did not survive their first year in business. A substantial proportion of self-employment spells is not terminated through bankruptcy, but rather through moves to alternative employment. Georgellis et al. (2005b) examine the factors that determine self-employment duration in Britain, paying particular attention to self-reported job satisfaction variables and non-pecuniary aspects of self-employment. They estimate single-risk and competing-risks hazard models, separately for males and females. Their results show that job satisfaction is indeed a strong predictor of self-employment exit, even after controlling for standard economic and demographic variables. When five domain job satisfaction measures are used, the results show that pay, job security and initiative are the three aspects of self-employment most valued by the self-employed themselves.

Williams (2000) takes a different approach, in an attempt to address the consequences and the impact of US self-employment spells on future wage and salary earnings. The study, as the author claims, was initiated by the fact that high proportions of self-employment spells end up in transitions to the wage and salary sector. Williams points out that while out of the wage sector, a worker might experience a reduction in his/her productivity, or a diminution of previously acquired skills, contributing to lower future earnings. On the other hand, the worker accumulates experience in self-employment during his/her spell that could lead to higher productivity, better employment contacts and reduction of the atrophy rate. The author also claims that the self-employment duration increased over time for both men and women perhaps reflecting, apart from the general trend, the age effect on self-employment

tenure. The key result is that the return to self-employment experience is less than the return to wage employment experience, at least for women. It seems that self-employment spells impose a 'stigma' on females by incurring a decrease in future wage and salary sector earnings. Williams (2004b) expands on his previous work and explores the nature and consequences of youth self-employment in the US. The author reports that self-employment experience seems to be rewarded only when the individual stays in the self-employment sector. Even after controlling for self-selection, Williams (2004b) reports that youth self-employment experience is negatively associated with current earnings and that the returns to self-employment experience are significantly lower than the returns to wage employment experience. In the same spirit, but without examining the returns to self-employment experience, Constant and Zimmermann (2004) examine inflows into self-employment and outflows out of self-employment in Germany. They identify a robust route from self-employment into paid employment and conclude that self-employment experience in Germany transmits individuals back to paid employment.

There are many reasons why the issue of self-employment duration is important for policy. Failure to address entrepreneurial success and self-employment survival could cast doubts on the efficiency of government programmes designed to facilitate individuals' entry into self-employment because the government can then be more convinced that they spend their resources in a more efficient way. High flow rates into and out of self-employment can be costly, not only for the self-employed themselves but also for third parties, such as banks, governmental and private financial institutions and customers. Moreover, high self-employment exit rates may be viewed as evidence of poor matches between entrepreneurial availability and skill requirements. Thus, understanding the determinants of self-employment survival can offer valuable insights into what makes a successful entrepreneur, allowing for a more complete policy response based on the belief that entrepreneurship holds the key to job creation and prosperity.

To summarise, it seems that a substantial proportion of self-employment spells are terminated through moves to alternative labour market states, suggesting that for a certain number of self-employed, self-employment is only a transitory state between employment spells [Taylor (1999), Williams (2000; 2004b) and Georgellis *et al.* (2005b)]. Also, employment related human capital captured in occupations and business experience appears to play an important role in determining the hazard rate from self-employment, while formal qualifications are not important. Intergenerational links do not seem significantly to affect the probability of surviving. This coterie of characteristics turns out to be important only for the transition to self-employment. Aggregate unemployment rates, and individual experiences of unemployment, both increase the hazard of self-employment. Interestingly, self-employment survival studies reveal that job security, using initiative and satisfaction with pay, are aspects of the job most valued by the self-employed, which is not so dif-

ferent from the case of salaried workers. Standard analyses of labour market mobility, which concentrate only on pay and hours, may thus omit potentially very important variables. It would therefore appear that a complete response by policy makers, who believe that self-employment could alleviate poverty and generate jobs, requires a closer look not only at the determinants of self-employment duration, but also a closer look at how the self-employed themselves evaluate their jobs.

4. FINAL COMMENTS

Self-employment is an important aspect of labour force participation. In recent years governments have regarded it as a panacea for unemployment and poverty, as an engine for economic growth, and as an outlet for ethnic/racial groups facing consumer and employer discrimination. There are also apparent non-pecuniary benefits associated with self-employment. Many studies have found that although the self-employed tend to earn lower relatively labour income, *ceteris paribus*, their improved autonomy leads them to be relatively more satisfied with their jobs. Indeed, although the self-employed are a growing proportion of the workforce in many countries, recent evidence suggests that many more individuals are frustrated in their desire to pursue entrepreneurship.

Overall, the empirical evidence indicates that certain characteristics such as family background (i.e. whether an individual's father was self-employed), wealth and unemployment are significant predictors of both self-employment incidence and dynamics. In contrast, the impact of education, labour market experience and marital status varies considerably across longitudinal studies. This could be due to the time element introduced into dynamic models, or to differences in the construction of the variables and/or estimating equations. A particular example is the dichotomous effect of labour market experience — such experience significantly affects the incidence of self-employment when capital is excluded from the estimating equation, but affects the transition into self-employment when capital is controlled for. There is also evidence of duration dependence — once an individual has transitioned to self-employment, his probability of survival in business increase with his educational attainment and with the time he has already survived.

The effects of race are also interesting. Racial minority status has tended to correlate with a lower incidence of self-employment. This is explained variously in terms of lower average human capital or the effects of discrimination. There is evidence, however, that ethnic enclaves encourage self-employment amongst ethnic minorities by providing market demands that the minority entrepreneur is more readily able to satisfy. The finding in this area are unclear — ethnic enclaves appear to encourage self-employment in the US, but have negative effects in Britain and Canada.

The empirical evidence is consistent with a number of arguments put forward in the economics literature, such as the argument that entrepreneur-

ship is positively associated with age and/or financial capital [Calvo and Wellisz (1980), Evans and Jovanovic (1989)]. Social-psychological theories, such as the Reactive Cultural Theory, Disadvantaged Theory, Job Satisfaction and Special Demands Theory are also supported by the findings of empirical evidence.

Whilst it is clear that a more complete picture of self-employment is gradually emerging, further research is certainly needed. Indeed, whilst economists have entered eagerly into the debate as to what it is that induces an individual to enter self-employment, relatively few have questioned the factors that determine self-employment survival and prosperity. This latter is obviously central to any assessment of the success and efficiency of legislative programmes designed to promote entrepreneurship. One particular area here is especially wanting: only very recently have economists turned their attention to the role of job satisfaction and non-pecuniary issues in self-employment transitions. Current evidence supports the notion that self-employment offers substantial non-pecuniary benefits, such as 'being your own boss', for many workers. However the question remains as to whether these benefits are sufficient to offset the costs, in terms of forgone earnings and uncertainty, that such sovereignty appears to entail.

It would be wrong to claim that the factors explored in this paper provide an exhaustive picture of self-employment across labour markets. As always in this kind of work, the non-availability of reliable data limits the scope of empirical work. Such limitations become apparent when measuring self-employment earnings and financial capital. This situation is further complicated due to the possible endogeneity of wealth. Different forms of wealth should be tested more rigorously, as well as the effect of housing equity on self-employment propensities. The role of ethnicity in self-employment deserves more attention in the literature in the light of informal loan arrangements and the special markets in which ethnic minority owned businesses are specialising.

Identifying transition propensities is one side of the story. The other side of the story is the earnings growth following transition and the effect on survival probabilities. The interaction between earnings growth and job satisfaction, and other non-pecuniary aspects of self-employment needs to be explored as an important determinant of self-employment duration and survival probabilities. In the light of decreasing job satisfaction levels in the paid employment sector [see, for example, Hamermesh (2001), Jürges (2003), Bryson, Cappellari and Lucifora (2004) and Green and Tsitsianis (2004)], it would be interesting to examine whether the decreasing levels of job satisfaction cause intra-labour or self-employment mobility. Recently, there has been a resurgence in estimating the gender gap in job satisfaction in conjunction with reference income, thereby compensating for the previously dearth in this field. Finally, given the increased availability of richer data sets, empirical studies could account for the high degree of heterogeneity among the self-

employed. Not performing separate analyses for professional and highly skilled entrepreneurs introduces a possible unobserved heterogeneity bias, which could cast a shadow over existing findings.

ENDNOTES

1. Department of Economics and Finance, Brunel University (Georgellis and Tsitsianis); Department of Economics and International Development University of Bath (Sessions). Email: j.g.sessions@bath.ac.uk
2. For criticisms of this argument see Brown, Hamilton and Medoff (1990).
3. Cross-sectional studies are not entirely devoid of merit. As Evans and Leighton (1989, p.529) argue, 'they place some helpful restrictions on the more fanciful behavioural models of self-employment selection, and offer some insight into the question of whether successful entrepreneurs hold a comparative advantage, once the transition into self-employment has taken place'.
4. The finding that the probability of entering self-employment is a quadratic function of the amount of wealth mirrors the findings in cross-sectional studies such as Blanchflower and Oswald (1998), and Burke, Fitzroy and Nolan (2000; 2002).
5. Sanders and Nee (1996) also highlight the role played by spouses in providing emotional and labour as well as financial support. Interestingly, they find that spousal earnings exert a positive effect on the transition, but an effect that is insignificant of parental financial assets.
6. Bates (1985), Chen and Cole (1988) have argued that low assets and lending discrimination are the most cited reasons for low black self-employment rates. Blacks on average have very low assets relative to whites. Blau and Graham (1990) report that studies comparing the two groups find black/white asset ration of 0.08 to 0.19.
7. The finding that education impacts relatively more on employed rather than self-employed earnings is consistent with the argument that differences in the returns to education reflect employer screening in paid employment [Wolpin (1977)].
8. Indeed, studies that include controls for both human and financial capital generally find education to play an insignificant role in the transition [see, for example, Evans and Jovanovic (1989) and Evans and Leighton (1989)].
9. The argument that education has different effects on the earnings of self-employed and paid employees is surveyed by Weiss (1995).
10. The effect of prior wage experience on the transition to self-employment is somewhat ambiguous. On the hand, it may facilitate self-employment transition through accumulated capital and experience. On the other hand, it raises the opportunity costs of switching unless the wage workers have discovered an unusual good self-employment opportunity to induce them to switch.

11. A related hypothesis is explored by Hamilton (1989) who argues that when the level of unemployment is low, increases in unemployment will lead to an increased self-employment rate. However, when unemployment reaches a critical level, increases in unemployment will lead to reductions in new firm formation.

12. Evans and Leighton (1989) attempted to control for individual characteristics (vis. educational attainment, previous job experience, and marital status) using parametric hazard models. None of the characteristics, however, were significant and their analysis was confined to non-parametric procedure.

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