

Tervo, Hannu; Niittykangas, Hannu

**Conference Paper**

## Self-employment transitions at older ages in urban and rural labor markets

51st Congress of the European Regional Science Association: "New Challenges for European Regions and Urban Areas in a Globalised World", 30 August - 3 September 2011, Barcelona, Spain

**Provided in Cooperation with:**

European Regional Science Association (ERSA)

*Suggested Citation:* Tervo, Hannu; Niittykangas, Hannu (2011) : Self-employment transitions at older ages in urban and rural labor markets, 51st Congress of the European Regional Science Association: "New Challenges for European Regions and Urban Areas in a Globalised World", 30 August - 3 September 2011, Barcelona, Spain, European Regional Science Association (ERSA), Louvain-la-Neuve

This Version is available at:

<https://hdl.handle.net/10419/120083>

**Standard-Nutzungsbedingungen:**

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

**Terms of use:**

*Documents in EconStor may be saved and copied for your personal and scholarly purposes.*

*You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.*

*If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.*

*A paper to be presented at the 51<sup>st</sup> European Congress of the Regional Science Association International, Barcelona, 30<sup>th</sup> August – 3<sup>rd</sup> September 2011*

## Self-employment transitions at older ages in urban and rural labor markets

Hannu Tervo

Professor of Economics

Jyväskylä University School of Business and Economics, Finland

P.O. Box 35, FI-40014 University of Jyväskylä

[hannu.t.tervo@jyu.fi](mailto:hannu.t.tervo@jyu.fi)

**Abstract.** Self-employment in later life may be either a form of partial retirement or a career option. The purpose of this paper is to analyze the factors that lead individuals to enter self-employment at older ages in different types of labor markets in Finland, viz., rural and urban areas. The principal focus is on the intertwined effects of the local labor market conditions, previous self-employment experience and education. A large longitudinal data set and interactive probit models are utilized to examine transitions of individuals aged 55-74 to self-employment. The results show that prior self-employment experience and higher education foster self-employment at older ages, while a high regional unemployment rate prevents it. Due to a lower level of demand and lower educational capital, self-employment is less tempting in rural than in urban areas. The results show novice entrepreneurship in later life to be rare. Bridge employment based on entrepreneurship may be advantageous to the career of an optimizing worker and should receive greater public support.

### Keywords

self-employment, third age, rural and urban regions, local labor market

### 1. Introduction

In many developed countries, the workforce is aging but is still needed for productive work. Because current generations are healthier and more able to work than previous generations, the length of careers has grown. Older workers, however, may wish to have more control over their time and responsibilities than is possible with paid work.

Entrepreneurship is an option for many older individuals. Self-employment brings the freedom to adjust working hours, an advantage for many older full-time workers. However, different regions may provide varying opportunities for entrepreneurship (Reynolds et al. 1994, Tervo 2007, Naude et al. 2008), which may also be the case at older ages. Not all places are alike in their potential to generate third-age entrepreneurship, partly because of varying demand conditions and human capital and partly because the possibilities for entrepreneurial learning processes differ between regions (cf. Tervo and Niittykangas 1994).

In Finland, the nonagricultural self-employment rate has been higher in rural than in urban locations (Figure 1). Rural labor markets are characterized by weaker conditions of employment and lower educational capital but have a stronger tradition of entrepreneurship than urban labor markets. Compared with urban labor markets, rural markets have worse rates of employment and self-sufficiency in jobs. Less educated individuals in these small, dispersed labor markets may be pushed into self-employment if they see no other realistic employment options in the region (cf. Moore and Mueller 2002, Ritsilä and Tervo 2002, Kalantadiris and Bika 2006, Kim and Cho 2009). Conversely, most individuals in rural areas have a close relationship to entrepreneurship; even if they are not, nor have ever been, entrepreneurs themselves, some of their relatives or neighbors most likely are.

The nonagricultural self-employment rate among employed individuals aged 55-74, also called third age workers, is also higher in rural locations (15.0%) than in urban locations (10.2%). Figure 1 shows that the rates of self-employment rise with age in both rural and urban areas in Finland, with the exception that in rural areas the rate starts to fall after age 65. However, in this age group, the overwhelming majority of individuals are no longer in the labor market. Correspondingly, there are proportionally more transitions to self-employment in rural as compared with urban areas, but the difference diminishes and eventually vanishes with increasing age.

This paper analyzes the individuals who start a business when they are older. We ask the following questions: Is there a difference between rural and urban locations? What is the effect of local demand conditions? Who are the individuals who enter self-employment at older ages, and what are their qualifications and personal history? What is the role of previous self-employment experience? What is the effect of human capital on self-employment decisions? Is self-employment later in life a real alternative only for habitual entrepreneurs? The principal interest is in the intertwined effects of previous self-employment experience, education and local labor market conditions. Although some studies have focused on transitions to self-employment among older workers (e.g., Fuchs 1982, Bruce et al. 2000, Singh and DeNoble 2003, Hipple 2004, Zissimopoulos and Karoly 2007, Giandrea et al. 2008, Kautonen 2008, Kautonen et al. 2010), questions about the motives and especially about the background and circumstances of these workers, including the regional environment, still need clarification.

In our analysis, we utilize a large longitudinal micro data set to examine the transitions of individuals aged 55-74 to self-employment in Finland from 1998-2004. The data set represents a 7 percent sample of all Finns in 2001, for whom a great deal of register-based and other data from the year 1970 onward is available. The analyses are based on interactive probit models with multiple explanatory variables. In an interactive analysis, we test whether different factors affecting the probability of self-employment have similar effects in rural and urban areas, as well as among individuals with previous self-employment experience compared with individuals without this experience.

The paper proceeds as follows. The next section deals with the factors affecting transitions to self-employment at older ages and proposes a hypothesis for the intertwined effects of previous self-employment experience, education and local labor market conditions. We follow this discussion with a presentation of the main features in the empirical analysis, such as the definition of self-employment and the description of the data and variables. In this section, some basic information on transitions into self-employment at older ages is also provided. Section 4 presents the estimation and test

results, first for the entire sample and then separately for rural and urban areas. The results are also given according to prior self-employment experience. The concluding section summarizes the key results and provides conclusions.

## 2. Transitions to entrepreneurship at older ages in different regions

There are a variety of paths into entrepreneurship at a later age. Lévesque and Minniti (2006) identify age as an inherent triggering factor for entrepreneurship. When considering starting a new firm, older individuals have an incentive to reallocate more of their time to wage labor and less to starting a new firm because the opportunity costs of starting a new firm increase. Thus, an age effect, all else being equal, reduces the relative return to entrepreneurship as individuals become older. However, age may also increase an individual's interest in entering self-employment for various other reasons, such as the human and financial capital requirements of entrepreneurship, which are often unavailable to younger workers, or better social and business networks, which older people typically possess (Parker 2009). The age dimension is explicitly present, for example, in the social development model created by Gibb and Ritchie (1982) and in Dyer's (1994) model of entrepreneurial careers. Nevertheless, entrepreneurship research based on career theory is rare, despite some recent tentative developments (Katz 1994, Sinclair 2008).

Transitions to self-employment in later life may be either a career option or a step toward retirement known as "bridge employment." Older workers may choose self-employment as a career option because they have a lifetime of experience and better access to capital than younger workers (Parker 2009). According to Singh and DeNoble (2003), those who enter self-employment at later ages may be constrained entrepreneurs who have harbored a desire to form their own venture for many years throughout their main careers but have lacked the financial or family flexibility needed to follow through on their ideas. Alternatively, they may be entrepreneurs who rationally decide to become self-employed, viewing self-employment as a progression of their careers and

as a way to increase personal wealth, or reluctant entrepreneurs whose decision to become self-employed is based on a lack of employment opportunities and insufficient wealth to retire early (Singh and DeNoble 2003).

Self-employment in later life may also be a form of partial retirement, as self-employment offers greater flexibility in hours and wages. For many, retirement is a process, not a single event. Bridge employment takes place after an individual's retirement from full-time work but before the person's permanent withdrawal from the workforce (Kim and Feldman 2000). Many of these individuals might, however, already have earlier experience with self-employment. They may well be habitual entrepreneurs (Ucbasaran et al. 2008, Hyytinen and Ilmakunnas 2007) or quasi-entrepreneurs who have combined self-employment and wage work (Delmar et al. 2008). Self-employment may only be episodic for them (Carroll and Mosakowski 1987).

Various reasons, such as age, health, gender, education, family status, accumulated savings, organizational factors and environmental features, can affect the choice between self-employment and other options and between full-time work, bridge employment and retirement. Relatively younger and healthier older employees, who are physically able to work, are more likely to accept bridge employment. The effects of gender on decisions to pursue bridge employment are inconclusive (Kim and Feldman 2000), although women may be somewhat more likely than men to choose bridge employment because they usually exit from the workforce earlier in their careers and, consequently, have smaller pensions upon which to draw. An individual's family network and family responsibilities may play a key role in the decision to accept bridge employment because complete withdrawal from the workforce involves the loss of both income and social interaction. Spouses' characteristics might also be important for self-employment at older ages. Having a working spouse increases the probability of self-employment (Blanchflower and Oswald 1998, Bernhardt 1994).

The availability of financing is emphasized in the entrepreneurship literature; liquidity contrasts may play an important role in determining what individuals become self-employed (Evans and Jovanovic 1989, Blanchflower and Oswald 1998, Lianos and Pseidiris 2009). Singh and DeNoble (2003) found that the role of wealth in seniors' decisions to become self-employed varies depending on the type of entrepreneur. Individuals with greater accumulated savings or greater pension benefits will have less economic need for continued work. In contrast, employees with many years of service are more likely to want bridge employment opportunities; their long tenure may signal a strong emotional attachment to their jobs, professions, and organizations.

The focus of this paper is on the role of environment on bridge employment and the career choices of older individuals. The main hypothesis is that previous self-employment experience and education combined with local labor market conditions determine older individuals' entrepreneurial career choices and retirement plans. Regions with strong traditions of entrepreneurship are favorable to bridge employment in the form of self-employment. Demand conditions also influence the available opportunities for bridge employment. Regions with a low level of demand may not be favorable for self-employment in later life. Higher education supports aspirations of bridge employment.

To summarize, the hypotheses are as follows:

*Hypothesis 1.* Previous experience in self-employment will have a strong positive effect on the probability of self-employment transitions at older ages.

*Hypothesis 2.* Higher education will increase the probability of entering self-employment at older ages.

*Hypothesis 3.* A low level of demand at the local level will decrease the probability of switching into self-employment at older ages.

*Hypothesis 4.* Because of a higher level of demand and higher educational capital, transitions into self-employment at older ages will be more frequent in urban than in rural areas, despite the strong tradition of entrepreneurship in rural areas.

### 3. Data and variables

The data are based on various registers kept by Statistics Finland. Since 1970, Statistics Finland has compiled a population census every 5 years. By 1990, the census was based entirely on these registers. By matching the unique personal identifiers across the censuses, Statistics Finland has constructed a Longitudinal Census File with panel data on the entire population of Finland at 5-year intervals since 1970. In addition, since 1987, it has maintained the Longitudinal Employment Statistics file, which is updated annually. Because the same personal identifiers are used in both the census and the longitudinal employment statistics, the two data sets can be merged, providing panel data on each resident of Finland at 5-year intervals beginning in 1970 and annually from 1987 to 2004. By using the personal identifiers, data from various other registers can be merged with the panel data. In addition, data on spouses can be merged for every individual. As a consequence, the data set holds rich information on many variables, including labor market performance, educational attainment, family characteristics, and neighborhood.

#### *Definition of self-employment*

In this analysis, the definition of self-employment follows the statistical definitions used by Statistics Finland (2001). The variable “occupational status” describes the position of the employed in the labor market: entrepreneurs and wage and salary earners. The category of entrepreneurs also includes family members working without pay in a family business. If an individual is not employed, (s)he belongs in the third category, non-employed. The non-employed are either unemployed or out of the labor force, primarily retired individuals and students.

The data on occupational status are based on the individual’s national insurance status (YEL) and wage, salary and/or entrepreneurial income received. There are two



requirements to define a person as an entrepreneur: (s)he had a self-employed person's pension insurance during the last week of the year, and her/his income from entrepreneurship exceeds her/his wage income if the person is also in an employment relationship (for details, see Statistics Finland 2001). Accordingly, having self-employed pension insurance is the primary criterion. This insurance is required by law if self-employment has continued for at least four months and the individual's entrepreneurial income exceeds an annual specified limit.

### *The sample and its features*

We use a 7% random sample of the individuals who resided permanently in Finland in 2001, drawn from the basic registers. The individual-level panel data were transformed and pooled into a sample of individuals aged 55-74 to analyze their labor market transitions in the period from 1998-2004. Thus, this pooled data set includes transitions from a six-year period. The pooling was done to ensure a sufficient number of transitions to self-employment. In addition to the age restriction, the agricultural sector was excluded from the sample because the concept of self-employment is more vague in agriculture than in other industries and because farm businesses have very different characteristics compared with nonfarm businesses (Blanchflower 2000, Parker 2009). Accordingly, the analysis concerns the transitions of individuals aged 55-74 to nonagricultural self-employment in Finland during the period from 1998-2004.

An individual was included in the sample for each year if (s)he met the age criteria and was either in wage work or non-employed. If an individual switched to self-employment, (s)he was not included in our data for the subsequent year; once an individual entered self-employment, (s)he could not enter it the subsequent year (although an individual can enter self-employment the year thereafter if (s)he switched from self-employment during the intervening year). The total number of observations in the data is 385,371, and the number of individuals is 88,829. Of the total number of observations, 41.2% are from rural locations, and 58.8% are from urban locations.

In the data, there were 425 transitions to self-employment, of which 40.0% took place in rural locations and 60.0% in urban locations. Combined, these figures show that the annual probabilities for becoming self-employed in later life are very low, only 0.107% in rural locations and 0.113% in urban locations. However, when these figures are generalized, about 1,000 individuals aged 55-74 switch to non-agricultural self-employment in Finland per year. There were some individuals, 2% in rural areas and 4% in urban areas, who entered self-employment twice during the study period. In most cases, those who switched to self-employment had self-employment experience earlier in life (74% in rural areas and 65% in urban areas).

Many of the transitions to entrepreneurship were in two industries. One was wholesale and retail trade, and the other was real estate, renting and business activities. The shares of transitions into these industries were 13% and 9% in rural areas, respectively, and 14% and 17% in urban areas, respectively. Accordingly, many transitions are directed to business services in urban areas. Manufacturing industries, construction and other services are also industries in which transitions to entrepreneurship were common. Unfortunately, the industry was unknown in 45% of all transitions in rural areas and in 33% of all transitions in urban areas.

### *Explanatory variables*

Table 1 provides information on the formation and means of the variables in rural and urban regions. The key variables describe environmental factors, education and prior activity. First, two variables measure the situation in the local labor market. The first defines whether the individual resides in a rural or in an urban environment. The second regional variable describes the unemployment situation in the local labor market. A dummy variable shows whether the individual moved from one region to another before the transition to self-employment. The two education variables separate those with an intermediate and a higher level of education from those with a basic education.

As one may suppose, tertiary education is much more common in urban than in rural regions. In addition, three variables indicate the three main educational orientations: the first marks individuals with a commercial or social education; the second marks those with a technical education; and the third marks those with medical and related education. All of these fields of education are more common in urban than in rural regions. A dummy variable shows the possession or lack of prior self-employment experience. The means of this dummy variable show that this prior experience is much higher in rural areas than in urban areas. A potentially important variable is the one that shows whether a spouse is self-employed. Many studies show that individuals who have self-employed spouses have higher self-employment rates (Brown et al. 2006, Parker 2009, Tervo and Haapanen 2010). A self-employed spouse may also be a factor of great significance in increasing bridge employment. A dummy variable showing whether a spouse is non-employed is also included.

In addition, a number of other variables are used to control for personal and spousal characteristics and assets. A dummy variable indicates whether the individual is male or female. Language differentiates native Finns from a small minority of ethnic immigrants; it also differentiates the Swedish-speaking minority from the Finnish-speaking majority. Institutional support for the Swedish-speaking community, with its shared language, culture and social capital, has traditionally been strong (Liebkind et al. 1995). A dummy variable shows whether the individual is married or cohabiting or is single. Finally, three variables measure the individual's financial situation, which is better in urban regions as compared to rural regions; two variables describe taxable property in the family, and the third describes taxable income.

#### 4. Results

Tables 2 and 3 show our estimation and test results, and Table 4 presents some predicted probabilities based on the estimated models. First, a specification with all variables in the total sample was estimated, after which a specification with interactions

with the type of region and the key variables was estimated. Next, the sample was divided according to the region type and previous self-employment experience. Apart from the estimation results, Table 3 also indicates which differences are statistically significant between rural and urban regions, indicating whether an effect observed for any explanatory variable depends on the region type. Table 3 also reveals whether any effect depends on prior experience in entrepreneurship.

Estimations related to the entire sample show that all of our key factors have an effect on the probability of entering self-employment at a later age. The results lend support to the hypotheses presented above. In the first specification, the dummy indicating the region type is slightly positive and significant. This suggests that, after controlling for the direct effects of all other variables, an urban environment has a small positive effect on the probability of becoming self-employed at older ages. The second specification includes the interaction variables, after which the region type is not significant, but its effect remains via the interaction variables. A high unemployment rate in the local labor market decreases the probability of becoming self-employed. Because high unemployment often reflects low demand in the region, this result suggests that local demand conditions are relevant to entrepreneurship in later life. Another interesting finding is the relatively high coefficient for the migration variable, indicating that moving precedes entrepreneurship. This suggests that, for many older adults, switching into self-employment presupposes moving to another region.

The results show that older adults with a high level of education have a higher probability of entering self-employment compared with older adults with basic education. In the case where high education is interacted with the other key variables, its direct effect diminishes and becomes insignificant as the interaction variables take part of the effect. The finding regarding the positive effect of high education is interesting and contrasts with previous Finnish results, which have suggested that individuals with a higher level of education have a lower probability of being self-employed (e.g., Johansson 2000, Uusitalo 2001, Niittykangas and Tervo 2005, Tervo and

Haapanen 2010). The results of this study, with its focus on entering self-employment at older ages, are consistent with many findings from other countries (e.g., Blanchflower and Oswald 1998, Parker 2009) and are in accordance with the hypothesis that education will increase an older adult's probability of becoming self-employed, as it enhances her/his human capital (cf. Rees and Shah 1986). In later years, the higher earnings capacity due to higher education does not reduce the probability of becoming self-employed, perhaps because mature workers have a higher preference for leisure than younger workers.

As was expected, prior self-employment experience has a large effect on an older adult's probability of entering self-employment. The effect is still large after including the interaction variables in the model. Furthermore, the probability of entering self-employment increases if an individual's spouse is an entrepreneur but decreases if the spouse is non-employed. These results draw attention to the importance of the spouse as well as the overall life situation. Self-employed spouses may provide role models, business skills and valuable advice for individuals (Bruce 1999, Tervo and Haapanen 2010). In contrast, a retired spouse may prefer that her/his mate also be out of work.

Gender, family relations, ethnicity and income also have significant effects on the probability of switching into self-employment at later ages. Men are more likely than women to become self-employed at older ages. Married or cohabiting individuals have a higher probability of switching into self-employment than singles. This result is in accordance with the general finding that self-employment status is positively associated with marital status (Parker 2009). Compared with native Finns, immigrants have a much higher probability of becoming self-employed. This result perhaps reflects the known fact that entrepreneurship is often the only possibility for immigrants. The Swedish-speaking minority does not statistically deviate from the Finnish-speaking majority. Property ownership does not have an effect on older adults' decision to become entrepreneurs, but income does.

The results related to the interaction variables reveal some interesting findings. The interaction between the type of region and prior self-employment experience is positive and highly significant, showing that previous experience in entrepreneurship has an additional effect for older adults in urban areas. The interaction with the level of education is also significant: highly educated older adults have a higher probability of entering self-employment in urban than in rural areas. Furthermore, the three-variable interaction term "*Urban municipality \* High education \* Previous self-employment experience*" is significantly negative, suggesting that the higher probability of entering self-employment in urban areas relates primarily to the highly educated older adults who do not have prior self-employment experience and not to those with this experience.

Because of these complex relationships, the estimations have also been performed for separate groups to yield more insight into the differences in older adults' choices (Table 3). The location-specific estimations reveal the determinants of self-employment in each region type. These results confirm that prior self-employment experience has a greater role for older adults residing in urban than in rural areas. Due to the importance of prior self-employment experience and differences in this importance between the region types, location-specific estimations have also been done separately according to prior self-employment experience. These results are also included in Table 3.

Interestingly, even if prior self-employment experience is more important in urban regions, this experience is clearly more common in rural regions: the proportion of individuals aged 55-74 who have self-employment experience from earlier in life is 36% in rural regions but only 13% in urban regions (Table 1). An interrelated finding is that the role of a self-employed spouse is more important in urban than in rural locations, especially if an older adult has no prior self-employment experience. Thus, self-employed spouses pull their inexperienced partners into entrepreneurship at later ages, especially in urban areas. If a partner has prior self-employment experience, the effect is the same in both locations. The results also show that the effect of higher education is greater in urban areas, but only for those who lack previous self-employment

experience. If an older urban dweller has prior experience in entrepreneurship, high education does not have an effect. These results suggest that highly educated older adults with no prior experience in entrepreneurship enter self-employment in urban areas most likely because they view it as a progression of their careers. This same relationship is not seen in rural areas.

Table 3 also shows other interesting findings. The role of taxable income is much greater in rural than in urban locations. This finding is valid irrespective of whether an individual possesses prior self-employment experience. On the contrary, taxable property does not differentiate individuals in either rural or urban regions; this variable has no statistical significance in either region type. The estimated coefficients for older adults with and without self-employment experience differ statistically for many variables, especially in urban regions (Table 3). Of the differences not yet considered, one noteworthy difference is that related to business and related education. In urban regions, this training increases the probability of switching to self-employment if an older adult has prior entrepreneurship experience but decreases it if (s)he lacks this experience. In rural regions, two significant differences, related to native language and the spouse's situation, can be found between older adults with and without self-employment experience. If an older adult has prior self-employment experience and either is Swedish-speaking or has a non-employed spouse, her/his probability of entering self-employment decreases, but if (s)he does not have prior self-employment experience, no such effects are found.

Finally, to illustrate the role of our key factors (local labor market conditions, education and prior self-employment experience) in an older adult's choice between self-employment and other options, some predicted probabilities for entering self-employment are presented in Table 4. The base situation entails a highly educated male whose wife is self-employed and who lives in a region with very low unemployment (the variable obtains the minimum value in the data). All other variables take their median values. In this case, the predicted probability for entering self-employment in a

rural area is 1.6%, whereas in an urban area it may be as high as 6.5%. The probabilities decrease considerably, to 0.4% in a rural area and to 1.9% in an urban area, if the regional unemployment rate changes from low to high (the variable obtains now the maximum value in the data). Local demand indeed has a notable effect. Furthermore, if the older adult has only a basic education, but his situation otherwise is as described above, the probabilities are 1.1% and 3.5%, respectively. Consequently, the role of education is also notable. Lastly, if an older adult has no prior self-employment experience and his wife is not self-employed, the probabilities are 0.1% and 2.5%, respectively. Thus, previous experience in entrepreneurship has significance, especially in rural areas.

## 5. Conclusions

Self-employment in later life may be either a form of partial retirement or a career option but is not very common. In particular, novice entrepreneurship in later life is rare. The results obtained in this paper show that prior self-employment experience and higher education foster self-employment at older ages, while a high regional unemployment rate prevents it. These factors have intertwined effects and have somewhat dissimilar effects in different types of regions. Due to a lower level of demand and lower educational capital, self-employment is less tempting in rural than in urban areas. As a result, transitions to self-employment at older ages are less frequent in rural areas than in urban areas, although rural areas have strong traditions of entrepreneurship.

The fact that entrepreneurship at later ages is often habitual supports the view that third-age entrepreneurship is a way of life rather than a new activity. This fact also supports the view that entrepreneurship is a lifelong learning process. Furthermore, for many older adults, entering self-employment is a form of bridge employment. Of course, this can also help older adults manage their lengthening careers. Bridge employment based on entrepreneurship may be advantageous for the career of an



optimizing worker, especially in urban areas. To persuade well-versed and skilled older adults to enter self-employment, the public sector should do more to support it.

## References

- Bernhardt I (1994) Competitive advantage in self-employment and paid-work. *Canadian Journal of Economics* 27: 273-289.
- Blanchflower DG (2000) Self-employment in OECD countries. *Labor Economics* 7: 471-505.
- Blanchflower DG and Oswald AJ (1998) What makes an entrepreneur? *Journal of Labour Economics* 16: 26-60.
- Brown S, Farrell L and Sessions JG (2006) Self-employment matching: an analysis of dual earner couples and working households. *Small Business Economics* 26: 155-172.
- Bruce D (1999) Do husbands matter? Married women entering self-employment. *Small Business Economics* 13: 317-329.
- Bruce D, Holtz-Eakin D and Quinn J (2000) Self-employment and labor market transitions at older ages. Center for Retirement Research Working Papers, Boston College.
- Carroll GR and Mosakowski E (1987) The career dynamics of self-employment. *Administrative Science Quarterly* 32: 570-589.
- Delmar F, Folta T and Wennberg K (2008) The dynamics of combining selfemployment and employment. IFAU Working Paper 2008: 23, Institute for Labour Market Evaluation, Uppsala.
- Dyer GW (1994) Toward a theory of entrepreneurial careers. *Entrepreneurship Theory and Practice* 19(2): 7-21.
- Evans DS and Jovanovic B (1989) An estimated model of entrepreneurial choice under liquidity constraints. *Journal of Political Economy* 97: 111-119.
- Fuchs VC (1982) Self-employment and labor force participation of older males. *Journal of Human Resources* 17(3): 339-357.
- Giandrea MD, Cahill KE and Quinn JF (2008) Self-employment transitions among American workers with career jobs. BLS Working Papers 418.
- Gibb A and Ritchie J (1982) Understanding the process of starting small business. *European Small Business Journal* 1(1): 26-45.
- Hipple S (2004) Self-employment in the United States: an update. *Monthly Labor Review* 127 (7): 13-23.
- Hyytinen A and Ilmakunnas P (2007) What distinguishes a serial entrepreneur? *Industrial and Corporate Change* 16(5): 793-821.
- Johansson E (2000) *Essays on the determinants of self-employment*. Publications of the Swedish School of Economics and Business Administration, Nr 85. Helsingfors.
- Kalantadaris C and Bika Z (2006) In-migrant entrepreneurship in rural England: beyond local embeddedness. *Entrepreneurship and Regional Development* 18: 109-131.
- Katz JA (1994) Modelling entrepreneurial career progressions: concepts and considerations. *Entrepreneurship Theory and Practice* 19(2): 23-39.

- Kautonen T (2008) Understanding the older entrepreneurs: comparing Third Age and Prime Age entrepreneurs in Finland. *International Journal of Business Science and Applied Management* 3(3): 3-13.
- Kautonen T, Luoto S and Tornikoski ET (2010) Influence of work history on entrepreneurial intentions in 'primeage' and 'third age': a preliminary study. *International Small Business Journal* 28: 583-601.
- Kim S and Feldman DS (2000) Working in retirement: the antecedents of bridge employment and its consequences for quality of life in retirement. *Academy of Management Journal* 43(6): 1195-1210.
- Kim G and Cho J (2009) Entry dynamic of self-employment in South Korea. *Entrepreneurship and Regional Development* 21: 303-323.
- Lévesque M and Minniti M (2006) The effect of aging on entrepreneurial behavior. *Journal of Business Venturing*, 21(2): 177-194.
- Lianos T and Pseidiris A (2009) On the occupational choices of migrants. *Entrepreneurship and Regional Development* 21: 155-181.
- Moore CS and Mueller RE (2002) The transition from paid-employment to self-employment in Canada: the importance of push factors. *Applied Economics* 34: 791-801.
- Liebkind K, Broo R and Finnäs F (1995) The Swedish-speaking minority in Finland. In *Cultural Minorities in Finland: An Overview Towards Cultural Policy*, Publications 66, Finnish National Commission for Unesco.
- Naudé W, Gries T, Wood E and Meintjes A (2008) Regional determinants of entrepreneurial start-ups in a developing country. *Entrepreneurship and Regional Development* 20: 111-124.
- Niittykangas H and Tervo H (2005) Spatial variations in intergenerational transmission of self-employment. *Regional Studies* 39: 319-332.
- Parker SC (2009) *The Economics of Entrepreneurship*. Cambridge: Cambridge University Press.
- Rees H and Shah A (1986) An empirical analysis of self-employment in the UK. *Journal of Applied Econometrics* 1: 95-108.
- Reynolds PD, Storey DJ and Westhead P (1994) Cross-national comparisons of the variation in new firm formation rates. *Regional Studies* 28: 443-456.
- Ritsilä J and Tervo H (2002) Effects of unemployment on new firm formation: micro-level panel data evidence from Finland. *Small Business Economics* 19: 31-40.
- Sinclair RF (2008) The first step toward a theory of the entrepreneurial career. In <http://161.31.108.27/research/usaabe/2007/pdf/PaperID212.pdf>. (26.5.2008)
- Singh G and DeNoble A (2003) Early retirees as the next generation of entrepreneurs. *Entrepreneurship Theory and Practice* 27: 207-226.
- Statistics Finland (2001) Population Census 2000 Handbook. Helsinki
- Tervo H (2007) Self-employment transitions and alternation in Finnish rural and urban labour markets. *Papers in Regional Science* 87(1): 55-76.
- Tervo H and Haapanen M (2010) The nature of self-employment: how does gender matter? *International Journal of Entrepreneurship and Small Business* 9(3): 349-371.
- Tervo H and Niittykangas H (1994) The impact of unemployment on new firm formation in Finland. *International Small Business Journal* 13: 38-53.

- Ucbasaran D, Alsos G, Westhead P and Wright M (2008) Habitual entrepreneurs. *Foundations and Trends in Entrepreneurship* 4(4): 309-450.
- Uusitalo R (2001) Homo entrepreneaurus? *Applied Economics* 33: 1631-1638.
- Zissimopoulos JM and Karoly LA (2007) Transitions to self-employment at older ages: the role of wealth, health, health insurance and other factors. *Labour Economics* 14: 269-295

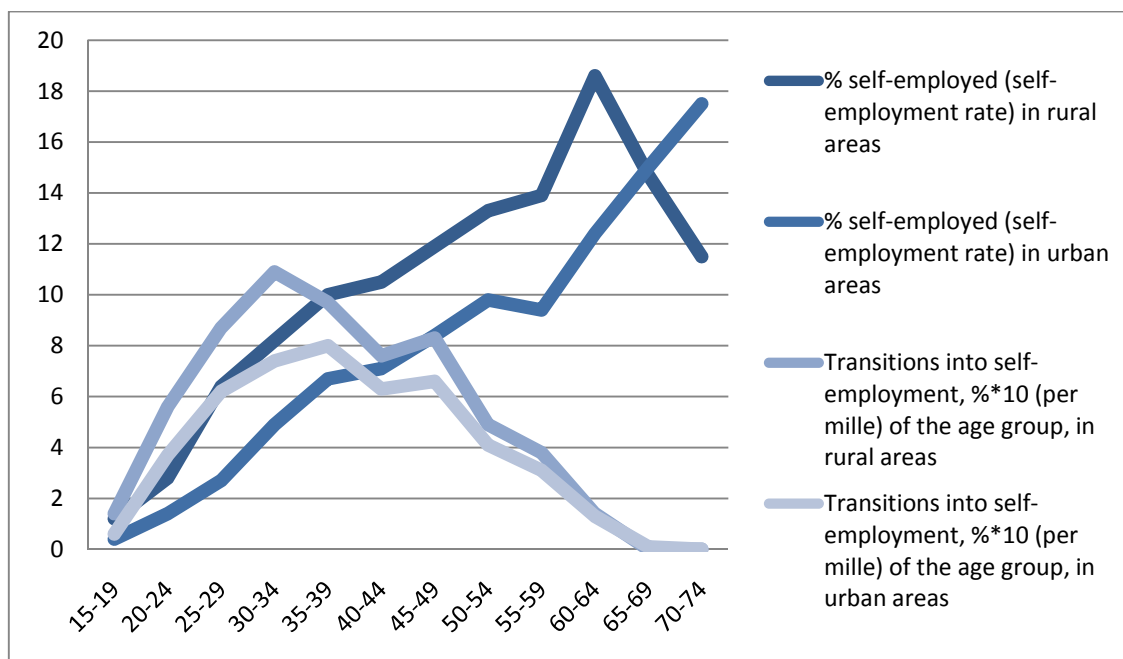


Figure 1. Self-employment rate and transitions into self-employment by age in rural and urban regions of Finland in 2001 (non-agricultural self-employment)

Table 1. Descriptions and means of variables

Variable	Description	Means		
		Region type Rural	Urban	All
Urban municipality	1 if home municipality is classified as an urban area (in which at least 80% of people live in urban settlements), 0 otherwise	0	1	0.59
Regional unemployment rate	Unemployment percentage in the local labor market in year $t-1$	14.9	12.3	13.4
Has moved	1 if has moved from another NUTS 4-level region in year $t-1$ , 0 otherwise	0.01	0.01	0.01
<i>Level of education (reference category basic education)</i>				
-Intermediate	1 if secondary education has been attained, 0 otherwise	0.23	0.24	0.23
-High	1 if tertiary education has been attained, 0 otherwise	0.12	0.24	0.19
<i>Field of education (reference category other fields)</i>				
-Social sciences and business	1 if field of education is business or social sciences, 0 otherwise	0.05	0.11	0.08
-Technology	1 if field of education is technology or natural sciences, 0 otherwise	0.11	0.16	0.14
-Health and welfare	1 if field of education is health or welfare, 0 otherwise	0.04	0.06	0.06
Previous self-employment experience	1 if has been self-employed earlier (after 1970), 0 otherwise	0.36	0.13	0.23
Spouse entrepreneur	1 if spouse is self-employed in year $t-1$ , 0 otherwise	0.03	0.02	0.02
Spouse non-employed	1 if spouse is non-employed in year $t-1$ , 0 otherwise	0.33	0.29	0.31
Male	1 if male, 0 if female	0.48	0.44	0.46
Married or cohabiting	1 if married or cohabiting in year $t-1$ , 0 otherwise	0.71	0.68	0.69
<i>Native language (reference category Finnish)</i>				
-Swedish	1 if Swedish-speaking, 0 otherwise	0.07	0.06	0.06
-Other	1 if native language other than Finnish or Swedish, 0 otherwise	0.00	0.01	0.01
Taxable income	Income subject to state taxation in year $t-1$ (in 10,000 euros)	1.53	2.05	1.84
Taxable property	Property subject to state taxation in year $t-1$ (in 100,000 euros)	0.24	0.29	0.27
Spouse's taxable property	Spouse's property subject to state taxation in year $t-1$ (in 10,000 euros)	0.55	0.67	0.62
Number of observations		158,831	226,540	385,371

Table 2. Determinants of transitions into self-employment at older ages

Variable	Basic specification	Specification with interaction variables
Urban municipality	0.07*	-0.09
Regional unemployment rate	-0.02***	-0.02**
Has moved	0.33*	0.32*
<i>Level of education (reference category basic education)</i>		
-Intermediate	0.11*	0.11*
-High	0.25***	0.09
<i>Field of education (reference category other fields)</i>		
-Social sciences and business	0.07	0.06
-Technology	0.09	0.09
-Health and welfare	0.03	0.03
Previous self-employment experience	0.72***	0.49***
Spouse entrepreneur	0.36***	0.37***
Spouse non-employed	-0.29***	-0.29***
Male	0.12**	0.12**
Married or cohabiting	0.18***	0.18***
<i>Native language (reference category Finnish)</i>		
-Swedish	-0.13	-0.12
-Other	0.51***	0.52***
Taxable income	0.03***	0.03***
Taxable property	-0.04	-0.04
Spouse's taxable property	-0.01	-0.01
Urban * Regional unemployment rate	-	-0.01
Urban * Previous self-employment experience	-	0.41***
Urban * High education	-	0.25*
High education * Previous self-employment experience	-	0.23
Urban * High education * Previous self-employment experience	-	-0.40*
Constant	-3.49***	-3.38***
Number of observations	385,371	385,371
Pseudo R <sup>2</sup>	0.124	0.128

Notes: \*Significant at the 5% level; \*\*Significant at the 1% level; \*\*\*Significant at the 0.1% level.

Table 3. Determinants of transitions into self-employment at older ages in rural and urban areas

Variable	<i>All transitions</i>			<i>Lacks self-employment experience</i>			<i>Has self-employment experience</i>			<i>Rural areas</i>	<i>Urban areas</i>
	Region type		Sign.	Region type		Sign.	Region type		Sign.	Sign. / self-employment experience	Sign. / self-employment experience
	Rural	Urban		Rural	Urban		Rural	Urban			
Urban municipality	--			--			--				
Regional unemployment rate	-0.02**	-0.03***		-0.02	-0.03*		-0.01*	-0.02*			
Has moved	0.35*	0.27		0.40	0.31		0.28	0.24			
<i>Level of education (reference category basic education)</i>											
-Intermediate	0.09	0.14*		0.08	0.19		0.10	0.05			
-High	0.16	0.29***		0.06	0.48***	*	0.24	0.07			**
<i>Field of education (reference category other fields)</i>											
-Social sciences and business	0.11	0.04		0.08	-0.22*		0.11	0.29*			**
-Technology	0.12	0.05*		0.05	-0.00		0.17	0.14			
-Health and welfare	-0.02	0.05		-0.15	-0.06		0.03	0.18			
Previous self-employment experience	0.57***	0.82***	**	--			--				
Spouse entrepreneur	0.26**	0.47***		0.28	0.72***	*	0.25*	0.26*			**
Spouse non-employed	-0.22**	-0.33***		-0.03	-0.19*		-0.33***	-0.44***		*	*
Male	0.10	0.15**		-0.01	0.05*		0.16*	0.21**			
Married or cohabiting	0.14*	0.21***		0.12	0.09		0.15*	0.31***			
<i>Native language (reference category Finnish)</i>											
-Swedish	-0.15	-0.10		0.08	0.07		-0.35*	-0.34*		*	*
-Other	0.58*	0.49***		-	0.55***		0.78*	0.43			
Taxable income	0.07***	0.02*	**	0.07**	0.02	*	0.07***	0.02*	*		
Taxable property	-0.10	-0.02		-0.00	0.00		-0.14	-0.04			
Spouse's taxable property	-0.03	-0.00		-0.05	-0.00		-0.03	-0.01			
Constant	-3.41	-3.44***		-3.32***	-3.37***		-2.89***	-2.68***			**
Number of observations	158,831	226,540		101,885	196,268		56,976	30,272			
Pseudo R <sup>2</sup>	0.090	0.157		0.045	0.097		0.070	0.072			

Notes: \* Significant at the 5% level; \*\*Significant at the 1% level; \*\*\*Significant at the 0.1% level. "Sign." = significance of the difference, which compares coefficients between rural and urban areas / for individuals without and with self-employment experience. Testing is based on interactive models in which all the explanatory variables have been interacted with the dummy describing the region type / previous self-employment experience.

Table 4. Predicted probabilities for a probit model of older adults' self-employment choices

	Predicted probability of entering self-employment	
	Rural area	Urban area
A male whose wife is self-employed & who has prior self-employment experience, lives in a very low-unemployment area and is highly educated (Other variables are at their median values)	0.016	0.065
Otherwise the same, but		
- has no self-employment experience & wife is not self-employed;	0.001	0.025
- lives in an area with a very high unemployment rate;	0.004	0.019
- has only a basic education	0.011	0.035