6-10-2017

ENTREPRENEURSHIP IS NO LONGER THE YOUNG'S GAME? A CROSS-SECTIONAL, CROSS-COUNTRY STUDY OF SENIOR ENTREPRENEURSHIP

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ABSTRACT

There has been a great surge of interest in seniors' entrepreneurial activity from both entrepreneurship researchers and policy-makers. This paper investigates the considerable variation in the rate of seniors' entrepreneurial activity across countries. Building on institutional theory, we investigate the impact of public expenditures, specifically related to seniors' health, pension, and education, on their entrepreneurial activity. We propose that public expenditures affect the propensity of seniors' entrepreneurial activity mediated by the actual outcomes of public expenditures, measured with health status, poverty rate, and educational attainment of seniors. Instead of focusing solely on the overall entrepreneurial activity of seniors, we suggest that the institutional arrangements might trigger start-ups driven by particular motives (necessity vs. opportunity). By doing so, we provide new insights into seniors' participation in entrepreneurial activities empowered by specific institutional factor.

INTRODUCTION

Senior entrepreneurship has attracted growing attention from both researchers and policy-makers as it has the special potential to alleviate the financial reliance of retirees on the working population (Heimonen, 2013) and to contribute to a country's economic growth by drawing on the high levels of financial, human, and social capital, accumulated over a lifetime (Singh & DeNoble, 2003; Weber & Schaper, 2004). While its importance has been emphasized at the country level, little attention has been paid to why and how to foster senior entrepreneurship at the country level. This paucity in research may in part be because age is considered a factor that has an individual level impact on entrepreneurial activity (Parker, 2004). This might also be attributed to the difficulties of collecting disaggregated data for senior populations from multiple countries.

However, country level senior entrepreneurship research is necessary, as it assists researchers and policy-makers to answer the three following questions: (1) Where can the status of senior entrepreneurship of a certain country be positioned? It can be a motivation for a better senior entrepreneurial environment through the reevaluation of existing policies; (2) What derives such status? Important determinants of senior entrepreneurship can be identified at the country level by analyzing key factors that might cause the variation; and (3) What should be done? Instead of discussing general solutions, research in a cross-country setting can provide specific directions for efficient government intervention.

In order to address these questions, drawing on active ageing literature and institutional theory, this research proposes that different institutional settings of countries for three dimensions of the active ageing processes of seniors — health, income security, and educational attainment — lead to cross-country differences in the level of seniors' participation in entrepreneurial activity. The overall conceptual model we propose comprises three sections; institutional arrangements,

actual delivery, and senior entrepreneurship. Firstly, public expenditures on health, pensions, and education are proposed to provide incentives and/or constraints with regards to encouraging the entrepreneurial participation of seniors (see Section A in Figure 1). Secondly, this research separates the concept of public expenditure from its actual delivery by evaluating countries' health status, poverty rate, and the educational attainment of seniors (see Section B in Figure 1). This is mainly because public funds (inputs) do not always lead to the desired effect (output) (Rajkumar & Swaroop, 2007). In turn, this research proposes that the actual outcomes of public spending mediate the impact of public expenditure on the senior entrepreneurial activity rate of a country. Thirdly, instead of focusing solely on the overall entrepreneurial activity of seniors, the current study clarifies seniors' entrepreneurial motive, whether it is an opportunity or a necessity, for undertaking entrepreneurial activities (see Section C in Figure 1). Distinguishing opportunity- and necessity-driven motivations is crucial in entrepreneurship research and practice as both determinants and consequences differ (Verheul, Thurik, Hessels, & van der Zwan, 2010).

The main contribution of this research is threefold. First, this paper conceptually contributes to senior entrepreneurship literature by developing a novel conceptual model to investigate seniors' entrepreneurial activity at the country level. Second, empirical contributions are made through testing the conceptual model and informing the directions of future research. Third, this research also delivers important policy implications that can be meaningful, especially for policy-makers in countries where a high senior entrepreneurship rate is a political agenda to address the aging population issue. Some minor/partial contributions have also been made towards the use of institutional theory in entrepreneurship research.

HYPOTHESES DEVELOPMENT

High level of public health expenditure is significantly associated with better health outcomes of individuals in a country (Bradley, Elkins, Herrin & Elbel, 2011). However, there have been inconclusive arguments over the impact of seniors' quality health status on their entry into entrepreneurship. High health status is seen a prerequisite for self-employment when considering the demanding work characteristics of entrepreneurship, such as the long hours of work and greater responsibility (Rees & Shah, 1986). In contrast, Zissimopoulos and Karoly (2007) argued that poor health condition pushes seniors into self-employment, as it offers more flexible working conditions than the wage sector does.

Despite the uncertain empirical effect of health on entrepreneurial activity, it seems clear that deteriorating health affects seniors' desire to put energy into starting a business (Curran & Blackburn, 2011). This research proposes that public health expenditure improves the health status of seniors and positively leads to high senior entrepreneurial activity of country. However, health is not a determinant that can be captured through intrinsic pull or extrinsic push categories (Halabisk & Kautonen, 2012). Thus, the current research does not propose any specific entrepreneurial motivation that health might have more impact on.

H1: Public expenditure on health has a positive impact on senior entrepreneurship rates mediated through the health status of seniors.

In a country where the financial stability of seniors remains at a decent level supported by government's pension schemes, the financial necessity of seniors is reduced (Meschede, Sullivan, & Shapiro, 2011). Understanding entrepreneurship as an employment choice for economic gain (Arenius & Minniti, 2005), seniors will be less likely to be involved in necessity-driven

entrepreneurial activity mainly caused by poverty and lack of choice in work (Rosa, Kodithuwakku, & Balunywa, 2008). Hence, the following hypotheses are suggested:

H2a: Public expenditure on pension has a negative impact on senior entrepreneurship rates mediated through a reduced poverty rate.

H2b: This relationship is stronger for necessity-driven senior entrepreneurship than for opportunity-driven senior entrepreneurship.

It is obvious that the government's investment in education system improves the educational attainment of individuals (Lee, 2000). However, there is an inconclusive argument over the impact of education on the selection into entrepreneurship at the country level (Acs, Arenius, Hay, & Minniti, 2004; Dickson et al., 2008; Van der Sluis, van Praag, M., & Vijverberg, 2005). The present study proposes that the role of education in the selection into entrepreneurship can be seen as evident in the senior population due to the educational inequality they have experienced (Breen, Luijkx, Muller, & Pollak, 2009).

Many studies have determined that the level of education relates more to opportunity-driven entrepreneurial behavior than that driven by necessity, since education benefits entrepreneurs to perceive entrepreneurial opportunity (Arenius & Minniti, 2005; Davidsson & Honig, 2003; Delar & Davidsson, 2000). Arenius and De Clercq (2005) provided two arguments to explain the positive relationship between a high probability of opportunity recognition and education: firstly, education may facilitate access to resources through network contacts; and secondly, knowledge accumulated through education may allow the complementation of new information. Thus, this research proposes that the impact of public education expenditure might have greater effect on the entrepreneurial motivation for opportunity than necessity. Therefore, the following hypotheses are suggested:

Hypothesis 3a. Public expenditure on education has a positive impact on senior entrepreneurship rate mediated through improved educational attainment.

Hypothesis 3b. This relationship is stronger for opportunity-driven senior entrepreneurship than for necessity-driven senior entrepreneurship.

METHOD

This research is based upon four secondary data sources; GEM (2012; 2014), HelpAge International (2013), Barro and Lee (2013), and World Bank (2014). Due to its importance as a major dataset for the three dependent variables, the GEM data set was the "anchor" for the other data collection activities. After the country-level data were matched and the missing data were deleted, the dataset was composed of 59 countries.

The thirteen variables include: (a) three independent variables - public expenditure on health, pensions, and education; (b) three mediators – health status, poverty rate, and educational attainment of seniors; (c) three dependent variables - the entrepreneurial activity rate of seniors (STEA), opportunity-driven entrepreneurial activity rate of seniors (SOPP), and necessity-driven entrepreneurial activity rate of seniors (SNEC); and (d) four control variables - economic development level of countries, total entrepreneurial activity of the overall population (TEA), opportunity-driven entrepreneurial activity of the overall population (OPP), and necessity-driven entrepreneurial activity of the overall population (NEC).

STEA, SOPP, and SNEC are the rates calculated by dividing the number of seniors (55+) involved in total, opportunity-driven, and necessity-driven nascent entrepreneurial activity by the number of senior respondents in the survey respectively. It follows the same logic as how the total entrepreneurial activity of country is generated in the GEM report and simply narrows down the sample category to those aged over 55.

Prior to testing the conceptual model proposed in this thesis, the characteristics of the data were first examined, primarily so that a suitable statistical technique could be applied to this research. The descriptive statistics showed that control and dependent variables are considered moderately to highly correlated. This may be because dependent variables (STEA, SOPP, and SNEC) examined in this research can be also regarded as sub-sets of the control variables (TEA, OPP, and NEC), while the definite assertion that control variables represent the same as dependent variables cannot yet be made. This causes concerns about multicollinearity issue in this study (Hair, Black, Babin, & Anderson, 2014). Separate variance inflation factors (VIFs) values showed no indication of multicollinearity problems (Kennedy, 2003).

A heteroscedasticity robust endogeneity test was conducted using the Cook-Weisberg test. The general Chi-square statistics for four hypothesised models (H2a, b and H3a, b) were significant. In order to address potential issues of heteroscedasticity, such as biased regression estimators, this research generated robust standard errors in testing all hypotheses and additional analyses. Structural equation modelling (SEM) for path analysis was employed to test the impact of institutional arrangements on the entrepreneurial activity rates of seniors in a country.

RESULT

Indirect paths from public expenditure on health to health status ($a_2 = 5.39$, $p < 0.00$) and health status to STEA ($b_2 = 0.36$, $p < 0.01$) show substantial and statistically significant coefficient effects ($a_2{}^*b_2 = 1.66$, $p < 0.01$). Significant direct coefficient value ($c_2' = 1.31$, $p < 0.05$) indicates that there was a partial mediation relationship between public expenditure on health and STEA through health status. In turn, health status can be formally constructed as a mediator between public health expenditure and STEA in the current study. Therefore, this research supports H1.

Turning to the link between public expenditure on pension and STEA, we found a statistically significant indirect effect ($a_1{}^*b_1 = -0.16$, $p < 0.01$), drawn from the negative path from public expenditure on pension to no poverty rate ($a_1 = -1.52$, $p < 0.00$) and positive path from poverty rate to STEA ($b_1 = 0.11$, $p < 0.01$). A direct path from public expenditure on pension to STEA showed a statistically insignificant and insubstantial coefficient effect ($c_1' = 0.02$, *n.s.*), indicating the complete mediation relationship. Thus, the poverty rate could be formally constructed as a mediator between public pension expenditure and STEA in this research. Therefore, the results support H2a. When comparing the effect size of pension expenditure on two entrepreneurial motivations, there is no significant indirect effect between public expenditure on pension and either SOPP ($a_1{}^*b_1 = -0.23$, *n.s.*) and SNEC ($a_1{}^*b_1 = -0.09$, *n.s.*) through the poverty rate. Therefore, the results do not support Hypothesis 2b.

The analysis result indicated substantial and statistically significant paths from public expenditure on education to educational attainment ($a_3 = 11.88$, $p < 0.00$) and from educational attainment to SOPP ($b_3 = -0.13$, $p < 0.05$), indicating the mediating relationship between public expenditure on education and STEA through educational attainment ($a_3{}^*b_3 = -1.15$, $p < 0.05$). This result does not support H3a, as the direction of effect is not as hypothesised. With regards to the

effect size comparison for two entrepreneurial motivations, we found the statistically significant and substantial indirect effect ($a_3 {}^* b_3$ = -1.60, p < 0.05) of the public education expenditure on SOPP through educational attainment. The path from public education expenditure to educational attainment was statistically significant and positive (a_3 = 2.01, p <0.05). The other path from educational attainment to SOPP was statistically significant but negative (b_3 = -0.13, p <0.05). Meanwhile, there was a statistically insignificant indirect effect of public education expenditure on SNEC ($a_3 {}^* b_3$ = -0.09, $n.s.$). However, H3b cannot be supported, as the direction of effect is opposite to the hypothesis.

DISCUSSION AND IMPLICATION

The focus of discussion and implication of this abridged paper is more on the research findings about income security and educational attainment than health status. The results of this study reveal that seniors are less likely to start a business when they are financially stable and more likely to start a business when they are financially unstable, at the high level of financial necessity, in other words. However, this empirical finding does not support the theoretical argument made by Lévesque and Minniti (2006). Lévesque and Minniti proposed the theoretical model, so-called LM model, in which entrepreneurial behaviour for financial gain is less likely in the senior population because entrepreneurial activity does not provide an instant income stream.

These conflicting research arguments might be due to the limitations of two major assumptions made in the LM model: firstly, it assumes that employment wages increase with age, and secondly, it assumes that seniors have two equal employment options, wage-employment and self-employment. These two assumptions seem to help to simplify seniors' employment choices; however, they might distort important facts regarding seniors' employment choices. The link between age and salary is less evident for lower-skilled workers in physically demanding occupations, whose wages decline after their mid-forties (De Grip & Zwick, 2005). In addition, employment discrimination against older workers decreases the employability of older workers (McVittie, McKinlay, & Widdicombe, 2003). In turn, it might be hard to claim that wage employment is a more attractive career choice for financial necessity than entrepreneurship.

In line with a doubt expressed by Van der Sluis et al. (2005), about the positive linkage between quality institutional settings for education and the entrepreneurial activity rate of a country, this paper supports the negative effect of education on, or at least limited to, senior's selection into entrepreneurship. The results show that public expenditure on the education system is positively related to the educational attainment of the senior population in a country. However, senior's educational attainment leads to less participation in entrepreneurship.

The LM model might provide a plausible explanation for this result. Two assumptions employed in the LM model, criticized in the case of explaining the impact of seniors' income security, can be employed to explain well-educated seniors' entry into entrepreneurship based on the following justifications. First, although age has no effect on an annual salary increase, education generally leads to strong salary increases for employees with every additional year of formal education (Xiao, 2002). Second, educational attainment increases employment probability for seniors (Hairault, 2012). Thus, for well-educated seniors, full retirement or wage employment might be more attractive options, as discussed in the LM model.

This research empirically supports the argument about the negative impact of education on the entry into entrepreneurship limited to the senior population. It indicates that having highly

educated seniors in a country does not mean that those seniors are keen to exploit an opportunity based on their high quality human capital. A large amount of entrepreneurship research, senior entrepreneurship research in particular, has emphasized the impact of education on key determinants for human capital (Davidsson & Honig, 2003). However, the current thesis raises concerns about the relative importance of education in senior's employment selection for wage employment and entrepreneurship.

The findings of the present study deliver under-researched discussion in previous entrepreneurship research about financial and human capital applied to senior entrepreneur population. Specifically, the financial capital of seniors that affects their entrepreneurial activity might be more likely to be *financial stability and necessity* rather than *financial wealth*, which is a popularly examined concept in general entrepreneurship research. Additionally, education attainment, which has been considered the most important dimension of human capital, *might not encourage* seniors' entrepreneurial activity, which is in contrast to what has been determined in general in entrepreneurship research.

These findings imply that a high senior entrepreneurship rate of countries might be driven by weak financial stability, which can be described as the *high financial necessity and low educational attainment of seniors*. Thus, a high senior entrepreneurship rate of the country might not be a good sign of the society. On the other hand, it means that countries do not necessarily need to aim to achieve a high senior entrepreneurship rate, because theoretically, seniors' engagement in entrepreneurship is an unusual phenomenon. If the benefits of a high senior entrepreneurship rate of countries are to be realized, such as diminishing financial reliance (Heimonen, 2013) and contribution of life-accumulated human capital on organization and industry (Botham & Graves, 2009), different strategies need to be employed for countries in different institutional settings.

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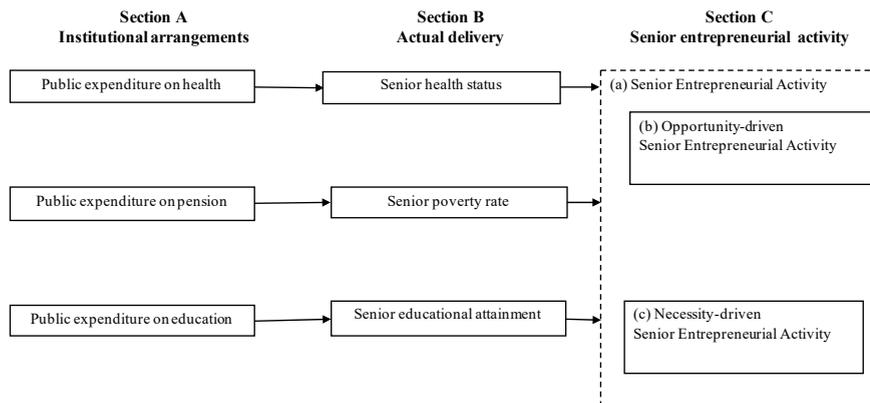
APPENDIX

Figure 1 Conceptual Model