



5.11– Senior Entrepreneurship: Towards a Research & Policy Agenda in Europe + Outlook for Portugal

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Executive summary

The present paper proposes and discusses a preliminary research and policy agenda on senior entrepreneurship in Europe, with focus on the Portuguese case. The analysis is organized into six key research questions, namely: (i) Why is Senior Entrepreneurship important? (ii) What is the current Knowledge & Academic Research available (and still lacking) on Senior Entrepreneurship? (iii) What are the key supporting initiatives available for Senior Entrepreneurs in the world? (iv) Are academics producing research on Senior Entrepreneurship with practical policy implications? (v) Are policies and supporting initiatives backed up by scientific knowledge? (vi) How can we produce and use adequate knowledge and policies towards Senior Entrepreneurship in Europe. In order to address the previous questions and to shed light on how institutions may better support senior entrepreneurship, we start by developing (a) a recent and comprehensive Systematic Review of Literature; (b) an analysis of international programs and initiatives for senior entrepreneurs based on secondary data. Additionally, we focus on the Portuguese case by providing (c) a thorough description of the national context drawing on primary data; (d) an analysis of senior entrepreneurs' firm entry and growth dynamics by, using secondary data; (e) insight on senior entrepreneurs' satisfaction, based on primary data, and a final discussion of Policymaking towards Senior entrepreneurship in Portugal. In order to discuss the interplay between Academic Research / Available knowledge and Policymaking / Supporting Initiatives, particular focus is put on Human capital, Social capital, Information and Communication, Funding and Research.

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List of Abbreviations

AAI	Active Ageing Index
BCW	Behaviour Change Wheel
COM	Capability, opportunity, motivation
EU	European Union
GEM	Global Entrepreneurship Monitor
INE	Instituto Nacional de Estatística – National Institute of Statistics
LEED	Linked Employer-Employee Data
OECD	Organization for Economic Co-operation and Development
QP	Quadros de Pessoal – Personnel Records
RQ	Research questions(s)
SE	Senior entrepreneur(s)
TEA	Total entrepreneurial activity
TPB	Theory of Planned BEHAVIOR
WHO	World Health Organisation
US	United States

1 Introduction

In most developed societies, older individuals constitute a segment of the global population that is increasing at a significantly high annual rate (around 3.26%), making it the fastest growing population group on the planet (UN, 2015). An increasingly elderly workforce, together with longer lives and occupational careers, is requiring careful and increased attention by policymakers and academics. Moreover, literature on the personal and external factors affecting entrepreneurial behaviour argues that age is one of the main determinants of entrepreneurship and self-employment (Parker, 2009). Therefore, ageing – and consequently, senior entrepreneurship – is one of the most important social megatrends that needs additional research (Shepherd, 2015) and policymaking attention (OECD, 2012).

Senior entrepreneurship¹ refers to individuals who intend to create, are in the process of creating, or have created a business aged 50 or over. Self-employment and entrepreneurship have been gaining increased attention as feasible occupational strategies for older individuals (Kautonen & Minniti, 2014; Singh & DeNoble, 2003) and emerging either as a life style option or as an "imposition" due to lack of opportunities in the formal labour market. In economic terms, senior entrepreneurship may mitigate the rise in social security costs (Kautonen, 2008; Zhang, 2008) and potentially contribute towards economic and social development (Audretsch, 2004; Baumol, 1968; Casson, 1982). Although many benefits from senior entrepreneurship are offered by the literature, public policies oriented towards SE are markedly recent and scarce. Even though theoretical approaches and empirical evidence confirm that senior entrepreneurship policy has an important role to play (Hantman & Gimmon, 2014; Isele et al., 2014; OECD, 2012) and there is a need of initiatives, supporting programs and institutions dealing with potential and real senior entrepreneurs, one main question still remains: how to effectively support senior entrepreneurs? The answer is not obvious and it lays at the heart of the present report.

Three main reports were developed by OECD and EC to analyse, raise awareness and propose policy measures regarding senior entrepreneurship: First, EC/ OECD (2012)'s Policy Brief on Senior Entrepreneurship, where five main policies to support senior entrepreneurship are identified: (i) promote benefits of entrepreneurship, (ii) improve entrepreneurship skills with training, (iii) develop and support networks, (iv) improve access to finance, and (v) ensure there are no disincentives for entrepreneurship in social support systems. OECD (2012) is the first public report, at an international scale, providing a discussion around policies and instruments specifically oriented

¹ Hereafter we use the term SE for *Senior Entrepreneur(s)*.

towards the support of senior entrepreneurship. Within each policy, the report identifies a number of existent initiatives worldwide. Although this is a relevant report, it presents a number of limitations: (i) the literature review is not up to date and needs better discussion; (ii) a more systematic and clear picture could be provided about existing initiatives by looking with more detail at countries of origin, type of funding, type of organization, goals and outcomes obtained; (iii) a better connection between the existing scientific knowledge on senior entrepreneurship and the type of policies and/or initiatives developed (or with potential to be developed) is needed.

Second, a report on inclusiveness and entrepreneurship (OECD, 2013) briefly reviews the literature on senior entrepreneurship and articulates it with existing initiatives.

Third, a recent report by the EC (2016) provides an overview of the existing instruments supporting senior entrepreneurship at the European level, distinguishing the key actors according with the following profiles – entrepreneurs, freelancers, mentors, and investors. EC (2016) presents some main conclusions from the existing initiatives, namely: (i) individuals are not aware of the potential contribution having a mentor might have in their lives, job transitions and business startup; (ii) it is not easy to create a pool of mentors, nor to train them with a consistent methodology; and, (iii) "the classic instruments for measuring welfare and development fall short of evaluating the new realities. Nowadays, success is less linked to high income than it is to the effective use of time and the enhancement of one's vocation and capabilities. Furthermore, as in the case of the collaborative economy, there are services that are not priced or realized in monetary terms" (p.28).

Our article focuses on seniors as entrepreneurs or freelancers (it does not include investors or mentors). We aim to provide an exhaustive and robust overview on existing research and initiatives oriented to senior entrepreneurs also at a world-wide scale rather than the European-level approach (as developed by EC, 2016). We consider policy makers should understand SE characteristics and needs but also the available instruments to continue supporting both research and entrepreneurial activity within this specific group in society (in line with EC, 2016). In addition to the discussion of the international context, we provide insight on senior entrepreneurship in the Portuguese case.

The analysis is organized into six key research questions, namely:

- (I) *Why is Senior Entrepreneurship important?*
- (II) *What is the current Knowledge & Academic Research available (and still lacking) on Senior Entrepreneurship?*
- (III) *What are the key supporting initiatives available for SE in the world?*
- (IV) *Are academics producing research on Senior Entrepreneurship with practical policy implications?*
- (V) *Are policies and supporting initiatives backed up by scientific knowledge?*
- (VI) *How can we produce and use adequate knowledge and policies towards Senior Entrepreneurship in Europe.*

The results of the literature review on senior entrepreneurship are discussed in Chapter 2. Chapter 3 describes existing initiatives supporting senior entrepreneurship. Chapter 4 discusses the rationale and potential implementation of specific (policies and) initiatives. Chapter 5 introduces and discusses the existing knowledge and initiatives regarding senior entrepreneurship in Portugal. Concluding remarks are provided in Chapter 6.

2 Literature Review

To examine senior entrepreneurship research (SER), we focus on entrepreneurship research in which age is central. Using EBSCO and ProQuest databases we searched for articles that met two criteria: (i) use variations of keywords of entrepreneurship including the article's title, abstract and keywords; and (ii) publication on or before May 2017. Thus, only peer reviewed articles, in English, published in a journal indexed in Web of Knowledge or SCOPUS are reviewed². This resulted in 48 hits. Detailed information about methodological procedures can be found in the appendix.

The present literature review aims at answering our key research question (II) *What is the current Knowledge & Academic Research available (and still lacking) on Senior Entrepreneurship?*. In order to do that, we address two sub-questions: "What determines senior entrepreneurship?" and "How do senior entrepreneurs perform? Whenever appropriate, each article under analysis is associated with one or more determinants for company start-up and performance among older individuals.

Specific determinants related with firm creation and performance are organized following the key dimensions approached by Parker (2009) - Human capital; Social capital; Pecuniary and non-pecuniary aspects; Wealth; Demographic and industry characteristics; Psychological features and Macroeconomic context. We also assess the role played by 'culture' as one of the key dimensions of analysis. According to Minola et al. (2016), culture is an important factor influencing firm creation. Table 1 summarizes the observations/results reviewed. 75% of the results contribute to enhance the knowledge on the first research question (entry), whereas 25% pertain to entrepreneurial performance. More specifically, the literature reviewed focus mainly on human capital traits and pecuniary and non-pecuniary incentives. Only some of the studies address contextual factors such as macroeconomic characteristics and culture.

² Articles are then screened by their relevance based on title and abstract. Afterwards, duplicates are removed. For the publications that meet the practical criteria, the full articles are analyzed and evaluated.

Table 1 - Focus of past research on determinants for senior entrepreneurship entry and performance – number of observations (authors' own elaboration)

Research question/ Determinant analysed	Human Capital	Social Capital	Wealth	Demogr. and Industry Characteristics	(Non)-Pecuniary Incentives	ROP	Macroeconomic Characteristics	Culture	Total
What determines senior entrepreneurship?	14	6	10	10	16	8	4	6	74
How is the performance of SEs?	5	3	2	3	6	3	2	1	25
Total	19	9	12	13	22	11	6	7	99

2.1 Senior Entrepreneurship and Firm Creation

This section reviews previous literature regarding the influence of age on entrepreneurship and an assortment of variables associated with senior entrepreneurship..

Several studies have examined the effect of age on entrepreneurship (Burr & Mutchle, 2007; Evans & Leighton, 1989; Kautonen et al., 2013; Lévesque & Minniti, 2006; Wagner, 2006; Zissimopoulos et al., 2010) and the results are mixed. On the one hand, some studies (Burr & Mutchle, 2007; Es & Vuuren, 2011; Evans & Leighton, 1989; Liñán, Santos, & Fernández, 2011; Livanos, 2009; Zissimopoulos et al., 2010) claim there is a positive relationship between age and becoming an entrepreneur late in life. This may be justified because the self-employed retire later than wage and salary workers and some individuals leave an employee career to become self-employed (Burr & Mutchle, 2007). According to Evans and Leighton (1989), older individuals have had a longer life span to accumulate opportunities, develop ideas and, hence, enter in self-employment. Furthermore, age discrimination on the job, the will to balance work and leisure and to become their own boss, added to the possible need of taking care of relatives, are possible reasons supporting entrepreneurship at older ages. On the other hand, there are studies (Lévesque & Minniti, 2006, 2011; Singh & Verma, 2003; Wagner, 2006; Zissimopoulos & Karoly, 2007) which find that as an individual gets older his/her likelihood of starting an entrepreneurial activity diminishes. Lévesque and Minniti (2006) provide a useful theoretical model, based on Becker's (1965) theory of time allocation, for understanding the relationship between age and entrepreneurship. In the authors (Ibid.) proposed model, individuals maximize their expected well-being by deciding how to allocate time between work and leisure and how to affect hours between wage and salary job and entrepreneurship. The study (Ibid.) concludes that there is a higher likelihood for younger individuals compared to older ones to become entrepreneurs due to the age effect that decreases the potential return individuals obtain from starting a business later in

life. Kautonen, Down, & Minniti (2014) extend this model by highlighting the need to contemplate individuals' entrepreneurial preferences. The authors (Ibid.) explore the relation between age and entrepreneurship by considering different concepts for entrepreneurship. They conclude that for individuals who intend to become entrepreneurs, the likelihood of entering entrepreneurship can be represented through an inverted U-shaped relationship between age and entrepreneurship (Lévesque & Minniti, 2006), achieving a peak at the age of 48. However, this relationship changes for self-employers and reluctant entrepreneurs (those who are self-employed involuntary), becoming for the former an "upward sloping and concave" (Kautonen et al. 2014, p. 10) and a flat linear curve for the latter. The reluctant entrepreneur is also more likely to return to paid employment if an opportunity is available (Curran & Blackburn, 2001; Kautonen & Palmroos, 2010).

A recent study by Kautonen and Minniti (2014) adopts a different perspective to analyse the effect of age. The authors examine the relationship between subjective (self-perceived) age and entrepreneurship. Subjective age is assessed through the following question – "How old do you feel you are?". Then, the authors transform it into a specific measure calculated as $(\text{chronological age} - \text{subjective age}) / (\text{chronological age})$. Using a survey on entrepreneurial activities and attitudes of the Finnish population, the authors (Ibid.) conclude that a positive self-perceived age (i.e. feeling younger than individual's chronological age), used as a proxy for ageing well, increases the probability of older individuals who have thought of becoming entrepreneurs to take concrete actions.

Minola, et al. (2016) recent research analyses age differences regarding self-employment desirability and feasibility among different cultures. The authors (Ibid.) propose that a developmental-contextual lifespan perspective (Baltes, Staudinger, & Lindenberger, 1999) should be adopted to analyse desirability and feasibility beliefs (Ajzen, 1991; Shapero & Sokol, 1982) among different cultures. Minola, et al. (2016) conclude there is a reversed U-shaped (with a peak around the age of 22) relation between changes in entrepreneurial desirability and feasibility beliefs and age.

The second part of this section aims to unveil the relationship between age and other specific determinants related with entrepreneurship. We identify and review the key determinants existent in the literature within this stream of research. In order to categorize the determinants, we use a framework aligned with Parker (2009). The author (Ibid.) uses a variety of explanatory variables associated with: (i) who become an entrepreneur?, (ii) why they become an entrepreneur? and (iii) what are personal characteristics and environmental factors impacting entrepreneurship?. Parker (2009) focuses on the following determinants: pecuniary and non-pecuniary incentives, human capital, social capital, risk attitudes, over-optimism and other psychological traits, demographic and

industry characteristics, macroeconomic factors, and wealth. The present analysis follows this typology and adds another important dimension – 'culture'.

Pecuniary and Non-Pecuniary Incentives

Pecuniary and non-pecuniary incentives influence entrepreneurial attitude. As Schumpeter stressed "*individuals are driven by an insatiable craving for hedonist satisfaction, (...), the will to conquer: the impulse to fight, to prove oneself superior to others, to succeed for the sake, not of the fruits of success, but of success itself, (...), joy of creating, of getting things done, or simply of exercising one's energy and ingenuity*" (Schumpeter, 1934). Therefore, apart from pecuniary aspects (income, monetary earnings), entrepreneurship can be related to non-pecuniary incentives and motivations such as: lifestyle, being one's own boss, independence and/or job satisfaction (Parker, 2009).

Singh and DeNoble (2003) propose a typology for SEs based on three main motivational profiles: (i) constrained entrepreneurs – those who will to start a business for a long time but for family or financial motives have not done it yet; (ii) rational entrepreneurs – individuals who see entrepreneurship as a way to grow in the career or to earn more and (iii) reluctant entrepreneurs – those who are self-employed involuntary. It is also likely that in certain small business sectors, and particularly in family businesses, a fourth category exists: the lifestyle entrepreneur, who seeks personal as well as financial success (Giacomin, Guyot, Janssen, & Lohest, 2007). Kautonen (2008), based on a sample of 839 Finnish companies, finds that only approximately 10% of the SEs are driven to self-employment by necessity rather than opportunity – the 'push' motives show clearly lower mean scores than 'pull' motives. According with the author (Ibid.), SEs in Finland are more likely to be *constrained* or *rational*, rather than *reluctant*. Another typology is developed by D' Amours (2009), drawing on 22 interviews to individuals aged 50 and over who had lost, or left, a career job in Canada. The author (Ibid.) propose three main profiles for SEs: (i) early retirees; (ii) competitive non-standard workers and (iii) vulnerable non-standard workers. The first category – "early retirees" – encompass two sub-groups. The first one composed of individuals for whom entrepreneurship is "*less out of a need for work income and more out of a desire to take on new and stimulating projects or to occupy their time while also creating a business that they will be able to pass on to their children*" (D' Amours, 2009, p. 216). The second group is composed of individuals who, although obtaining a low income with the business and from the pension they receive, feel more satisfied with their current occupation comparing to the previous one. SEs classified within the category of "competitive non-standard workers" perceive entrepreneurship "as a risky but stimulating way to use their skills", thus the focus is on self-fulfilment. The third category is the "vulnerable non-standard workers". This category can also be divided in two sub-groups: whether or not individuals

"(...) precarious employment is combined with lack of autonomy, dissatisfaction and even suffering at work" (D' Amours, 2009, p. 218).

Drawing on the literature reviewed, Table 2 provides an overview of the results related with the "Pecuniary and non-pecuniary incentives", which is the most frequent dimension approached in the literature.

Table 2 - Pecuniary and non-pecuniary incentives

Key Findings	Authors
Individuals engage into senior entrepreneurship to:	
Compensate for low retirement funds among older individuals	Mallet & Wapshott, 2015; Parry & Taylor, 2007; Platman, 2003; Wainwright & Kibler, 2013
Seize the last opportunity individuals have to remain active in the workforce	Hennekam (2015)
Overcome age discrimination and negative stereotypes, which may be a common reason leading older individuals to exit a wage and salary job and start a business	Hennekam (2015); Harms et al. (2014)
Search for self-fulfillment	D' Amours, 2009; Kerr, 2017; Logan, 2014; Mallet & Wapshott, 2015; Rolfe et al., 2008; Say & Patrickson, 2012
Find a purpose for life	Harms, Luck, Kraus, & Walsh, 2014; Hodges, 2012; Logan, 2014; Mallet & Wapshott, 2015; Rolfe et al., 2008
Have a better work-life balance occupation	Harms et al. 2014; Kerr, 2017; Rolfe et al., 2008; Wainwright & Kibler, 2013; Walker & Webster, 2007
Reach a higher level of autonomy	Harms et al., 2014; Rolfe et al., 2008; Walker & Webster, 2007
Achieve job satisfaction	Harms et al., 2014; Logan, 2014; Parry & Taylor, 2007; Platman, 2003
Avoid stress	Bruin & Firkin, 2001
Pursue a hobby	Logan (2014)

Mallet and Wapshott (2015) in a complementary qualitative study, conclude SE show a "deep emotional engagement with their business" (Mallet & Wapshott, 2015, p. 9). The authors (Ibid.) state that money is not the main SE' motivation and suggest that this strong emotional involvement with the company results from the stage of life individuals are passing through. Entrepreneurs mention a feeling of passion towards his/her company and the fact entrepreneurship may represent the "last chance of really pulling it all together and doing something significant" (Maller & Wapshott, 2014, p. 10).

Say and Patrickson (2012) sum up the main SE' motivations by highlighting that senior entrepreneurship may act as "a vehicle in which they [SE] could fulfil aspirations of the soul, i.e. achieve recognition, wealth, a sense of well-being, and entrepreneurial freedom while creating a lasting impact on people and society" (Say & Patrickson, 2012, p. 131).

Most of the previous studies draw on qualitative approaches and are based on small samples, not allowing for generalization. To better understand senior entrepreneurial motivations, future research should design specific questionnaires to apply to this segment of entrepreneurs. Another shortcoming is the fact although the role of culture embedded into each specific entrepreneurial setting is important (Harms et al., 2014), only 2 studies (Harms et al., 2014; Zissimopoulos & Karoly, 2007) analyse this type of determinants based on a theoretical approach. While Harms. et al. (2014) apply the Theory of Planned Behaviour and the push/pull approach to analyse information on entrepreneurial motivations obtained through the interviews conducted with 16 founders; Zissimopoulos and Karoly (2007) adopt an occupational choice model to investigate the determinants of labour force transitions to self-employment at older ages.

Human Capital

Although the relationship between age and entrepreneurship has already been discussed, in general, within the present section, we now focus on other specific human capital related variables. Investment in human capital is defined as activities related with "schooling, on-the-job training, medical care, (...) and acquiring information about the economic system" (Becker, 1962, p. 9). The human capital perspective has been adopted by entrepreneurship researchers and led to a larger number of studies that analyse the links between human general and specific human capital capital traits and firm creation or performance (e.g. Amaral et al., 2011; Bosma et al., 2004; Davidsson & Honig, 2003; Gimeno et al., 1997). It is important to mention that organizations started by older individuals may benefit from knowledge that was accumulated by their founders throughout their careers (Agarwal, Echambadi, Franco, & Sarkar, 2004).

In the present review of the literature, several studies (N=19) focus on different variables encompassed by the concept of human capital. These studies help clarifying the relationship between senior individual's human capital and entrepreneurship (*Table 3*).

For example, a study by Curran and Blackburn (2001) asked older individuals currently employed to assess the reasons for not preferring moving to self-employment. The authors (*Ibid.*) show that one of the reasons that may dissuade older individuals from moving from a wage and salary job to self-employment is a perception of having insufficient knowledge (which was observed in 40% of the 125 participants of the study) – this highlights the importance human capital may have towards senior entrepreneurship.

Table 3 - Human capital

Key Findings	Authors
Higher educational attainment is positively related to the likelihood of being entrepreneur at a later stage in life	Logan, 2014; Singh (2009); Solinge, 2014; Zissimopoulos & Karoly, 2007; Zissimopoulos et al., 2010
Higher education is not common for most of the senior individuals	Kautonen (2008)
Senior novice entrepreneurs have a higher level of education compared to senior serial entrepreneurs, who mainly possess secondary school attainment	Kautonen, 2008; Tervo, 2015)
People with entrepreneurial experience have a higher probability of becoming entrepreneurs later in life	Fuchs, 1980; Logan, 2014; Tervo, 2015; Zissimopoulos & Karoly, 2009
For 60% of the SE has been the first entrepreneurial experience	Kautonen (2008)
Experience in management positions plays a positive role on becoming entrepreneur at older ages	Bruin & Firkin, 2001; Fuchs, 1980; Kautonen et al., 2010; Zissimopoulos & Karoly, 2007)
Previous experience in sales positively impacts firm creation	Fuchs, 1980; Zissimopoulos & Karoly, 2007 (focusing on transitions from wage and salary job to entrepreneurship)
Previous experience in sales has a negative effect on firm creation	Zissimopoulos and Karoly, 2009 (focusing on transitions from retirement to entrepreneurship)
What is critical in starting a business later in life is to have skills that are transferable and demanded by the market	D' Amours (2009)

Kautonen (2008) suggests the different profile regarding the level of education among novice and serial entrepreneurs may be a consequence of professional and academic careers – individuals may have started their business quite young and they probably did not have the opportunity to continue studying.

Among the studies previously presented, we find seven theory-based articles, based on occupational choice models, planned behaviour and role theories, and push/pull approach to analyse the role that human capital has on senior entrepreneurship entry. Eleven studies are based on secondary data and nine on primary data. We suggest future research on the topic should rely on more theory-driven analyses, namely by approaching the field based on theory of human capital (Becker, 1962), continuity theory (Atchley, 1989), socioemotional selectivity theory (Carstensen, 2006; Carstensen et al., 1999). Moreover, new approaches and theory-building are still scarce and should be further developed in the field. More insight on this will be provided in the Discussion section within the present report.

Social Capital

Social capital refers to the ability of people to take advantage of their social structures, networks and social relationships (Parker, 2009). These existing ties may be either "strong" (relationships such as one's direct family or close friends) or "weak" (business contacts, acquaintances and members of business networks) (Ibid.). Singh and DeNoble (2003)'s conceptual study suggests that early retirees have a higher likelihood of becoming entrepreneurs if they have strong networks (*Table 4*). Platman (2003) also highlights the importance social capital has for older individuals.

Table 4 - Social capital

Key Findings	Authors
Early retirees have a higher likelihood of becoming entrepreneurs if they have strong networks.	Singh and DeNoble (2003)
"Without these little connections, meaning contacts with the right people in the right places, his [the entrepreneur] approaches were futile".	Platman (2003, p. 13)
A negative perception of society regarding the option of entrepreneurship at an older age can work as an inhibitor to older individuals, and a positive environment is important to get support from family and friends.	Harms et al. (2014)
Family and friends may be more supportive of enterprising activities when the older individual had previous entrepreneurial experience. Work histories of these reference groups also influence the way individuals self-assess their entrepreneurial actions at an older age.	Kibler et al. (2015)
Novice SE sought greater support from reference groups compared to serial SE who have more entrepreneurial experience and thus probably have higher levels of self-efficacy.	Kibler et al. (2015)
The support of family, particularly from their husband/ partner, is of primary importance towards firm creation later in life. The author also finds a positive influence of role models within the family on senior entrepreneurship.	Logan (2014)

There seems to be a gap in the literature regarding the influence of social capital on firm creation among older individuals. Although it is commonly stated (in a subjective/anecdotal way) that one of the main assets older individuals may bring to entrepreneurship is their accumulated contacts/networks, previous research on senior entrepreneurship has not focused on social capital. This may be due to the difficulty in measuring social capital. Another possible reason is the fact that existing literature is mainly drawn from secondary data or surveys not specifically designed to analyse senior entrepreneurship or social capital.

Wealth

This determinant has been analyzed by fourteen – out of forty-eight – articles and key findings are summarized in *Table 5*.

Table 5 – Wealth

Key Findings	Authors
There is a significant positive effect of wealth on senior entrepreneurship.	Bruce et al. (2000); Kautonen et al. (2008); Singh & DeNoble (2003); Solinge (2014); Tervo, (2015); Zissimopoulos & Karoly (2007, 2009); Zissimopoulos et al. (2010)
Those individuals who have accumulated more wealth prefer self-employment compared to a wage and salary job	Solinge (2014)
Financial resources can be used to fund retirement, thus wealth can inhibit the start of a venture later in life (since entrepreneurship is associated with risks and uncertain returns).	Singh and DeNoble (2003)
There is a negative relationship between wealth and senior entrepreneurship.	Parker and Rougier (2007) and Platman (2003)
Receiving an inheritance increases the probability of male wage and salary workers to enter self-employment. In addition, according with the authors (Ibid.) in the case of an inheritance received by their spouse, the propensity of men towards entrepreneurship decreases. Zissimopoulos et al. (2007) find that these factors do not play a role on women transition to self-employment.	Zissimopoulos et al. (2007); Zissimopoulos and Karoly (2009),

These different results show that financial capital does not have a unique effect on senior entrepreneurship, it differs according to individuals' characteristics, reinforcing the idea that SEs are not a homogenous group.

The results presented above are almost equally dispersed between theory-based and exploratory articles. Occupational choice models are adopted in six articles (out of 14 articles addressing the current determinant). Three of these articles use a multi-theory approach, gathering occupational choice models with role theory, push/pull approach and human capital theory. Most of the studies

(10 out of 14) are empirical, based on quantitative methods and secondary data. Both the use of occupational choice models, the data and methods employed reflect that the relationship between wealth and senior entrepreneurship has been approached mostly from a quantitative perspective. Subjective metrics such as expected monetary earnings or older individuals' perception on wealth could be explored in further research.

Risk Attitudes, Over-optimism and other Psychological Traits

Risk attitudes can be measured in various ways. Most of the authors support the hypothesis that entrepreneurs are significantly less risk-averse than the average (Parker, 2009). However, entrepreneurs might give risk-loving responses because that is what they think interviewers expect them to (Parker, 2009). Additionally, it has long been known that entrepreneurs tend to be innately over-optimistic, mainly about events that are only partially under their control. The psychology literature proposes that optimism tends to be highest when individuals have emotional commitments to outcomes, when they believe they control outcomes, and when they lack evidence about the probability of success on an activity (Parker, 2009).

Risk attitudes, over-optimism and other psychological traits among SE are analysed by eight (out of forty-eight) studies (Table 6). These studies focus mainly on two dimensions – individuals' relation with risk and self-efficacy. The relationship between risk and senior entrepreneurship entry is not straightforward.

Table 6 - Risk Attitudes, Over-optimism and other Psychological Traits

Key Findings	Authors
Wage and salaried individuals may not move to entrepreneurship because they acknowledge it as being too risky.	Curran and Blackburn (2001)
There is no evidence that risk influences transitions into entrepreneurship.	Zissimopoulos and Karoly (2009)
SE may prefer to acquire (vis-à-vis starting) a business in order to avoid risks.	Ainsworth and Hardy (2008)
Feeling confident about one's ability to become an entrepreneur is of high importance regarding starting a business later in life.	Solinge, 2014; Tornikoski & Kautonen (2009)
Constrained entrepreneurs are likely to score higher in terms of self-efficacy than other early-retiree (rational and reluctant) entrepreneurs.	Singh and DeNoble (2003)

These determinants are addressed through both quantitative and qualitative methods. Out of these ten studies four are theory-based (Harms et al., 2014; Solinge, 2014; Tornikoski & Kautonen, 2009; Zissimopoulos & Karoly, 2007). Again, future research on these topics should be backed up by theory.

Demographic and Industry Characteristics

Another group of explanatory variables is the demographic and industry characteristics (Table 7). This section includes a variety of components of analysis – demographic variables (gender, marital status, health, family and friends background) and characteristics of the business itself.

Table 7 - Demographic and Industry Characteristics

Key Findings	Authors
SE are mainly male and married individuals, with children still living at home.	Biehl et al. 2013; Weber & Schaper, 2004; Zissimopoulos & Karoly (2007, 2009)
Gender is balanced for the case of senior novice entrepreneurs; however, habitual entrepreneurs are more often male.	Tervo (2015)
Having a spouse that is an entrepreneur increases the probability of starting a business at older ages and having a working spouse increases the probability of starting a business for habitual entrepreneurs.	Tervo (2015)
There is a significant and positive effect of poor health condition on the probability of becoming an entrepreneur.	Wenger & Reynold, 2009; Zissimopoulos & Karoly, 2007; Zissimopoulos et al. (2010)
Poor health decreases the probability that workers will move into entrepreneurship.	Parker & Rougier (2007)
Individuals whose spouse has a poor health condition have a lower probability of becoming self-employed compared with those with a good health.	Wenger & Reynolds (2009)
Women whose spouse is in a poor health condition have a lower probability of becoming self-employed compared with those with a good health.	Zissimopoulos & Karoly (2007)
The freelance activity is largely unprotected in the labor market and, therefore constitutes a barrier to senior entrepreneurship.	Platman (2003)
The bigger the company where older individuals work, the lower their probability to move into self-employment.	Zissimopoulos & Karoly (2009)

Macroeconomic Characteristics

Business cycle and unemployment are dimensions of analysis frequently addressed within the macroeconomic determinants of senior entrepreneurship (Table 8).

The business cycle may affect entrepreneurship behaviour in two opposite perspectives. On the one hand, when shocks to the economy are favourable, productivity and wealth in entrepreneurship increase, making agents more willing to face risk and become entrepreneurs. On the other hand, when shocks are hostile to the economy, the reverse process occurs (Parker, 2009). In what concerns the relation between unemployment and entrepreneurship, there are again two different angles of analysis. As Parker (2009) discusses, according to the "recession-push" hypothesis, unemployment reduces the opportunities of getting a paid job which can lead people to entrepreneurship; another

effect of recessions is that more firms close and there is higher availability of second-hand equipment, reducing barriers to entry; these two effects imply a positive relationship between unemployment and entrepreneurship. On the other hand, according to the "prosperity-pull" hypothesis, with high unemployment, products and services experience a lower market demand which reduces incomes in entrepreneurship and possibly also the availability of capital, while increasing the risk of bankruptcy (Parker, 2009). We identify six studies dealing with the relationship between macroeconomic dynamics and senior entrepreneurship.

Table 8 - Macroeconomic Characteristics

Key Findings	Authors
"Early retirees are more likely to become self-employed if they live in a region of integrated clusters of firms and if they have access to lower costs of capital and relevant subsidies".	Singh & DeNoble, 2003, p. 214
The degree of entrepreneurship at the municipality level has a positive influence on the perceived support from both family and friends.	Kautonen et al. (2011)
People living in an urban area moving to self-employment are more likely to be habitual rather than senior novice entrepreneurs.	Tervo (2015)
After the Great Recession in 2009, women are even less likely than after the crisis of 2001 (the Dot.com) to start a firm, compared to men. On the other hand, whereas after the crisis of 2001, men were less likely to move from a wage and salary occupation to self-employment, they show to be more prone to start a firm after the crisis of 2009.	Biehl et al. (2014)

Culture

Culture has a close relationship with ageing and with entrepreneurship (Autio, Pathak, & Wennber, 2013). This determinant is analysed in six studies (*Table 9*) within the present literature review.

Table 9 – Culture

Key Findings	Authors
Older individuals are acknowledged as unlikely to be successful entrepreneurs and thus should not be encouraged to start a business.	Ainsworth and Hardy (2008)
A positive perception of older individuals' contribution towards the economy decreases their entrepreneurial engagement.	Kautonen (2012)
If older individuals realize that society has a positive perception of entrepreneurial engagement at the age of fifty or over, there is an increase in their likelihood of starting a business.	Kautonen et al. (2011)
"Superstar entrepreneurs featured on television and sought by governments to front various policy initiatives" may negatively influence individuals' evaluation of their performance. This image of the entrepreneur may negatively influence individuals' self-efficacy.	Mallet and Wapshott (2015)
"In low PO cultures such as Italy and Portugal, where the prevalent culture does not buffer the decline in motivation in old age as much, there is an obvious need for 'stronger' programs for older adults to stimulate their self-employment motivations"	Minola et al. (2016)

2.2 Senior Entrepreneurship and Firm Performance

The present section focuses on the SE firm and its performance, both from a subjective and objective perspective.

In what concerns the type of business, Block, Thurik, Zwan, and Walter (2013) observed that older individuals have a higher propensity for business takeover versus starting from scratch. Ainsworth and Hardy (2008), in a qualitative approach, also find that older individuals prefer to acquire a business instead of starting it from scratch. The authors (Ibid.) claim this finding is connected with the fact individuals are trying to achieve security (by becoming an entrepreneur through an existing business) and mitigate risk (by investing one's life savings).

Zissimopoulos et al. (2010, p. 18) indicate that among the individuals moving from wage and salary jobs to self-employment, *"29% start a business in a low-starting capital industry, 38% in a high-starting capital industry, and 18% in the professionals' industry"*.

Singh and DeNoble (2003)'s theoretical approach provides a heterogeneous conclusion regarding individuals' endeavour towards entrepreneurship. According to these authors (Ibid.), constrained entrepreneurs, compared to rational and reluctant/ involuntary, have a higher likelihood of pursuing more aggressive entrepreneurial opportunities independently of the field of the business. Based on empirical research, Gray (2007) achieves opposite findings, namely, the fact that even though growth orientation declines with age, 38% of business owners over the age of 60 have the strategic objective of continuing to grow their firms, 26% want to maintain their present state, and 12% are averse to growth. Thus, among other options, growing their firms is still the most common option. Gray (2007) also concludes that older individuals are more likely to have a website and to use it for the e-commerce transactions of buying and selling online than younger individuals.

After addressing our first sub-question "What determines senior entrepreneurship?" (see page 8), we now shift the focus to the second sub-question of this chapter– "How do SE perform?". As [shown in Table 10](#) , this same research question is addressed in 10 peer-reviewed articles (Ainsworth & Hardy, 2008; D' Amours, 2009; Gielnik et al., 2012; Hodges, 2012; Kautonen et al., 2013; Kautonen et al., 2017; Parker & Rougier, 2007; Singh, 2009). Drawing on Jennings and Beaver (1997) who argue that *"academic attempts at defining success in the small business environment have been either a case of adopting narrow accountancy measures or even more crude quantitative measures such as job creation and growth in turnover"*, we distinguish between subjective (e.g. personal satisfaction, perception of income achieved) and objective (e.g. sales, growth, job generation) dimensions of firm performance.

Out of a total ten studies assessing SEs' firm performance, four studies use subjective metrics and six studies assess performance through objective variables. These unbalanced figures may be due, in part, to the more frequent use of objective constructs to evaluate entrepreneurship performance. Only relatively recently, entrepreneurship started to be assessed also at an individual level (Block & Koellinger, 2009; Bosma & Amoros, 2013; Carree & Verheul, 2012; Cooper & Artz, 1995) and firm performance understood with a broader scope, beyond traditional measures for financial performance (Headd, 2003). Considering the need to analyse entrepreneurship at a subjective level (Jennings & Beaver, 1997) and the fact that age is an important determinant of entrepreneurship, future research may benefit from additional knowledge on how and what variables influence individual level entrepreneurial performance.

Table 10 - Firm Performance

Key Findings	Authors
There is a negative relationship between age and venture growth.	Gielnik et al. (2012)
Focus on opportunities mediates this relationship; being negatively associated with business owners' age and positively associated with venture growth.	Gielnik et al. (2012)
SEs, compared with lifetime entrepreneurs, do not normally maintain their business for a long time and tend to retire first.	Parker and Rougier (2007)
Public image of entrepreneurship is associated with characteristics possessed by young people (such as optimism, energy, willingness to innovate), which leads older individuals to be recognized as unlikely to be successful.	Ainsworth and Hardy (2008)
Older individuals who move from a wage and salary job to self-employment increase their quality of life (compared with those who remain in the same job or change to a new job). However, the impact on level of income is the opposite, exhibiting a negative variation.	Kautonen et al. (2017)
Older entrepreneurs earn more than older paid-employees and that they are significantly more satisfied than younger entrepreneurs (although not reporting differences in income).	Singh (2009)
Women give higher importance to developing meaningful activities, in line with their personal goals and values, applying their skills and experience, rather than focusing on the monetary outcomes of entrepreneurship.	Hodges (2012)
The least precarious scenarios of senior entrepreneurship are associated with a combination of favourable elements (continuous, unionized trajectory entitling the respondents to retirement income and transferable skills in the repositioning job and the presence of a spouse with his or her own income).	D' Amours (2009)

3 Initiatives supporting senior entrepreneurship

Following the structure adopted for the present report in the introductory chapter (p.8), we now focus on our research question (III) *What are the key supporting initiatives available for SE in the world?* Therefore, the present chapter identifies and analyses a range of initiatives, programs and/or instruments supporting senior entrepreneurship in the world, with focus in Europe.

3.1 Methods

The method used in the data collection was an Internet survey. With the aim of identifying different programs we used Google's search engine and applied several key-words/concepts related to senior entrepreneurship as traditionally used in scientific literature.

In total, 18 search expressions that are common in the literature were used: *"grey entrepreneur", "older entrepreneur", "senior entrepreneur", "seniorpreneurs", "third age entrepreneur", "second career entrepreneur", "50 plus entrepreneur", "mature entrepreneur", "mid-life entrepreneur", "later-life entrepreneur", "olderpreneur", "grey economy", "boomer entrepreneur", "boomerpreneur", "grandpreneur", "silver years entrepreneur", "platinum years entrepreneur" and "encore entrepreneur"*. Once these expressions were inserted, information from the top twenty results returned by Google was collected and analysed. The search was undertaken in English, Spanish and Portuguese. Therefore, we are aware that skipping existing programs only available in other languages may constitute a limitation to our analysis.

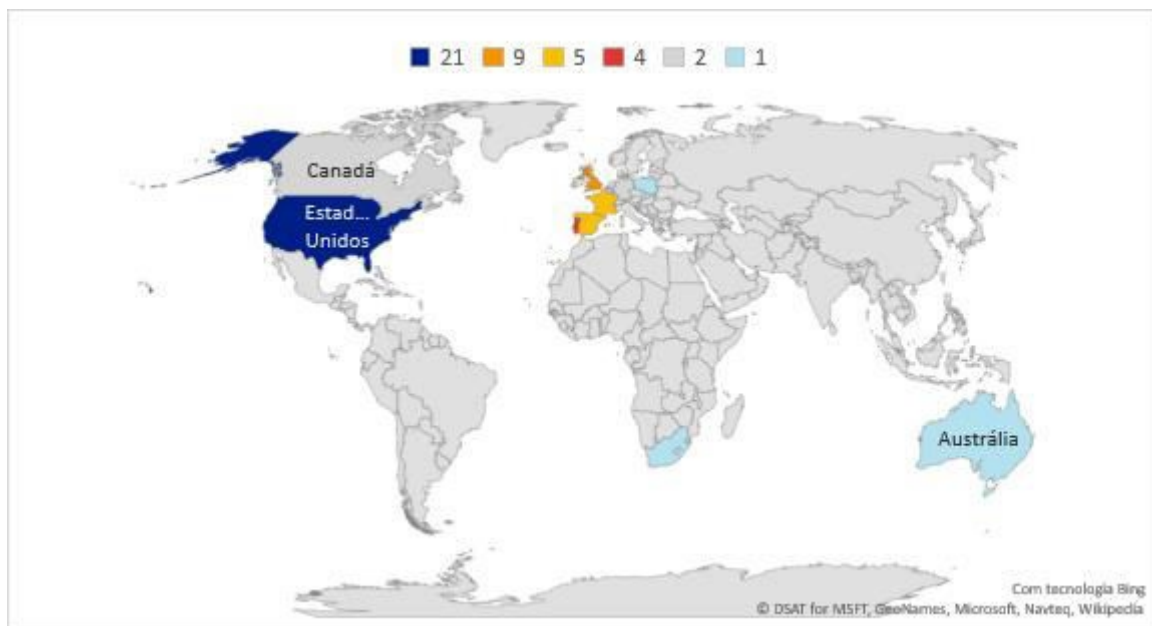
We review 57 supporting programs and organize them according to the following dimensions: Scope of intervention (training; funding; information, coaching or mentoring, consulting, networking); Country/ies of intervention; Type of funding; Focus (or not) on a specific segment within SE; Age range of the SE supported; Goals; Duration; Partners and Results. A table providing systematized information on all the initiatives under analysis is annexed to this report.

In order to gauge a more accurate overview of existing programs oriented to senior entrepreneurship, the initiatives selected for our analysis only encompass programs oriented to individuals aged 45 or over. Initiatives that support individuals of all ages are not included in our analysis. Although this methodological step might bring some limitations to analysis of existing programs, it allows for a clearer assessment of the support and attention that is being given exclusively to our group of interest – older individuals who need/want to start a business.

3.2 Descriptive analysis

Most organizations in our sample are located in America ($N=23$) and in Europe ($N=34$). There are only two organizations outside these geographies, located in South Africa (affiliated with a British institution) and another in Australia. These initiatives are distributed over 15 countries, out of which the United States has the largest number of initiatives ($N=21$), followed by the United Kingdom ($N=9$), France and Spain ($N=5$), and Portugal ($N=4$) (See *Figure 1*)

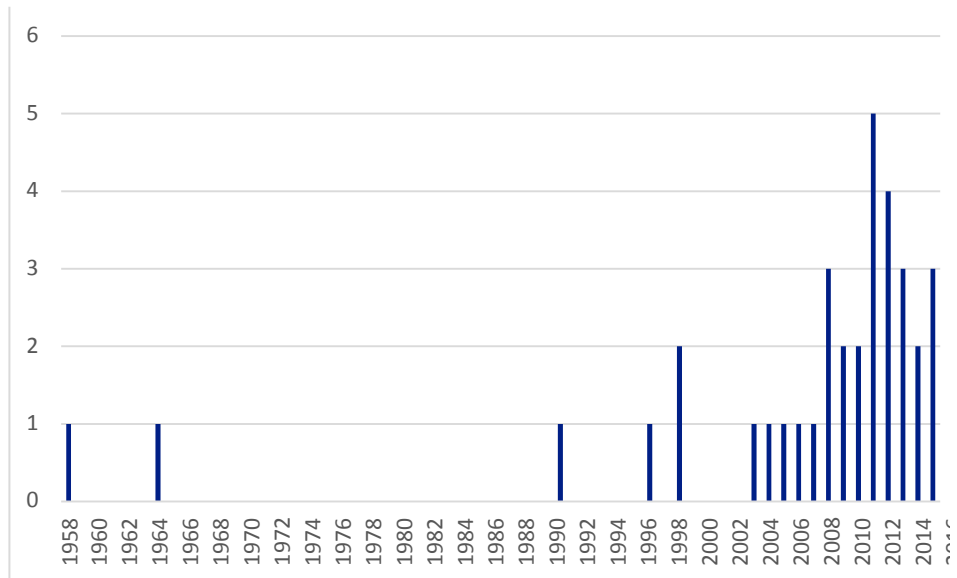
Figure 1 - Geographical distribution of initiatives supporting senior entrepreneurship



The projects gained greater expression after 2009, reaching a peak in 2012 (*Figure 2*). Among the 57 initiatives analysed, 18 are already inactive. These programs are mainly publicly funded and were probably designed for a limited period. Regarding the duration of these programs, a very significant number does not indicate start or end dates for the entrepreneurial projects they support.

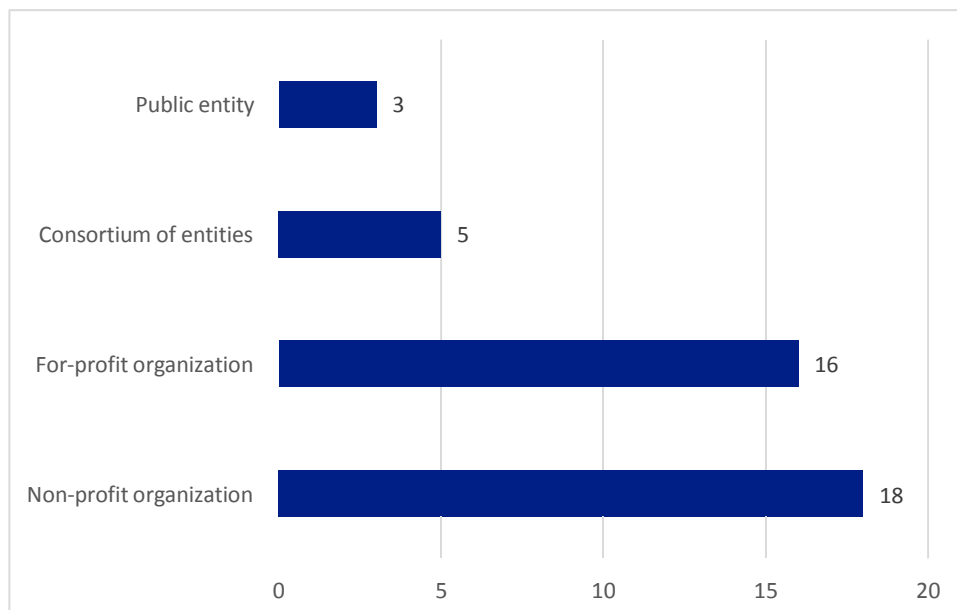
The oldest organization supporting senior entrepreneurship identified in the sample is American Association of Retired Persons (AARP), which is active since 1958. This association aims to promote a healthy life for those at the age of fifty or over. Among other services, AARP has a specific section in its website dedicated to entrepreneurship, including general information, webinars and announcement of events and training promoted by the organization. In 2016, three initiatives related to senior entrepreneurship have emerged – two of them in Europe – probably reinforcing the fact senior entrepreneurship in Europe is a more recent phenomenon than in the United States.

Figure 2 - Number of initiatives per starting year



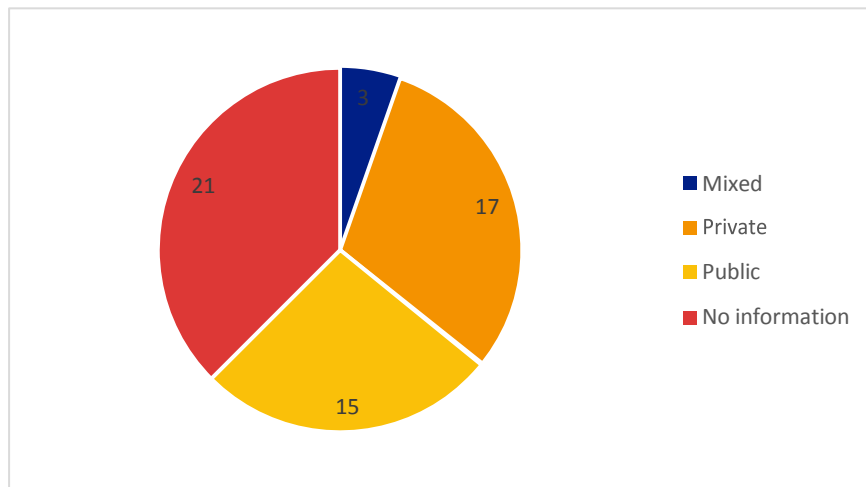
Most of the organizations take the form of an association ($N=18$) but companies ($N=16$) are also present in the sample, albeit in smaller number. Public agencies ($N=3$) and consortia or projects ($N=5$) were also identified. The consortium is an exclusively European form, stemming from EU integration policies and funding lines, which stimulates cooperation between Member States (*Figure 3*).

Figure 3 - Number of entities according to the form taken



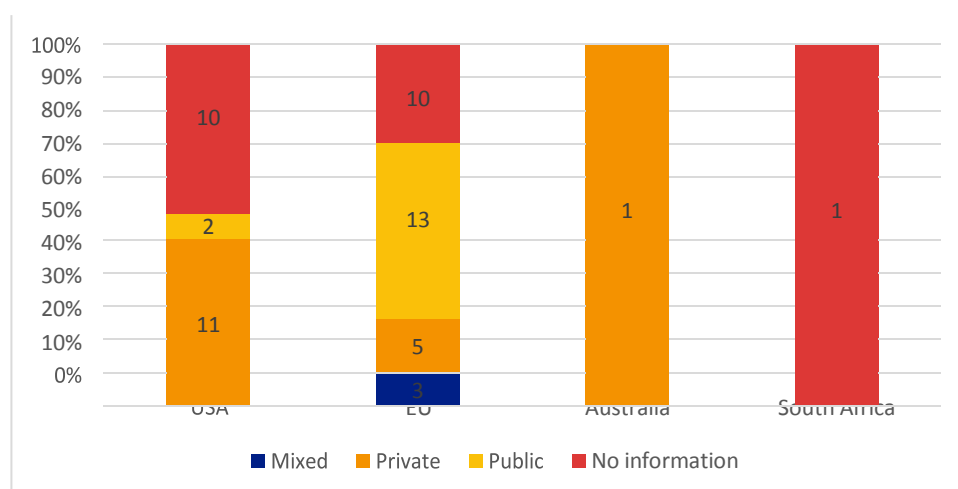
Many organizations do not reveal the source of their funding ($N=21$), but the ones that made that information available ($N=36$) show balance between those that are privately funded ($N=17$), namely through payment for services or contributions, and those publicly funded ($N=15$) (Figure 4). Three initiatives have mixed funding (public and private).

Figure 4 - Number of initiatives according to the type of funding



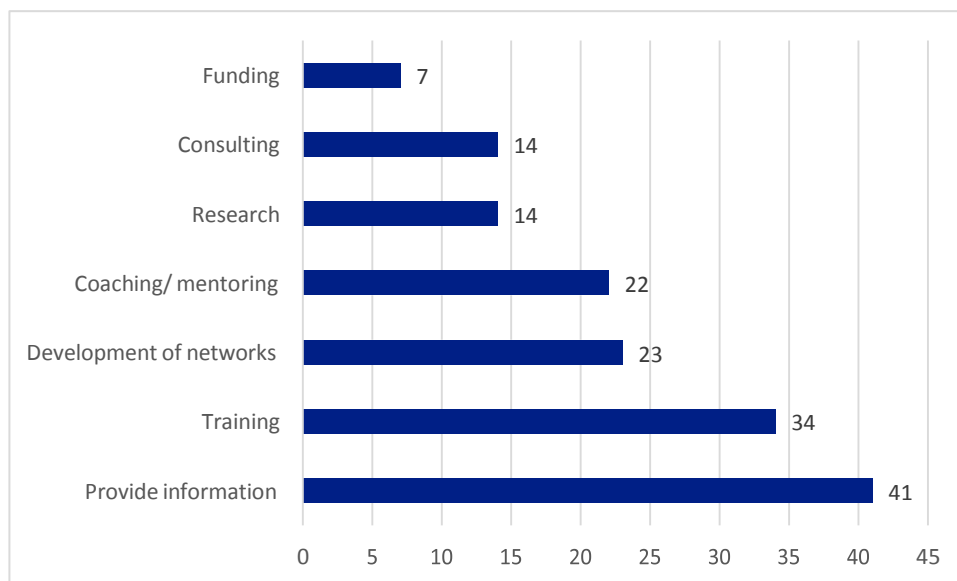
This balance may, however, be misleading because if we disaggregate the geographical origin of the initiatives, as shown in Figure 5, a different reality arises and the type of funding shows a great asymmetry. While in the United States, most entities have private funding ($N=11$) and only two are financed with public money; in the European Union the situation is reversed, with mostly public funding ($N=13$) and only five privately funded initiatives. There is a more balanced situation regarding the entities that do not reveal the origin of their financing. Funding available for these types of programs and initiatives in the European Union is essentially public, whereas in the United States public funding is residual.

Figure 5 - Sources of funding Senior Entrepreneurship initiatives



With regard of the services provided, one can observe that each entity has more than one form of intervention. The most frequent types of intervention are information provision (N= 41), training (N=34), followed by networking (N=23) and coaching/mentoring (N=22). The less frequent type of service is financing (N=7) (See Figure 6). This apparent paradox seems to be connected to the existence of many credit organizations, namely, banks and finance companies that fill this gap. While some organizations still provide information exclusively through their online websites, the majority of organizations offer information, training, networking and face-to-face coaching, including seminars.

Figure 6 - Frequency of type of interventions



There is evident lack of information on outcomes available on the programs' websites, which does not allow us to analyse and discuss the success or failure of these initiatives. It would be interesting and important, for both academic and policy levels, if future research could collect primary data on the outcomes obtained by each initiative.

Several entities develop scientific research in this area; however, only in the United States, where senior entrepreneurship has greater tradition, scientific research centres with specific programs dedicated to senior entrepreneurship have been identified. Some relevant examples are the "Older Entrepreneur" program at The Sloan Center of Aging and Work (Boston College), and the Senior Entrepreneurship Initiative program at the Lawrence N. Field Center for Entrepreneurship (Zicklin School of Business).

3.3 Framework to organize existing initiatives

After collecting and describing the data on these 57 international programs and initiatives oriented to SE, it is important to organize the existent information and develop/adopt a preliminary framework for analysis. We start from Michie, van Stralen, & West (2011) "Behaviour Change Wheel (BCW)" which aims to answer the following question: "What conditions internal to individuals and in their social and physical environment need to be place for a specified behavioural target to be achieved? (...) The BCW is being developed into a theory and evidence-based tool allowing a range of users to design and select interventions and policies according to an analysis of the nature of the behaviour, the mechanisms that need to be changed in order to bring about behaviour change, and the interventions and policies required to change those mechanisms." (Ibid., p. 9). Moreover "(...) three elements (capability, motivation, and opportunity) must be analysed and potentially influenced in order to achieve the desired behaviour. Capability refers to the individuals' psychological and physical capacity to engage in the activity concerned. It includes having the necessary knowledge and skills (...) Motivation is defined as all those brain processes that energize and direct behaviour, not just goals and conscious decision-making" and Opportunity means "all the factors that lie outside the individual that make the behaviour possible or prompt it" (Ibid., p. 4),.

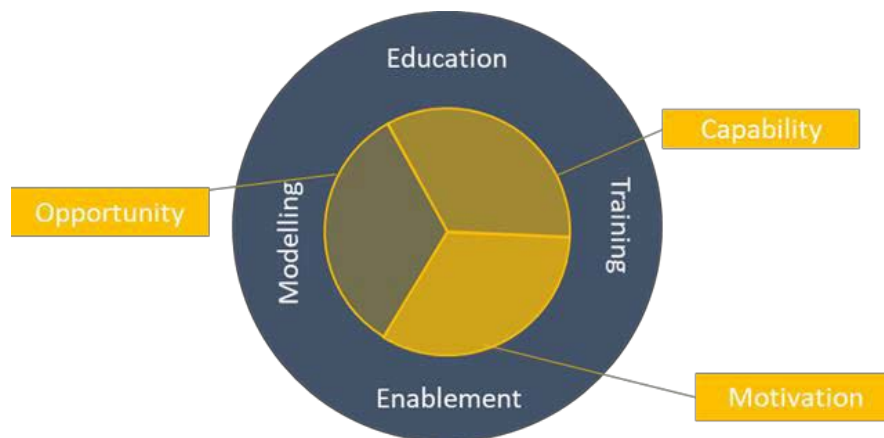
Table 11 - Definitions of interventions

Interventions Michie et al. (2011)	Definition (following Michie et al., 2011, p. 7)	Interventions	Examples
Education	"Increasing knowledge or understanding"	• Education	Providing information to start and develop a business
Persuasion	"Using communication to induce positive or negative feelings or stimulate action"		
Incentivisation	"Creating expectation of reward"		
Coercion	"Creating expectation of punishment or cost"		
Training	"Imparting skills"	• Training	Advanced entrepreneurial and industry specific training to increase entrance and performance of SE
Enablement	"Increasing means/reducing barriers to increase capability or opportunity"	• Funding • Coaching • Mentoring • Consultancy	Providing funding, coaching, mentoring, consultancy to SE who need it
Modelling	"Providing an example for people to aspire to or imitate"; "our propensity to imitate as a motivational device (p. 6)"	• Networking • Incubators	Meeting other SE to acknowledge positive and negative aspects of entrepreneurship, to share ideas, fears and ways to overcome it
Environmental restructuring	"Changing the physical or social context"		
Restriction	"Using rules to reduce the opportunity to engage in the target behaviour (or to increase the target behaviour by reducing the opportunity to engage in competing behaviours)"		

Source: Adapted by the authors from Michie et al. (2011)

The adaptation of Michie et al. (2011) framework to interventions on senior entrepreneurship (*Table 11* and *Figure 7*) shows that Capability, Motivation, and Opportunity are important to type of interventions under analysis. The main aim of the framework developed by Michie et al. (2011) is "to provide a more efficient method of choosing the kinds of intervention that are likely to be appropriate for a given behavioural target in a given context and a given population".

Figure 7 - The behavior change wheel adapted to senior entrepreneurship support

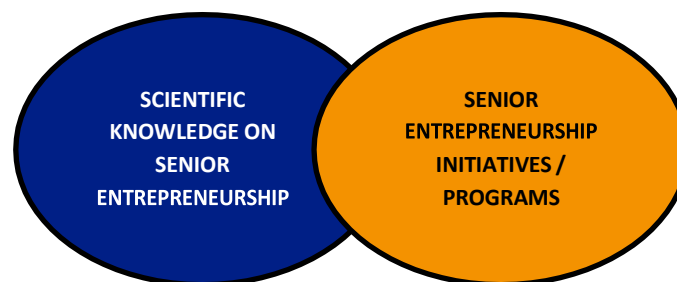


The authors (*ibid.*, p. 8) state that "by identifying all the potential intervention functions and policy categories this framework could prevent policy makers and intervention designers from neglecting important options". Finally, Michie et al. (2011) go beyond the identification of interventions and policies to propose a link between intervention and the specific behaviour aspect to change.

4 Defining knowledge and policy implications: what exists and what is missing both in the literature and among supporting initiatives

This chapter aims to answer the following two of our initial research questions (p.8): (IV) *Are academics producing research on Senior Entrepreneurship with practical policy implications?*; (V) *Are policies and supporting initiatives backed up by scientific knowledge?*. Our goal is to understand the match between existing literature and practical initiatives taking place on the field (Figure 8). One expects to identify potential gaps or mismatches from this interplay and, therefore, to provide a better understanding about senior entrepreneurship, current knowledge and policymaking.

Figure 8 - The interplay between scientific knowledge and support to SEs

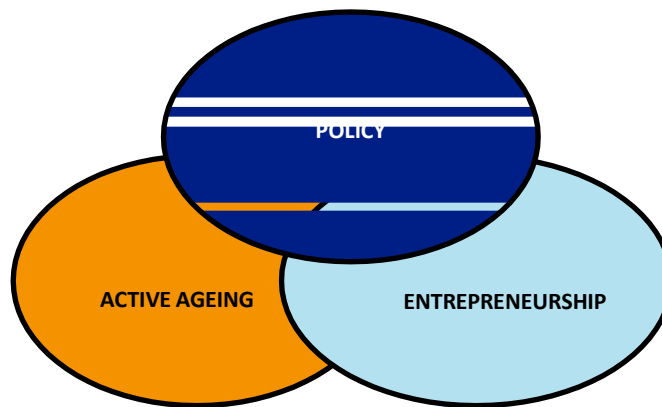


Conceptually, we consider research on senior entrepreneurship drawing on a robust theoretical background is still very scarce. Moreover, the few existing theory driven papers on the topic are with polarized around the occupational choice framework. However, senior entrepreneurship can be approached by a range of relevant and validated theories originating from the economics, entrepreneurship, psychology and gerontology fields of knowledge. An eclectic approach would allow for a deeper understanding of the relationship between individuals' older age and entrepreneurial dynamics. For example, according to socioemotional selectivity theory (Carstensen, 2006; Carstensen, Isaacowitz, & Charles, 1999), we know that older individuals acknowledge time as a scarcer resource and thus assign a lower value to future outcomes (in line with Lévesque & Minniti, 2006), therefore shifting from knowledge acquisition to emotionally oriented life goals. Lifespan theory poses that as individuals get older, their cognitive ability decreases in terms of fluid intellectual abilities (i.e. abilities to relate and understand more complex ideas); however, there is a gain in knowledge and skills they have acquired over the life course. Moreover, the extent of the losses individuals face, depends on his/her own socio-cultural characteristics (Baltes, 1987). Additionally, theory of continuity (Atchley, 1989) states that an older individual achieves higher

satisfaction with his/ her life when maintaining a coherence and consistency with his/her whole life (i.e., performing tasks and activities similar to the ones performed at younger ages).

From a policy perspective, we draw on existing policies related with active ageing and entrepreneurship and consider that policies and instruments should be discussed within the intersection of these two main phenomena. The intersection between these three domains, depicted in Figure 9, refer to existing specific policies and/or instruments supporting senior entrepreneurship.

Figure 9 - The political embeddedness of senior entrepreneurship phenomenon



4.1 Matching literature (Chapter 2) and initiatives (Chapter 3)

Based on the existing theoretical and empirical evidence on the topic, we provide a brief description of the main results from the literature and the way they may influence policy making and vice-versa. Research on senior entrepreneurship has been supported at both the national and the supranational level (EU) and developed by private/public organizations. However, overall, little research has been produced on the topic. There is a lack of robust methods, theories and findings to fully address the phenomenon. Our assessment confirms that although the topic is central to a small community of academics it is still not strategically oriented to policy making in an objective way.

Many initiatives have been developed to provide information on the topic and to promote entrepreneurial culture, awareness and opportunity identification among to SE. However, as information is becoming more and more available to individuals, we lack research on which types of information SE (and senior wannabe entrepreneurs) need and perceive as useful. Moreover, there is no systematized knowledge on how these initiatives providing information may cause an impact on the community of practitioners. Although information initiatives, its channels and impacts are central to policymaking, it still is not addressed in the literature, which configures a research opportunity.

More specifically and based on the literature review (Chapter 2) and the assessment of international initiatives (Chapter 3) undertaken, we organize our discussion around the main types of

interventions identified: Information, Training, Enablement, and Modelling. Furthermore, we add a fifth subsection to account for other initiatives.

4.1.1 Information

Most of the reviewed initiatives provide information – websites with information on, among other topics, how to start a business, facts about ageing and advice on career development. For example, the Shaw Trust³ in United Kingdom has a specific program for older individuals - The Age and Employment Network (TAEN), providing ideas for businesses, tips, case studies, and guidance on good practices and background information. Moreover, the Lawrence N. Field Center for Entrepreneurship has a specific initiative named *Senior Entrepreneurship Initiative* that performs research and consulting services on senior entrepreneurship. In its website there is a section called ""Tips on How to Be in Business" that provides a "Venture Assessment Tool" – a guide which generate awareness on the skills necessary to start a business and includes tips to test a career shift before effectively invest time and/ or money on entrepreneurship.

Boomerpreneurs Network which "aims to provide its members with opportunities for networking, information gathering, sharing and support"⁴. This entity organizes the Golden Years Expo and an annual conference on senior entrepreneurship.

Research & Initiatives Agenda: Precise knowledge on the scope of information SE need is central in order to better support the type of information provided by organizations.

4.1.2 Training

With regard of older individuals' process of starting and developing a business, two main ideas emerge from the literature. Firstly, depreciation and capacity building among SE has been theoretically and empirically addressed in the scientific literature and it is at the core of many international initiatives where training (but also consultancy and coaching) is the most frequent instrument. The role of human capital has been central to both research and practice programs. Based on the premise that some older individuals state they are not starting businesses because they feel they lack the sufficient knowledge to do it (Curran and Blackburn, 2001) and, along with the fact that human capital tasks related to the business are known as being of high importance towards business success (Unger et al., 2011), we suggest that initiatives supporting older individuals starting their businesses focused on knowledge creation and training must be stimulated and adapted according to the individual's profile. For example, on the one hand, older individuals that have been technicians or "blue-collar" and have a specific knowledge related to the industry (of the business), should be challenged to undertake training in areas related to management, in order to enhance

³ "Shaw Trust is committed to providing services to support individuals aged 50 and over to achieve brighter futures by moving into employment, gaining independence and taking control of their lives".

⁴ Retrieved from <http://boomerpreneursnetwork.com> on 20th November 2017.

knowledge on marketing, finance and human resources management. Complementary to normal training, mentoring programs on these subjects should be stimulated and (nascent/novice/serial) SE should be followed closely on a one-to-one basis. This suggestion is in line with the work developed by "Programme 45+" (France), which can be considered a benchmark in terms of good practice. This program, which is publicly funded, aims to support individuals' aged 45 or over (retired or close to the retirement, or in unemployment status) to start a business or to improve an existing business. The program includes activities such as training, mentoring, and business plan development; funding is only accessible when individuals accept to participate in the mentoring program. On the other hand, training programs should also be designed and oriented to individuals who lack industry-specific experience (related to the desired business). A similar approach is adopted by the program "50+ Business" (France), which aims to organize a training course on entrepreneurship tailored for unemployed seniors, developing a specific program allowing seniors to work in businesses in the industries related to their projects.

4.1.3 Modelling

Focus has been put on Networking by several international programs. For example, the 14th Annual Boomer Venture Summit also promotes networking, the event describe that activity as the opportunity to emerge in an "unique setting comprised of leading investors, entrepreneurs, researchers, analysts and marketers addressing the needs and wants of the 50+ demographic"⁵.

Research & Initiatives Agenda. More knowledge on the impact of social capital, E-Teams, Family businesses, succession and workforce composition is needed. From a policy perspective, programs addressing family businesses among senior individuals would be an interesting possibility.

4.1.4 Enablement

Existing research shows that SE' motivations focus on non-monetary rather than monetary factors/outcomes. This might be aligned with our empirical finding that funding seems to be the least common type of support being provided to SEs. Moreover, those doing the transition from a wage and salary job or retired occupation to entrepreneurship may potentially need less financial inputs or outputs. A lack of financial resources at older ages may be connected to the fact some older individuals start a business out of unemployment. Five programs providing financial resources for older individuals to start business were identified in our analysis. Out of these five, only two are still active – "Programme 45+" (France) and "Experienced Founders" (Germany). Whereas the former provides funding for older individuals starting out of unemployment, the latter does not distinguish between older individuals' employment status when starting a business. In Portugal, there is an

⁵ Retrieved from <http://www.boomerventuresummit.com/index/about/> on 20th November 2017.

organization providing venture capital oriented to unemployed above the age of 40 – Fundo Bem Comum⁶. Also in Portugal, a public funded program called – United at Work aiming was developed "to simultaneously integrate young people and senior citizens in the labor market and create employment through the entrepreneurship activity"⁷. This initiative included an intergenerational entrepreneurship program and incubation of business projects. Additionally, "4560 Empreender"⁸, a Portuguese project developed by Associação Empresarial Portuguesa, created an incubation program oriented to unemployed individuals aged 45 or over.

A number of initiatives mapped in the present report also provide services supporting business development; for example 50 Plus Web Marketing⁹ addresses issues such as "Minimize Website Themes, WordPress Development, Custom web design, E Commerce".

Research & Initiatives Agenda. From a research and scientific knowledge generation perspective, we find no studies focusing on the impact of funding on senior entrepreneurship. In fact, monitoring and assessing the outcomes of initiatives that fund and support senior entrepreneurship is fundamental for policymaking. Additionally, this absence of research on the origins, purpose and outcomes of funding in senior entrepreneurship constitutes a research gap and opportunity. Analysis of the impact of incubation programs are also important to acknowledge what might be improved in the program and to understand potential idiosyncratic aspects on SE (in opposition to younger entrepreneurs).

4.1.5 Other

Kautonen et al. (2010) find that intentions towards senior entrepreneurship are highly dependent on individuals' subjective norm and perceived behaviour control. This finding puts forward the importance that raising awareness on the topic has on older individuals' propensity to become entrepreneurs. The work developed by the initiative "50plus entrepreneurship platform" was created "to raise awareness of policy makers regarding the potential and importance of entrepreneurship initiatives in the older age group in Europe". Additionally "The Global Institute for Experienced Entrepreneurship" (GIEE), founded among others by Elizabeth Isele in 2016 developed the *Global Summit Series on Senior & Multi-Generational Entrepreneurship in 2015*. The Summits were located in approximately ten cities (from Dublin to Washington) and it gathered experts from different areas – from banking, microfinance, business, education, non-profit and public policy. The meetings were action-oriented and intended to develop a research, initiatives and policy agenda for senior entrepreneurship. Although a couple of examples like the ones provided above exist, it seems

⁶ Retrieved from <http://www.bemcomum.pt> in 20th November 2017.

⁷ Retrieved from <http://uaw.unitedatwork.eu/> on 20th November 2017.

⁸ Retrieved from <https://empreender4560.pt> on 20th November 2017.

⁹ Retrieved from <https://www.facebook.com/50pluswebmarketing/> on 20th November 2017.

that national programs aiming to raise awareness on this type of occupation later in life are still very scarce. In line with what has been previously mentioned, we consider that the type of intervention termed "persuasion" by Michie et al. (2011), is of high relevance to the case of senior entrepreneurship and we suggest it refers to raising awareness on the positive and negative aspects of senior entrepreneurship. *Experienced founders*¹⁰, in Germany, also contribute to raise awareness on the topic and "to change the typical image of entrepreneurs in Germany" by sharing successful (or less successful) stories of senior entrepreneurship.

Another transnational project is *Memoro*¹¹, which collects stories from older entrepreneurs and makes short films to promote entrepreneurship among older people. Lastly, *OVER 50 AND OUT OF WORK* is "a multimedia project that documents the stories and the impact of the Great Recession on jobless Americans, 50 and older. The stories that boomers tell are not only about the hardships they have faced due to joblessness, but also about their hopes and fears, their expectations and disappointments, their resilience and their dreams. Their individual stories combine into a remarkable mosaic of experiences that captures the past 50 years of seismic social and economic changes in American history"¹².

"Incentivisation" referred by Michie et al. (2011) as an intervention that aims to "creating expectation of reward" (Ibid, p. 7) is also relevant within the reviewed initiatives. The Federal Small Business, in United Kingdom, which aims to provide management support and mentoring to associated businesses has a specific award to SE to acknowledge for their performance. The attribution of an award ("Boomerpreneur of the Year Award") to older individuals who develop businesses is also a practice of Boomerpreneurs Network. Furthermore, also SCORE¹³ has a specific award to SE ("Outstanding Veteran-Owned Small Business Award, Outstanding Encore Entrepreneur Award" – "we recognize the people and companies that have demonstrated unique vision, innovation and achievement in support of America's economy and small business community").

From the previous discussion, we consider *Table 13* should be extended to include "incentivization".

¹⁰ Retrieved from www.senior-entrepreneurship.de on 20th November 2017.

¹¹ Retrieved from <http://www.memoro.org> on 20th November 2017.

¹² Retrieved from <http://www.overfiftyandoutofwork.com/> on the 20th November 2017.

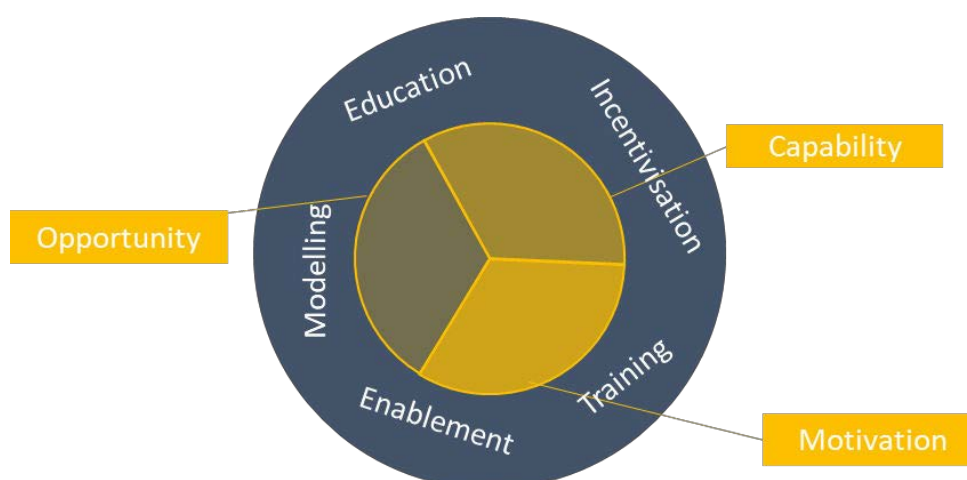
¹³ SCORE is the nation's largest network of volunteer, expert business mentors, with more than 10,000 volunteers in 300 chapters. As a resource partner of the U.S. Small Business Administration (SBA), SCORE has helped more than 10 million entrepreneurs through mentoring, workshops and educational resources since 1964.

Table 13 - Assessment of the match between research and initiatives related to senior entrepreneurship

Type of intervention	Research	Initiatives
Information	Precise knowledge on the scope and impacts of programs providing specialized information to SE is needed.	Programs providing information on entrepreneurship to older individuals exist and constitute an important type of indirect and direct support to SEs.
Training	Human capital is well covered by the entrepreneurship and senior entrepreneurship literature	Training is being provided by many initiatives and often aimed at specific SE' profiles
Enablement	There is lack of research on the link between types of funding and types of SE	Programs providing seed capital exist, although funding is not the most common type of support available to SE. Different funding schemes can be considered, eventually through the development of specific incubation models for SE.
Modelling	More knowledge on the impact of social capital, entrepreneurial teams, family businesses, succession and workforce composition is needed	Focus has been put on Networking by several programs. Programs addressing family businesses among senior individuals would be an interesting possibility.
Incentivisation	Although, so far, only a few studies focus on incentives, motivations and expectations of SE towards entrepreneurship, this is a growing topic within senior entrepreneurship literature and it can play a role on the design of new/better supporting initiatives and policymaking	There are some organizations attributing awards for businesses developed by SE.

Figure 10 - includes the main type of interventions oriented to senior entrepreneurship.

Figure 10 - Final proposal of the behavior change wheel adapted to senior entrepreneurship support



In general, in what concerns research on senior entrepreneurship, top-level research going beyond description and focusing on policy implications is urgently needed. Much of the existing research does not address the practitioners' needs and policymaking in an objective way. Moreover, reports monitoring type of interventions and assessing or discussing the impact of those interventions are needed.

4.2 Match between initiatives review (Section 2) and active ageing and entrepreneurship policy

In order to contextualize supporting initiatives/ programs related to senior entrepreneurship one need to consider a broader framework. Thus, we suggest future research should account for the interplay between the ageing and entrepreneurship domains in order to gain a holistic understanding of the evolution, scope and objectives of policies related to senior entrepreneurship.

Existing research suggests that senior entrepreneurship should not be viewed as a homogeneous group. The diversity of their backgrounds, motivations, culture and contextual settings affect older individuals differently. Policy-makers and support agencies must tailor strategies, programs and recommendations to the needs of different groups – a 'one size fits all' approach would be, according with the literature, inappropriate.

The importance of firm creation and sustainability is considered critical for economic growth and society's development (Audretsch, 2004; Baumol, 1968). Therefore, policy makers aiming to support and promote an entrepreneurial society through the design and implementation of specific policies should foster entrepreneurship as an inclusive phenomenon (OECD, 2007). With regard of senior entrepreneurship, policies can have different and complementary goals, such as economic growth, social development, inclusion and/ or environmental concerns. In general, according with the literature, evidence shows that SE underperform younger entrepreneurs in terms of firm performance (sales and employment growth). Lewis and Walker (2011) argue that senior entrepreneurship must not be seen as a way of exclusively promoting economic growth. As recent research shows, older entrepreneurs are driven by non-monetary – rather than monetary – factors (Kautonen et al., 2017) and exhibit higher satisfaction when able to achieve a higher level of creativity and independence (even though monetary satisfaction is still a significant factor) (Matos & Amaral, 2017). These finding ought to inform policy makers that promoting senior entrepreneurship, compared to younger entrepreneurship, will not probably lead to similar financial and/ or economic outcomes. Society and policy makers should acknowledge the positive aspects of senior entrepreneurship not merely from a financial perspective but also from a social one. Senior entrepreneurship can play an important role by, for example, (i) potentiating human and social

capital accumulated during individuals' life, (ii) promoting a stronger intergenerational connection and spurring family businesses; (iii) allowing individuals to remaining active, integrated and useful to society; (iv) reducing social security and health expenses at the aggregate level or (v) boosting cities' economic and social environment.

We suggest future research and technical reports should expand the present study by analysing and discussing existing policies on active ageing and entrepreneurship at an European and North America level.

5 Case-study: Senior entrepreneurship in Portugal

This Chapter presents primary and secondary data regarding the phenomenon of senior entrepreneurship. First, based on national and international data, Portuguese reality of senior entrepreneurship is presented and compared with the international context. Second, data obtained from *Quadros de Pessoal* (QP) is analysed. The QP database allows for comparisons among Portuguese individuals starting a company among different age cohorts. Younger and older founders are compared regarding their individual profiles and companies' characteristics. Third, results based on primary data (a questionnaire developed and applied by the authors) are presented and discussed. This questionnaire provides us with detailed information regarding SEs' motivations, characteristics and firm performance.

National statistics refer to both individuals who were entrepreneurs for their whole life and those who have started a business for the first time (novice entrepreneur) or those who have started the first business before the age of 50 and a new one above that same age (serial entrepreneurs and/or portfolio entrepreneurs if when running more than one business at the same time)¹⁴.

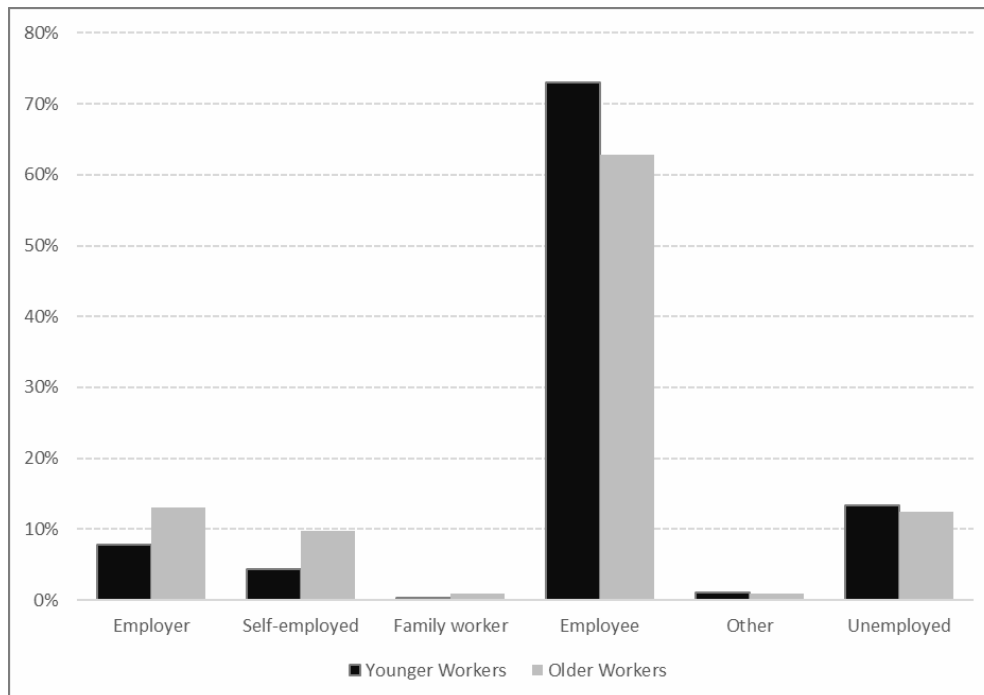
In 2011, Portuguese self-employed and employers account for 745.213 individuals (INE, 2012) and of those, 38% are aged 50 or over (n= 285.073). This ratio is identical to individuals aged 50 or above among the whole population (in 2011 it accounted for 38% (PORDATA¹⁵). This may reflect that the population and individuals employed, being either employers or self-employed, have a similar age pattern.

¹⁴ Even though the aim of our study is to depict the Portuguese context of those who start firms above the age of 50, due to the impossibility of having national data distinguishing by individuals who have already been entrepreneurs and those who have not, our analysis encompasses all.

¹⁵ <http://www.pordata.pt/Portugal/Popula%C3%A7%C3%A3o+residente+segundo+os+Censos+total+e+por+grupo+et%C3%A1rio+-+2> - Accessed in 14th June 2017

Figure 11 shows that being self-employed and/or employer plays a more important role among older than younger individuals¹⁶. Specifically, 23% of individuals aged 50 or over are self-employed and employer, as compared to 12% for the younger age range.

Figure 11 - Percentages of Younger and Older Workers by Employment Type in 2011



Source: INE, 2011

Figure 22 (in Appendix) illustrates self-employment and entrepreneurship rates by age, shows that rates tend to be higher amongst older cohorts than in younger groups (except Estonia, and Finland). Regarding the Portuguese case, two main conclusions are drawn from this figure: firstly, there is a decrease of the self-employment rate between 2000 and 2009 (in line with what happens with other countries such as Romania, Bulgaria, and Italy). Secondly, in 2011 Portugal has the highest rate (approximately 35%) of self-employment among older individuals, compared to other European countries. These findings show the importance self-employment has as a professional occupation among older individuals and, moreover, the dimension of Portuguese senior entrepreneurship within the European context.

Literature on senior entrepreneurship shows that as age increases, the willingness to start a business decreases (Lévesque & Minniti, 2006). However, the likelihood of starting a business

¹⁶ The data under analysis has one important limitation: the fact we cannot filter for individuals who start a business at the age of 50 or over. Therefore, the present statistics gather all type of entrepreneurs – lifelong and individuals who started above this age.

increases with age (Burr & Mutchler, 2007; Evans & Leighton, 1989; Liñán, Santos, & Fernández, 2011; Livanos, 2009; Van Es & Van Vuuren, 2011; Zissimopoulos, Karoly, & Gu, 2009). Thus, there seems to exist two different approaches. The case of Portugal seems to be quite enigmatic because, as mentioned before, entrepreneurship plays an important role in older individuals' professional occupation, and, on the other hand, it seems that Portuguese older individuals are those less willing to start a business (Table 19, in Appendix). Entrepreneurship among older individuals may be connected to, for example, age discrimination within the labour market, the need to complement salary or retirement pension, and the need and/or willingness to remain attached to the labour market.

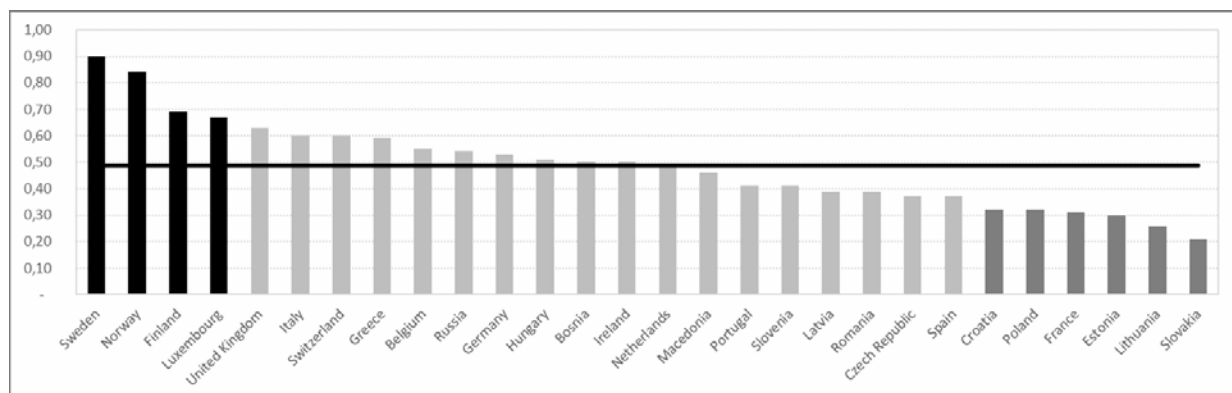
Table 19 shows the entrepreneurial activity rates in the 35 countries included in the Eurobarometer dataset¹⁷. The table distinguishes three levels of engagement on the entrepreneurial ladder ("never thought"; "thinking"; "early-stage activity" – Zwan, Verheul, & Thurik, 2012) by individuals of two age ranges – "prime" and "third". There is a high variation in the levels of senior entrepreneurial activity between the 35 countries and Portugal has one of the lowest percentage of individuals stating that they want to start a business later in life (only surpassed by Austria and Belgium) and of who have recently started a business (only surpassed by China). On the other hand, Portugal positions above the average concerning the "never thought" aspect. This suggests that although Portugal ranks as one of the countries in the world with the oldest population, it is not positioning as a senior entrepreneurial society. This lower willingness and entrepreneurial activity may be underrepresented due to an important drawback in the table – the fact it does not include individuals who have started one or more businesses ("serial entrepreneurs", according to Birley & Westhead (1994) and Amaral, Baptista, & Lima, 2011) in the past. From previous literature, we know that entrepreneurial experience has a positive and significant influence on starting a firm later in life (Fuchs, 1980; Logan, 2014; Tervo, 2015; Zissimopoulos & Karoly, 2009). Thus, these percentages may not give a broad picture of the early-stage activity of SE and percentages of senior entrepreneurship activity could be higher if we consider serial entrepreneurs as well. Nevertheless, in terms of cross-country comparisons, they are comparable because it is applied the same criteria for all.

To better understand the importance of senior entrepreneurship within the reality of entrepreneurship, we draw on a study developed by Pilkova, Holienka, & Rehak (2014) which examines the relationship between senior entrepreneurship propensity and entrepreneurial context

¹⁷ The statistics of OECD (2012) are based on the 2009 Flash Eurobarometer Survey on Entrepreneurship ('Eurobarometer') dataset (European Commission). This data was collected in 2009 and encompasses 26,168 individuals from 31 European countries as well as Japan, South Korea, China and the United States. The national samples are representative of the population aged between 15 and 74 years.

across countries. The authors create an index based on data from Global Entrepreneurship Monitor (GEM) to quantify the level of senior entrepreneurial activity. The senior entrepreneurial activity index results from the division of early-stage entrepreneurial activity in age category 55 – 64 (TEA – percentage of individuals 55-64 involved in the process of actively starting a business or running new business less than 3.5 years old) by the overall TEA (percentage of individual involved in early-stage entrepreneurial activity). The index shows the proportion of senior entrepreneurship in relation to the overall entrepreneurship. Figure 12 shows that there is a high variability within the senior entrepreneurship phenomenon at a European level (also mentioned in Figure 22, in Appendix). On average, the value of senior entrepreneurial activity index in European countries is 0.49, meaning that the entrepreneurial activity of individuals 55 to 64 is half of the overall activity of the population. The index value of Portugal is 0.41, showing that early-stage entrepreneurial activity of older individuals in Portugal does not reach one half of the overall population. Sweden, Norway, Finland and Luxembourg display the highest index values from 0.67 to 0.90 (these countries are called as "high senior entrepreneurship cluster"¹⁸). The closer the value is to 1, the more similar is the early-stage entrepreneurial activity of older individuals in these countries to those of overall population. On the other hand, the lowest values are exhibited by Poland, Croatia, France, Estonia, Lithuania and Slovakia (called "low senior entrepreneurship cluster").

Figure 12 - Senior entrepreneurial activity index (2013)



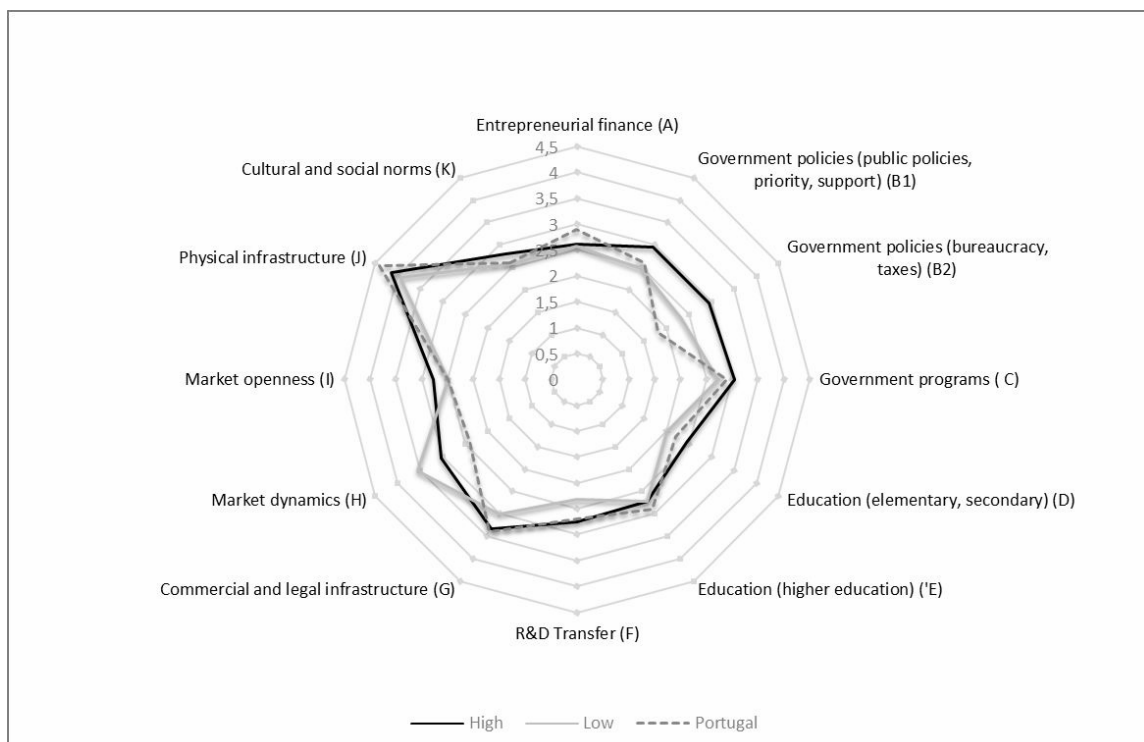
Source: Pilkova et al. (2014)

To examine the entrepreneurial framework of each country, the authors utilize the key entrepreneurial framework conditions (EFCs) from GEM. These variables reflect the assessment done

¹⁸ Pilkova et al. (2014) cluster the countries in three groups according to the index of senior entrepreneurial activity. High rate of senior entrepreneurship refers to countries exhibiting an index value greater than 0.66 and low senior entrepreneurship rate as those showing index value lower than 0.33. The third group refers to countries exhibiting an index value between 0.33 and 0.66.

by experts on several dimensions of the entrepreneurial environment (such as government policies, entrepreneurship education, market dynamics). Each variable represents an assessment on Likert-type scale from 1 (worst state) to 5 (best state). Figure 13 shows that as far as differences are concerned, countries with high senior entrepreneurial activity rates outperform those with a lower index in terms of government policies - related to entrepreneurship (B1) but especially in terms of bureaucratic and tax burdens (B2), primary and secondary education support towards entrepreneurship (D), and in research and development transfer (E). Based on Kelley, Singer & Herrington (2016), we also include in Figure 13 the institutional entrepreneurial profile of Portugal. Comparing to the European case, Portugal exhibits a mixed profile as it has both characteristics of both senior entrepreneurship clusters. More specifically, compared to the low senior entrepreneurship cluster, Portugal still underperforms in terms of government policies supporting entrepreneurship (taxes and bureaucracy) and market dynamics. Nevertheless, the country obtains higher assessment compared to high senior entrepreneurship cluster in the following dimensions: entrepreneurial finance (A), higher education (E), and physical infrastructure (J).

Figure 13 - High and low senior entrepreneurship – Portuguese institutional profile



Source: Author's own elaboration adapted from GEM (Amoros et al., 2014) and Pilkova et al. (2014)

The Quadros de Pessoal Database

This section describes the main factors associated with firm creation and performance among older individuals who create or acquire firms in Portugal. We analysed the Portuguese context of senior entrepreneurship (individuals aged 50 or over) by comparing it with younger individuals (individuals aged between 20 and 49 years old) who start or acquire firms. This section analyses entrepreneurs' and firms' characteristics.

Quadros de Pessoal is a mandatory survey submitted annually to the Portuguese Ministry of Employment and Social Security by firms with at least one employee, since 1982. The dataset collects information on an average of 200,000 firms and approximately 2 million workers per year, covering virtually all employees and firms in the Portuguese private sector. The survey is compulsory for firms with more than ten employees. This section analyses data between 2000 and 2009. The data reported by each firm, encompasses information on size, age, location, and sector. Data on business owners and employees within each firm include gender, age, profession, and occupation within the company, earnings, working hours and schooling attendance levels. This dataset does not include public administration, military activities/organizations, independent workers (sole traders/non-incorporated businesses) providing services, nor workers without a contract.

Business owners are distinguished according with the stage of the firm's life cycle at the moment they enter the firm. Thus, individuals are deemed "starters" (when they enter the firm within the first two years of its existence, meaning they are part of the founding team) or "acquirers"¹⁹ (when they enter a firm that is aged more than two years, meaning they are considered to have acquired a share in an already existing organisation).

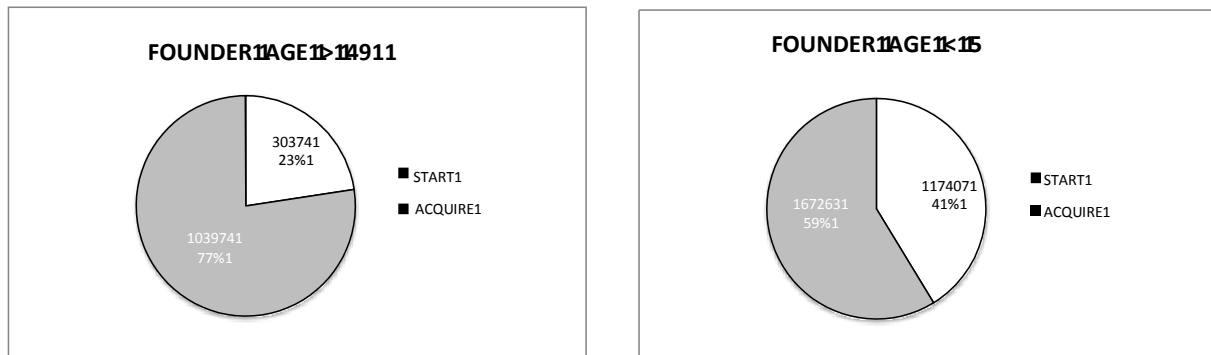
The sample under analysis encompasses 162.478 individuals who switch into a firm as a starter/acquirer between 2000 and 2009; out of which 32% refer to individuals aged 50 or over.

Entrepreneurs' Characteristics

Figure 14 shows that SEs start firms mainly through acquisition rather than start-up (76% vis-à-vis 24%). The case of younger entrepreneurs is quite different as they exhibit a higher balance between the two options (58% by acquisition and 42% as start-up). It seems that SEs are more likely to acquire firms than starting from the scratch. This finding is in line with the empirical evidence found by Ainsworth and Hardy (2008), who suggest that SE may prefer to acquire a business (vis-à-vis starting it from the scratch) in order to avoid risks.

¹⁹ The reason for choosing the first two years is explained by the fact in some cases there may be a mismatch in the data between what is reported as being the firms' year of foundation and the year firms effectively start operating and appear in the dataset. Given that the data is annual and several cases show lag between the year of entry and the year they start activity, one finds suitable to consider a two years spell interval in order to identify start-ups and acquisitions.

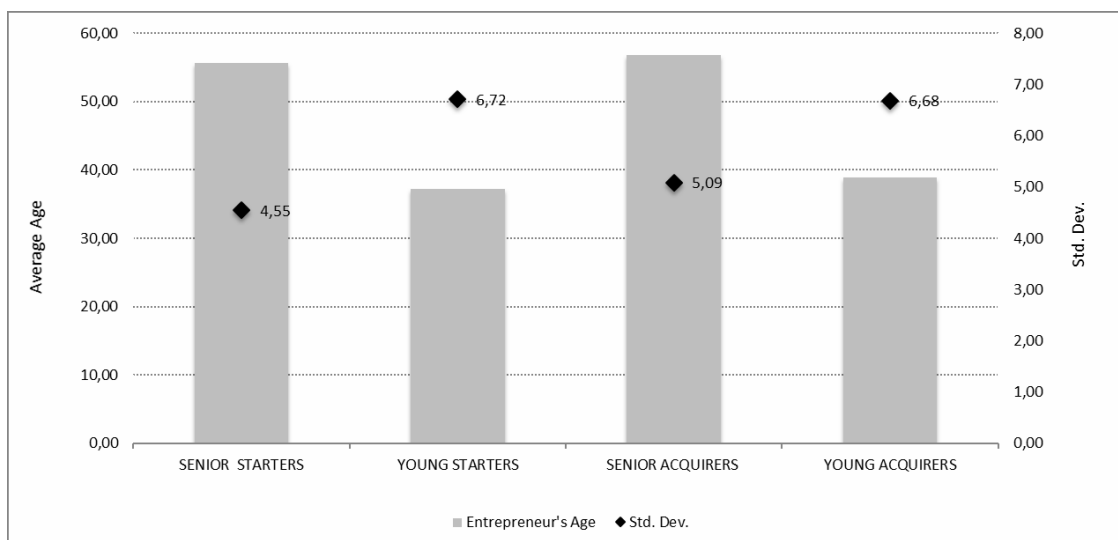
Figure 14 - Sample: number of entrepreneurs (Senior/ Younger; Foundation/ Acquisition) between 2000-2009



Given that we are dealing with longitudinal data, it is worth to mention that the total of entrepreneurs (N=162.478), may appear repeatedly, over several years in the database. Thus, complementarily to the number of subjects (entrepreneurs), we focus on the number of total observations; hence, our sample accounts for 419.018 observations in 2000-2009.

With regard of the individuals' average age at firm foundation or acquisition among firm starters and acquirers, one can observe in *Figure 15* that, SEs are 56 and 55 years old, respectively and younger entrepreneurs, found or acquire their firm at the average age of 37 and 38 respectively. In general, no significant age differences are found among firm starters and acquirers.

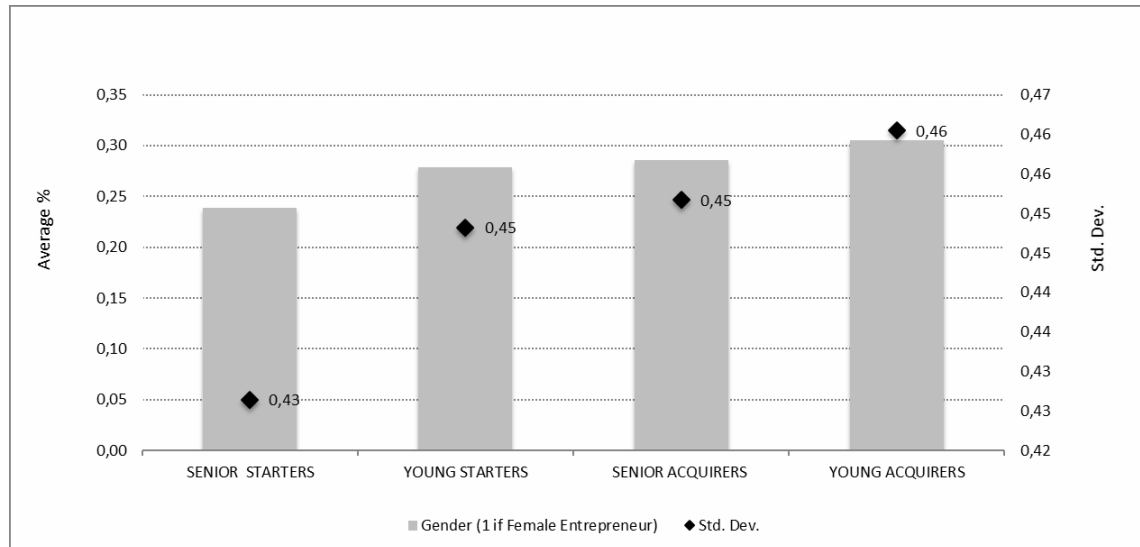
Figure 15 - Average Age (Senior/ Younger; Foundation/ Acquisition) between 2000-2009



In what concerns gender, *Figure 16* shows that most of the entrepreneurs are male (around 70%). This is in line with the latest official population survey by Portuguese Statistics (INE, 2012). In general, the differences between younger and SE are not significant. Nevertheless, there is a higher

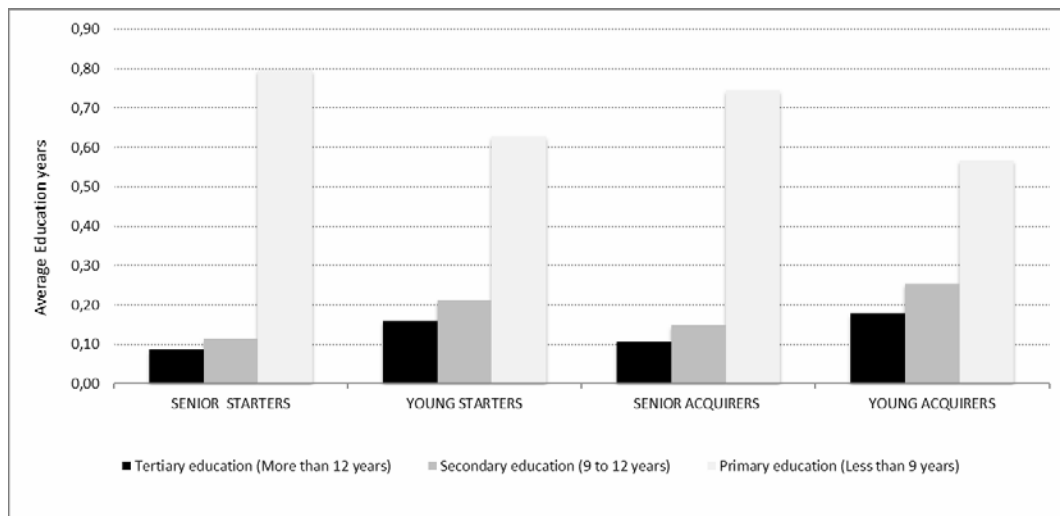
prevalence of female senior founder entrepreneurs compared to female senior non-founder entrepreneurs.

Figure 16 - Gender (Senior/ Younger; Foundation/ Acquisition) between 2000-2009



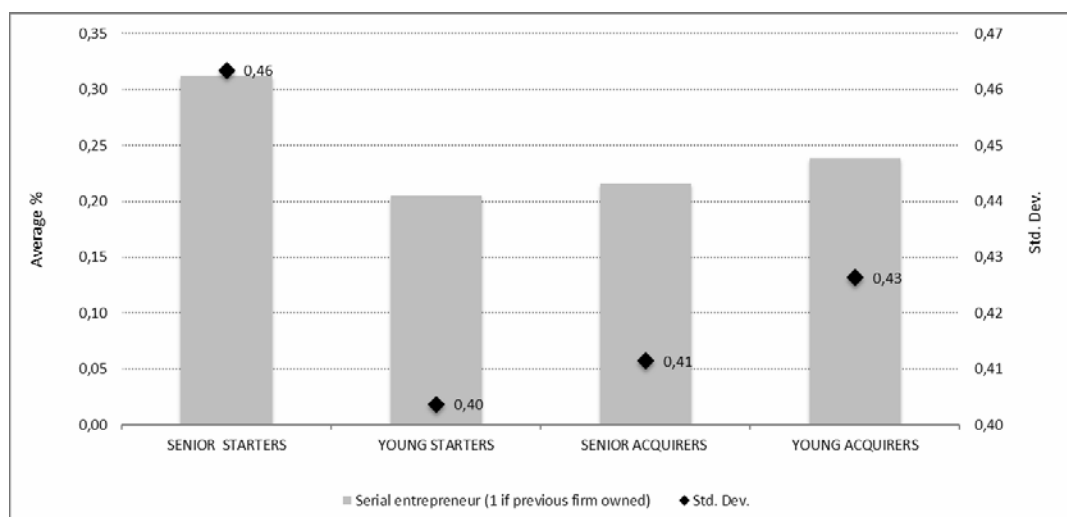
Education (school attendance) level is one of the variables that is most commonly used to proxy for entrepreneurs' human capital. Within the present research we measure education through binary variable distinguishing individuals with superior education from those with primary and secondary education. A high dispersion in the number of years of education is found within senior and younger entrepreneurs. Whereas the superior limit of education by SE is 6,35 years, younger entrepreneurs exhibit, on average, more than 7, 65 years of education. This difference (*Figure 17*) should be contextualized within an historical positive evolution of the level of education in Portugal, in which younger generations have had higher access to education. Nevertheless, the level of education, even for younger entrepreneurs, is lower than the nine years of compulsory education, which stresses the fact Portugal has an extremely low educated entrepreneurial class.

Figure 17 - Years of Formal Education (Senior/ Younger; Foundation/ Acquisition) between 2000-2009



An additional dimension encompassed within human capital is individuals' professional experience. Having had previous firm founding experience (serial entrepreneurs²⁰) may influence individuals' likelihood of starting a firm later in life (Fuchs, 1980; Logan, 2014; Tervo, 2015; Zissimopoulos & Karoly, 2009). *Figure 18* shows that around 20-30% of entrepreneurs already had a previous entrepreneurial experience. This number is similar for entrepreneurs' both age cohorts. Firm acquirers exhibit higher levels of entrepreneurial experience than firm founders. This difference among founders and acquirers is even more relevant for older individuals, when compared to the younger.

Figure 18 - Years of Entrepreneurial Experience (Senior/ Younger; Foundation/ Acquisition) between 2000-2009



²⁰ Designated as "Serial entrepreneurs" in the international scientific literature (Birley & Westhead, 1994; Amaral et al., 2011)

The results of probit regressions explaining firm creation are presented in *Table 14*. Previous entrepreneurial experience and the number of years an individual spent in paid-employment have an expected positive influence on firm. However, the relationship is not straightforward regarding the remaining human capital variables. Educational attainment seems to be relevant only for younger entrepreneurs, not having a significant effect for SEs.

Table 14 - Firm creation by Younger and SE/ Starter and acquires (2000-2009)

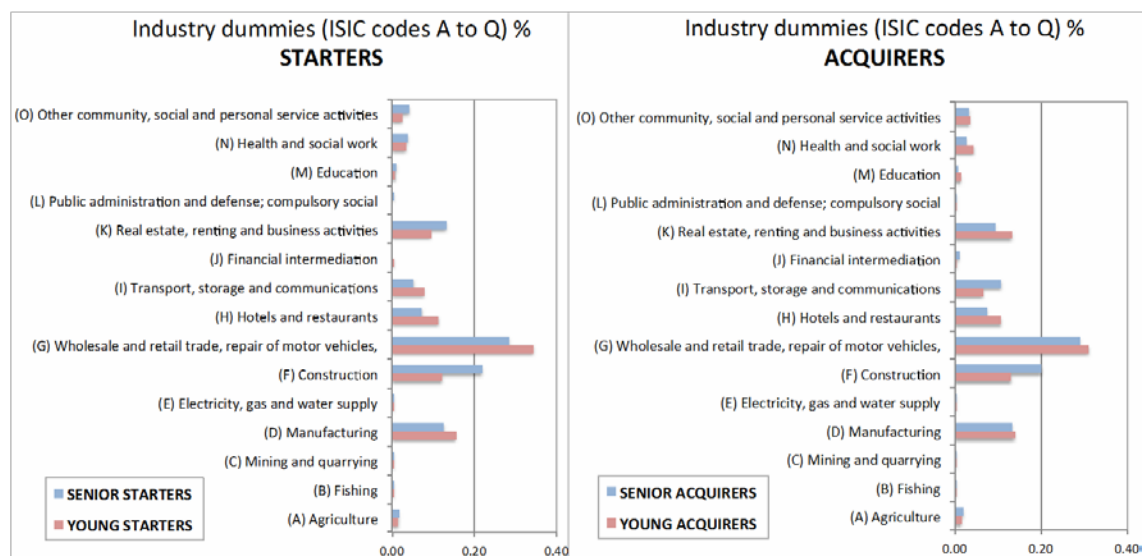
Variables	Young Starter	Senior starter	Young Acquire	Senior Acquire
<i>Entrepreneur Demographics</i>				
Gender (1 if Female)	0.186*** [0.036]	0.700*** [0.196]	0.248*** [0.035]	0.833*** [0.154]
<i>Human Capital</i>				
Serial entrepreneur (1 if past entrep. exp)	0.904*** [0.037]	0.890*** [0.211]	0.803*** [0.037]	0.683*** [0.165]
Secondary education (9 to 12 years)	0.379*** [0.038]	0.301 [0.242]	0.630*** [0.037]	0.260 [0.194]
Tertiary education (More than 12 years)	0.037 [0.052]	-0.250 [0.359]	0.403*** [0.048]	-0.331 [0.282]
No. of years as a paid-employee	0.057*** [0.002]	0.097*** [0.008]	0.067*** [0.002]	0.083*** [0.006]
Experience in the industry (1 if past exp.)	-0.328*** [0.046]	-0.194 [0.285]	-0.483*** [0.049]	-0.652** [0.278]
<i>Firm characteristics</i>				
Firm age (years)	-0.004*** [0.001]	-0.011 [0.009]	0.007*** [0.001]	0.008 [0.005]
Log Size (log No. workers)	0.514*** [0.020]	0.450*** [0.107]	0.476*** [0.020]	0.598*** [0.101]
Log Sales (€)	0.032* [0.017]	0.170* [0.097]	0.045*** [0.017]	-0.081 [0.083]
Log Initial capital (€)	-0.036*** [0.013]	-0.153** [0.071]	-0.010 [0.013]	0.023 [0.064]
<i>Industry and Regional characteristics</i>				
Industry dummies (ISIC codes A to Q)	Yes	Yes	Yes	Yes
Regional dummies (NUTS II - 7 regions)	Yes	Yes	Yes	Yes
<i>Macroeconomic context and Regional characteristics</i>				
Year dummies (2000 to 2009)	Yes	Yes	Yes	Yes
Unemployment rate variation	-0.373*** [0.018]	-0.380*** [0.093]	-0.509*** [0.021]	-0.571*** [0.104]
<i>Constant</i>	-5.910*** [0.171]	-9.312*** [0.951]	-6.610*** [0.171]	-7.751*** [0.876]
<i>Observations</i>	325,387	145,098	325,387	145,098
Robust standard errors in brackets				
*** p<0.01, ** p<0.05, * p<0.1				

* significant at 10%; ** significant at 5%; *** significant at 1%

Firms' characteristics

Figure 19 shows the dispersion of firms created or acquired by business sector. There is a predominance of "services", particularly "wholesale and retail trade, repair of motor vehicles". This is in line with the figures for the Portuguese economy in general²¹. The importance this sector represents for younger entrepreneurs is slightly higher compared to SEs. "Manufacturing" is also a relevant business sector and it exhibits a similar profile for both younger and SEs. The most relevant difference between these two groups is in the "construction" sector, where one can observe a higher incidence for senior rather than younger entrepreneurs. Furthermore, a significant difference exists between younger and senior founders in "real state, renting and business activities" sector, and to a lower extent in the "other community, social and personal services activities".

Figure 19 - Industry (Senior/ Younger; Foundation/ Acquisition), 2000-11



Regarding the relationship between age and entrepreneurial performance, the data shows that as age of the Portuguese SE increases, firm performance decreases, both in terms of growth in sales and employment. This negative relationship is in line with previous studies examining this relationship and which conclude firms held by SEs achieve a lower performance (cf. De Kok et al., 2010; Gielnik et al., 2012; Li, 2015).

²¹ We categorize business sectors according to Economic Activity Code ("Código de Atividade Económica" - CAE) grouped by a two digits activity (designated by the letters "A" to "O". Manufacturing industries are identified with the letter "D". Services' sector encompasses five categories: (G) Wholesale and retail trade, repair of motor vehicles, and personal and domestic assets + (H) Hotels and restaurants + (I) Transport, storage and communication + (J) Financial Intermediation + (K) Real State, renting and business services

Firm performance

Regarding the influence of age on firm performance, Table 15 - and Table 16 - show that as age increases, firm performance decreases, both in terms of growth in sales and employment. The estimates show that younger entrepreneurs achieve higher levels of performance - age is negatively associated with firm performance. More specifically, from Table 15 , we find that SEs are likely to generate less jobs than their younger counterparts. And Table 16 shows that SEs are likely to generate lower sales than their younger counterparts only when individuals acquire firms. Even though not significant, a positive relationship between entrepreneur's age and growth in sales is found when the firm is created from scratch.

Table 15 - Firm size growth, OLS specification (2000-2009)

Size (growth)	Firm Start-up	Firm Acquisition
<i>Entrepreneur Demographics</i>		
Age interval (1 if 'senior' >50 years old)	-0.026***	-0.074***
Gender (1 if Female Entrepreneur)	0,005	0.006*
<i>Human Capital</i>		
Serial entrepreneur (1 if past entrep. exp)	0.053***	0.208***
Secondary education (9 to 12 years)	0,001	-0.028***
Tertiary education (More than 12 years)	0,006	-0.022***
No. of years as a paid-employee	0.001***	0
Different industry experience (1 if Yes)	0.365***	0.963***
<i>Firm characteristics</i>		
Firm age (years)	-0.057***	-0.002***
Log Sales (€)	0.011***	0.130***
Log Initial capital (€)	0.029***	0.020***
<i>Industry and Regional characteristics</i>		
Industry dummies (ISIC codes A to Q)	Yes	Yes
Regional dummies (NUTS II - 7 regions)	Yes	Yes
<i>Macroeconomic context</i>		
Year dummies (2000 to 2009)	Yes	Yes
Unemployment rate variation	-0.524***	-0.570***
Constant	0.931***	-0.582***
No. Observations	147781	271237
R-squared	0,285	0,363

* significant at 10%; ** significant at 5%; *** significant at 1%

Table 16 - Firm sales growth, OLS specification (2000-2009)

Sales (growth)	Firm Start-up	Firm Acquisition
<i>Entrepreneur Demographics</i>		
Age interval (1 if 'senior' >50 years old)	0,02	-0.411***
Gender (1 if Female Entrepreneur)	0,004	-0.029*
<i>Human Capital</i>		
Serial entrepreneur (1 if past entrep. exp)	0.082***	0.854***
Secondary education (9 to 12 years)	0.232***	0,02
Tertiary education (More than 12 years)	0.156***	0.317***
No. of years as a paid-employee	-0.004*	-0,001
Different industry experience (1 if Yes)	1.403***	7.028***
<i>Firm characteristics</i>		
Firm age (years)	-1.328***	-0.035***
Log Size (log No. workers)	0.096***	0.229***
Log Initial capital (€)	0.122***	-0.023***
<i>Industry and Regional characteristics</i>		
Industry dummies (ISIC codes A to Q)	Yes	Yes
Regional dummies (NUTS II - 7 regions)	Yes	Yes
<i>Macroeconomic context</i>		
Year dummies (2000 to 2009)	Yes	Yes
Unemployment rate variation	-3.242***	-4.167***
Constant	14.313***	9.574***
No. Observations	147781	271237
R-squared	0,485	0,477

* significant at 10%; ** significant at 5%; *** significant at 1%

Questionnaire

A unique questionnaire was constructed and delivered to SEs²². This questionnaire returned broad knowledge about SE phenomena by focusing on the individual (demographics, human capital background, motivations and satisfaction) and organizational (firm characteristics and performance) levels.

We develop our empirical analysis using data from a unique questionnaire – specifically designed and implemented for the present study – which was sent, in 2015, to a population of entrepreneurs (in Portugal) who have started or acquired their company in 2004-2009 at the minimum age of 50. The questionnaire included both open and closed questions in order to combine flexibility with comparability. Questions were organized into two major dimensions: individual level (demographics, human capital, motivations and satisfaction) and firm-level variables (firm characteristics and performance). A pilot test was performed beforehand among a number of

²² In this Chapter, our approach to the concept of "entrepreneur" and "entrepreneurship" focuses on all individuals that have total or partial ownership of the business and may (or may not) be employers.

selected SE and university professors to ensure that both the structure and questions were suitable and unambiguous.

Firms' contacts originated from official longitudinal micro-data, which was made available by the Office for Strategy and Studies (*Gabinete de Estudos e Estratégia – GEE*) at the Portuguese Ministry of Economy.

The questionnaire was sent through post mail and e-mail (according with the type of address available for each company) and followed up by phone (whenever the contact was available) between January and April 2015 to all private incorporated firms that were founded between 2004 and 2009 in Portugal with at least one business owner/founder aged 50 or over and with at least one paid-employee. Throughout the data gathering and cleansing process one had to deal with the fact that around half of the official postal and e-mail addresses were not correct and in 199 questionnaires the original founders were not part of the company anymore. In the end, out of the total 3.400 eligible firms, we were left with a reachable population of 1.671 SE, out of which we obtained 181 complete and valid and complete questionnaires, accounting for a response rate of 10.83%. This group comprises both individuals who are starting/acquiring enterprises for the first time in their lives (novice entrepreneurs) and individuals who have had other entrepreneurial experiences before (serial entrepreneurs) or who may even still be running other companies in parallel (portfolio entrepreneurs).

The data obtained by this questionnaire²³ focuses on three dimensions: entrepreneurs' characteristics, motivations and firm characteristics and performance. To characterize SEs, several questions were posed about their demographics – i.e., marital status, number of children, nationality; psychological characteristics; human capital – i.e., role models (parents), educational level, entrepreneurial and management experience, industry knowledge, specific training); financial resources – i.e., previous salary, savings; and, professional status before the company's founding. Two questions were included in the questionnaire to analyse entrepreneurial motivations. Methodologically, we first follow a model put forward by the GEM (Reynolds, Hay, Bygrave, Camp, & Autio, 2000), which classifies motivations into three groups: the identification of a business opportunity, necessity/ lack of better employment options or mixed options. Second, respondents are asked to rate a ten-item list. Firm performance, regarded as business performance, is measured in two ways: volume of sales and number of employees (Parker 2009). In order to include subjective analysis of the business, we asked individuals about how they assess the current state (success or

²³ See the questionnaire in Appendix.

otherwise) of the company (Headd, 2003) and individuals were also questioned about their satisfaction with the business and the entrepreneurial process.

Entrepreneurs' characteristics

The decision to launch a company comes at around the age of 56 (with a standard deviation of 9%) with our results also showing a male majority (82%), married (86%), with two or more children (68%) and of Portuguese nationality (95%). Around 32% of entrepreneurs attended higher education with 24% having completed only the first cycle of education. When comparing this with the national population (INE, 2012), these entrepreneurs hold a generally higher level of schooling than the national average²⁴. The higher educational level of SE is in line with the findings of Solinge (2014), Zissimopoulos and Karoly (2007), and Zissimopoulos, Karoly, & Gu (2009), who conclude that a positive relationship exists between educational levels and senior entrepreneurship. Another variable connected with human capital is previous experience in managerial and/or board positions. This is an important dimension because around 75% of respondents hold this specific type of experience. On average, this group of people was involved in senior management for a period of 21 years. However, given that there is standard deviation of 50% of the average value, this result shows high variation. There is also a great deal of relevance in terms of the experience acquired in setting up companies. About 52% individuals report they have previously started up a company (serial entrepreneurs). Within this framework, there is an average of two companies founded by each entrepreneur (there is a significant variation as the standard deviation stands at 97% of the average). This positive relationship between entrepreneurial experience and becoming an entrepreneur later in life is in line with the findings of Fuchs (1980) and Zissimopoulos and Karoly (2009).

SEs have also built up a strong track record of prior professional experiences and especially in the sector of activity that hosts their own companies. Two thirds of SEs state that they had previous work experience in their current company's line of business, while only one third note that they had never worked in the same field. On average, SEs had worked in the same industry for 23 years; the variation however remains high, with a 55% standard deviation rate on this average value.

Equally relevant are the entrepreneurs job occupation prior to launching their companies. Over a third declare they were in normal employment (34%), which connects with the argument that the transition to entrepreneurship comes about fundamentally via moving from employment in another firm to owning (starting/acquiring) one's own firm. However, there is an equally significant percentage of respondents (39%) who have already been business owners/ self-employed. Only 18%

²⁴ Among the Portuguese population, only 5% of individuals aged over 50 holds graduate degrees and 56% hold primary school level education.

of entrepreneurs were formerly unemployed (spending an average of 18 months in unemployment prior to launching/acquiring their company)²⁵.

As regards the attitude towards retirement, a majority express the wish not to retire and aim to remain active in the labour market as long as possible. This qualitative assessment supports our quantitative results stressing the importance of non-pecuniary and active ageing entrepreneurial motivations among older individuals. Next section provides additional empirical evidence and discussion on this argument.

Entrepreneurs' motivations

For around 50% of respondents, the identification of business opportunities triggered the founding of the company. On the other hand, 29% of respondents claim "they did not have better working options". These results prove to be robust and consistent because of their similarity to those returned both by Portuguese and European entrepreneurs drawing upon the last Global Entrepreneurship Monitor available data for Portugal (GEM, 2012). In fact, according to GEM (2012), the Portuguese TEA²⁶ reports that 50.7% of companies in the startup phase (and in the following first 42 months of activity) started because a business opportunity was identified, whilst 21.4% emerged due to a lack of alternative employment opportunities. However, it is interesting to stress that senior individuals who engage into entrepreneurship due to lack of opportunities in the formal labor market are slightly overrepresented (29%) when compared with entrepreneurs in general (21.4%). Thus, the need (and not necessarily the willingness) to become an entrepreneur holds greater importance within the older individual group than the population in general. This result potentially aligns with Platman (2003), Parry and Taylor (2007) and Wainwright and Kibler (2013) for whom senior entrepreneurship is positively affected by the need to cope with poor pension entitlements and potentially also related with older people facing lower employability prospects (Giacomin, Guyot, Janssen, & Lohest, 2007).

The present analysis of motivations also reflects the approach followed by GEM (Reynolds et al., 2000) differentiating between those individuals who choose entrepreneurship voluntarily (pull) or those who are forced into entrepreneurship (push). Assuming that entrepreneurs acting out of need are mainly motivated by push factors and entrepreneurs acting out of opportunity engage in entrepreneurship due to the consequences of pull factors. The results (Table 17) show that the pull

²⁵ It is important to mention that these previous occupations are not mutually exclusive; i.e., individuals may have experienced more than one occupational situation before becoming entrepreneurs after 50 years of age.

²⁶ Total Early Stage Entrepreneurial Activity (TEA) – percentage of individuals between 18 and 64 years who are involved in setting up businesses or already developing new businesses (up to 3.5 years)

effect predominates among senior individuals with the majority engaging entrepreneurship out of opportunity. This situation proves clear given that the push factors ("Dissatisfaction with previous job", "Ensuring work for an unemployed relative or friend", "Insufficient salary or retirements funds", "Unwillingness to take other less attractive jobs") are those least mentioned by entrepreneurs as drivers of entrepreneurial activities. Table 17 also shows that the main reason for launching a company is the desire to remain active through work (average value of 4.3 on a scale up to 5). This motivation is in line with the strong connection existing between personal identity and professional activities with these individuals displaying a strong work attachment (Solinge, 2014). Furthermore, respondents stressed they wanted to become entrepreneurs (average value of 4.1), wanted to develop their own ideas (average value of 4) and sought to gain more independence at work (average value of 3.8). Another relevant factor stems from the perception of entrepreneurship as a means of making a contribution to society (average value of 3.7).

Table 17 - Decision behind the creation/acquisition of the company (N=171)

You decided to create/acquire this company because:		Completely disagree	Somewhat disagree	Neither agree nor disagree	Partially agree	Totally agree	Mean	Std. dev.
Wish to develop their own ideas	(%)	5%	6%	17%	29%	43%	4.0	0.9
	(N)	8	11	29	49	74		
Unwillingness to take other less attractive jobs	(%)	30%	14%	20%	15%	21%	2.8	0.3
	(N)	51	24	35	26	36		
Insufficient salary or retirements funds	(%)	42%	12%	27%	10%	9%	2.3	0.2
	(N)	71	20	47	17	16		
Wish to remain active through work	(%)	5%	3%	9%	23%	59%	4.3	1.2
	(N)	9	6	16	39	102		
More independence	(%)	10%	7%	16%	26%	41%	3.8	0.8
	(N)	17	12	27	45	70		
More flexibility	(%)	13%	6%	18%	30%	33%	3.6	0.7
	(N)	22	10	31	51	57		
Ensuring work for an unemployed relative or friend	(%)	36%	10%	16%	10%	28%	2.8	0.5
	(N)	62	18	27	17	48		
Dissatisfaction with previous job	(%)	37%	14%	24%	15%	10%	2.5	0.2
	(N)	64	24	42	25	17		
Wish to contribute to society	(%)	10%	4%	22%	33%	32%	3.7	0.7
	(N)	17	7	37	56	54		
Wish to become an entrepreneur	(%)	3%	6%	15%	30%	46%	4.1	0.9
	(N)	5	10	26	51	78		

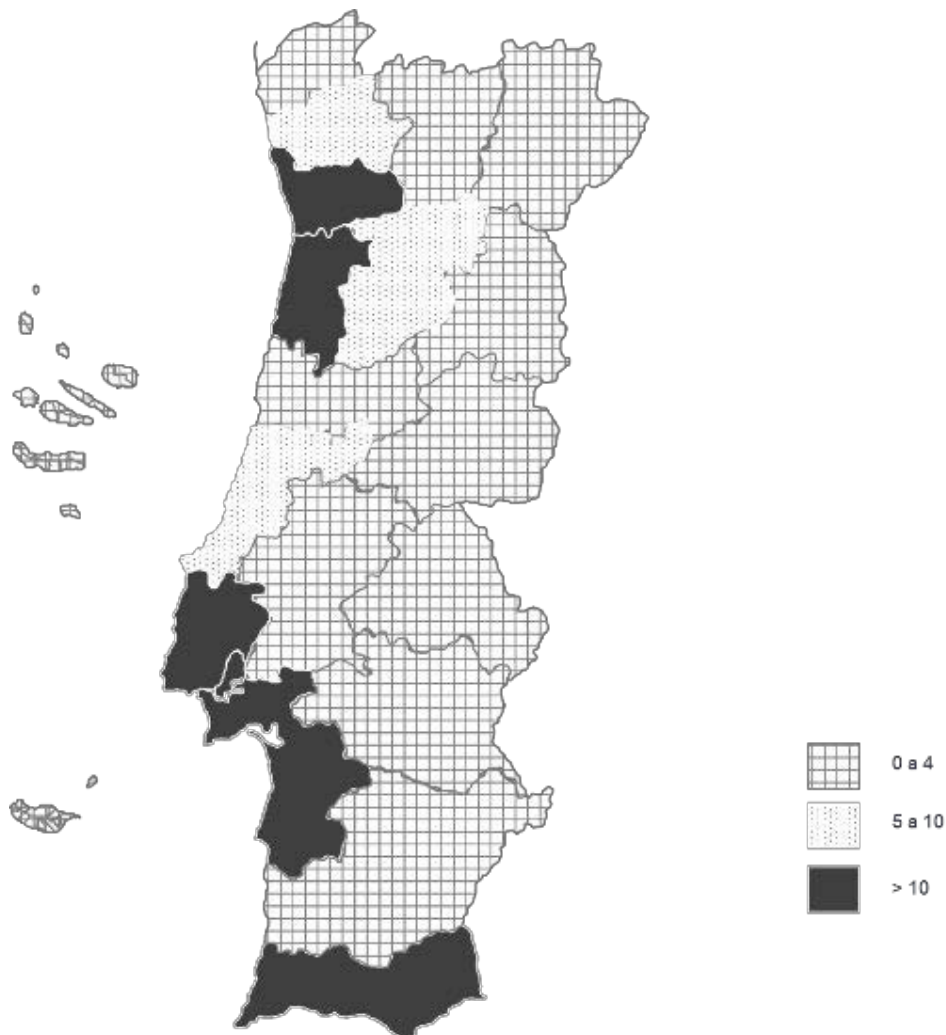
In order to trace the profile of SEs in Portugal, Singh and DeNoble (2003)'s typology was applied. The authors (ibid.) classify entrepreneurs into three different types: *Constrained*, *Rational* or *Reluctant*.

Our results show that senior Portuguese entrepreneurs are, in general, either *Constrained* or *Rational* rather than *Reluctant*, which resembles Kautonen (2008) study for Finland. As mentioned, the desire to become entrepreneurs is highlighted by most of the respondents. Therefore, despite not having any reference relative to the temporal period that this desire refers to, it may be deduced that it lasts for some time during the lives of individuals and translates into an effective start up only after turning 50 – i.e., constrained entrepreneurs. (Singh & DeNoble 2003).

Firm performance

Figure 20 shows that most of the firms that participate in our questionnaire are located in the seaside of the country. Faro (N=22), Lisbon (N=46) and Oporto (N=31) account for 55% of the respondents.

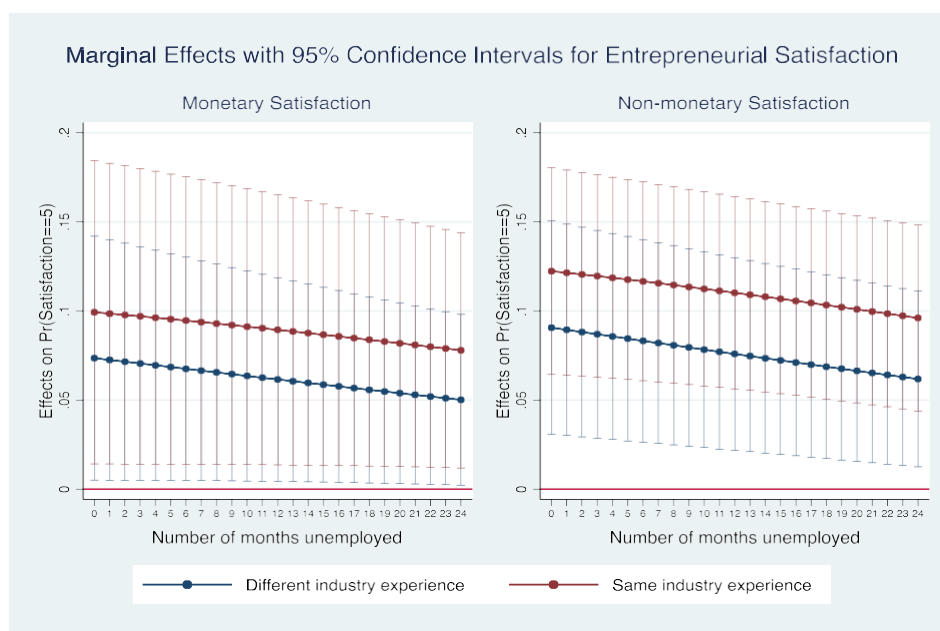
Figure 20 - Location of SEs' firms in Portugal



Firm performance is analysed adopting a broad perspective. Firstly, with regard to job creation, results show that firms had an average of two owners and three employees (micro companies prevail). This situation seems to align with Lewis and Walker (2011), who state that companies founded by SEs may not hold the objective of creating employment (sole businesses). In what concerns financial results, while 57% of SEs in our sample report profits, 21% report net losses. The most commonly identified turnover value is up to €49,999, which is slightly below that of Portuguese employers in general, with turnover figures between €50,000 and €149,999 (GEE, 2013). We examined firm performance of SEs from a subjective level, taking as proxy entrepreneurial satisfaction. The study aims to examine the components of satisfaction that lead to higher satisfaction of the older individual as well as to analyse the influence of work history, measured by human capital variables and periods spent on unemployment. The results show that SEs are, in general, satisfied with their firm (74% of the respondents). Moreover, the study finds that SEs derive slightly more satisfaction from non-monetary aspects compared to monetary ones (in line with the results of Alstete (2008) and Kautonen et al., (2017)). The focus on non-monetary outcomes in explaining entrepreneurial satisfaction may be explained by the fact that although SEs acknowledge the importance of financial resources to their lives they are aware that time remaining to generate high earnings again is lower compared to the time spent accumulating financial resources (Lévesque and Minniti, 2006). Furthermore, we conclude that SEs' experience in the same industry is associated with higher overall satisfaction (in line with Alstete, 2008). Results indicate that individuals gauge higher satisfaction by continuing working in the same sector, but with higher independence, in their own business rather than in paid-employment. Finally, their empirical analysis reveals that longer spells (more than 12 months) in unemployment before starting the firm, decrease entrepreneurial satisfaction. This finding supports the assertion that the way the entrepreneur starts the firm influences his/her satisfaction (aligned with Block and Koellinger, 2009), with visible scarring effects throughout the business life cycle and observable in our data after, at least, five years of entrepreneurial activity. The fact that shorter periods of unemployment are non-significant in explaining entrepreneurial satisfaction may configure cases where voluntary unemployment or frictional involuntary unemployment (rather than cyclical or structural) are seen as a transition period to plan and readjust to entrepreneurship. This analysis is in line with Kautonen et al. (2017) emphasis on the need for future research on senior entrepreneurship - "It would be desirable if future studies of late-career entrepreneurship could also include factors such as the characteristics of the individuals' jobs before the switch, or the industry in which the subjects started their firms and the type of firm activity they engaged in". More specifically, we show that different patterns for the effects of Industry experience across Satisfaction Indexes and over time experienced in unemployment (*Figure*

21). The higher the duration of unemployment spell prior to firm start-up/acquisition, the lower SEs' entrepreneurial satisfaction, particularly among SE's who value more Monetary rather than Non-monetary factors.

Figure 21 - Marginal effects with 95% CIs for entrepreneurial satisfaction. Interaction between Monetary / Non-Monetary Satisfaction indexes, Industry Experience and Unemployment spells (Matos & Amaral, 2017)



5.3 Current and missing policies and instruments supporting senior entrepreneurship within the Portuguese context

With regard of the Portuguese entrepreneurial environment, evidence shows that bureaucracy, taxes and low market/economic dynamics represent barriers towards senior entrepreneurship (GEM, 2012; Pilkova et al., 2014). According with Minola et al. (2016) cross-country analysis, entrepreneurship should be promoted as a suitable option for older individuals in Portugal because the country has a low performance orientation, which means that the national culture is not traditionally oriented to encourage and acknowledge innovation, excellence, and performance. Some policies could help creating a more friendly entrepreneurial environment through, for example, the alignment of national business support policies and the assistance that is provided at the national and local level; modernization and simplification of administrative processes related to business creation (although significant improvements have been achieved in the last years); providing clear information on how to obtain business aid; capacitating service providers with the ability to address the special needs and characteristics of older individuals or; removing the age criteria from public programs supporting

entrepreneurship (OECD, 2013). In Portugal, there are no public or private initiatives specifically supporting SE. Moreover, some initiatives supporting entrepreneurs limit the application of proponents depending on their age.

Based on the results obtained through our secondary data, the fact SE underperform younger entrepreneurs, should make clear to decision makers that the promotion of senior entrepreneurship ought not to contribute exclusively to economic growth or focusing on indicators such as employment generation and sales, but consider essentially senior entrepreneurship social outcomes. Older individuals who are able to apply human and social capital accumulated during their lives will feel useful and active. Therefore, creating and developing new businesses, may be seen as an advantage of senior entrepreneurship *per se* (in line with Lewis and Walker, 2011). Orientation to social goals and outcomes must not be seen as negative but as a normal and important feature of senior entrepreneurship and of major importance for society in terms of social innovation. By investigating performance through entrepreneurial satisfaction indicators, our analysis addresses and/or fosters a number of wider policy and practitioner questions, such as: Should entrepreneurship be stimulated and supported through programs tailored to older individuals? To what extent should those programs be oriented toward monetary and/or non-monetary dimensions and objectives? If SE are encouraged to undertake entrepreneurship can it be seen as a path toward well-being, entrepreneurial satisfaction, active aging (social outcomes) or/and toward firm performance (economic outcomes)? What is the opportunity cost for individuals willing to start/acquire businesses at older ages of not engaging in entrepreneurship?

From a policy perspective – and building on our findings that monetary and non-monetary constituents of satisfaction are both important outcomes but the latter is associated with higher entrepreneurial satisfaction, – it is important that mechanisms supporting SE account for: (i) the definition of realistic expectations for the business, (ii) awareness generation regarding the right tangible and intangible resources required for the business without compromising SEs' future life; (iii) entrepreneurial dynamics during early stages of firms' life cycle because older individuals may not have time to recover from their (financial and psychological) eventual losses if the firm fails and they face an occupational discontinuity, (iv) the need for tailored training programs, mentoring or other type of initiatives that contribute to improve firm performance.

Furthermore, special attention should be given to unemployed older individuals who become entrepreneurs. Our empirical results show that older individuals who have spent more than 12 months unemployed before firm start-up exhibit a lower entrepreneurial satisfaction. Our results show that unemployment is negatively associated with mental health (Frasquilho et al., 2016); given that our research is based on firms that have been active for at least 5 year, we expect that

entrepreneurial satisfaction could be as bad or even worse at early stages of the business cycle. In fact, proximity with unemployment status and the fact firm early stage demands high commitment and energy to successfully develop the business, it is important to mitigate these negative effects. Improving mental health is an important asset towards developing the economy and the society by increasing individuals' social participation and contribution to society. Policy-makers aiming at stimulating the link between unemployment and senior entrepreneurship may use these results in order to establish appropriate interventions and goals suitable to this specific segment of SE. The connection of unemployment spells with lower mental health, stresses that programs should be designed firstly to improve individuals' health and increase self-efficacy, and then, support the start and development of firms. We suggest a special experimental program – focused on entrepreneurship as a vehicle for inclusion – should be designed to tackle the needs and specificities of these entrepreneurs who have previously been unemployed for a longer period of time and potentially have lower mental health and self-efficacy. The example of the United Kingdom that can serve as an inspiration is The Prince's Initiative for Mature Enterprise (PRIME) - a not-for-profit organization, mostly publicly funded, created in 1988 (which in 2014 was included in Business in the Community – BITC) that provides support to unemployed individuals over the age of 50 who wanted to remain active in the labour market through entrepreneurship. PRIME provided support such as access to information, organization of workshops, training and business network events for potential SE, and mentoring.

A governmental *Program to Support Entrepreneurship and Employment Creation (Programa de Apoio ao Empreendedorismo e à Criação do Próprio Emprego – PAECE)* supports individuals starting firms out of unemployment, allowing them to receive unemployment benefits totally or partially in order to start their own businesses. Moreover, within this program, consultancy support in the first 2 years is available for free. As it was previously stated, evidence shows that unemployment is negatively related with firm performance (objective and subjective levels), mainly because human capital depreciation (Neuman & Weiss, 1995; Parker, 2013) and negative impact on individual's mental health (Frasquilho et al., 2016). Thus, we suggest policy makers should consider these findings to: develop a hybrid supporting mechanism: eventually through funding, incubation, training/vocational working and psychological support to mitigate potential human capital depreciation among the unemployed, and to lower expectations regarding firm performance (sales/size growth) within this segment of entrepreneurs.

Another important contribution to the literature is given by Cassar (2014), who stresses that individuals with previous industry experience, irrespective of age, tend to define more realistic expectations towards business performance. In addition, our findings show that having industry experience is positively associated with entrepreneurial satisfaction. We suggest that a potential

policy orientation is the promotion of membership business networks within the industry, or vocational work experience to enable the acquisition of this knowledge. For example, the European program Erasmus for Young Entrepreneurs is an experience, with promising results, that allows an individual to learn about a specific industry in another European country and then start a business in his/her home country. Similar programs could be developed at a national scale to allow older individuals to learn with each other. Nevertheless, the denomination and diffusion/communication of the program should be defined with some precaution, trying not to stress the role of age, or not to discriminate individuals by their age. We suggest the name "young" entrepreneurs should be reconsidered because it associates directly with age creating a potential negative stigma.

As business performance is one of the most important variables explaining entrepreneurial satisfaction and due to its importance towards the sustainability and continuity of the firm, we suggest vocational training related to business management should be provided to older individuals. Although several programs address SE, in general, the contents, activities and pedagogical approaches are not properly designed to address SE' particular needs and characteristics. Initiatives aimed to develop SE human capital should identify older nascent/novice/serial entrepreneurs' particular needs and redesign contents and methodologies accordingly.

6 Conclusion

First, the present report aims to advance research on senior entrepreneurship by performing an extensive review of the literature clarifying the nature of the phenomenon, its determinants and characteristics. Second, we complement previous reports on this area by identifying 57 specialized initiatives dedicated to senior entrepreneurship (the largest number of initiatives on SE surveyed so far in the literature). Based on Michie et al. (2011), we organized the supporting initiatives into different dimensions of analysis: education; training; modelling; enablement; persuasion and incentivization. Most of the initiatives identified are focused on training and education and provide general/specific information on senior entrepreneurship. Nevertheless, precise knowledge on the scope of information provided to SE, and its impact, is needed. In what concerns training, while improving entrepreneurial skills must be central to these programs, industry-specific programs are also needed (depending on the individuals' professional profile and experience). The program "50+ Business" (France), which aims to organize a training course on entrepreneurship tailored for unemployed seniors, develops a specific program allowing seniors to work in businesses operating in industries related to their own projects. Services provided by organizations, envisioning funding, mentoring, coaching, consultancy, are also a focus of potential interventions oriented to SE. From a research and scientific knowledge generation perspective, we find no studies focusing on the impact

of funding on senior entrepreneurship. In fact, monitoring and assessing the outcomes of initiatives that fund and support senior entrepreneurship is fundamental for policymaking. Additionally, this absence of research on the origins, purpose and outcomes of funding in senior entrepreneurship constitutes a research gap and opportunity. Analyses of the impact of incubation programs are also important in order to acknowledge what might be improved in the program and to understand potential idiosyncratic aspects on SE (in opposition to younger entrepreneurs).

Regarding the raise awareness of senior entrepreneurship, innovative initiatives have been developed such as Memoro (which collects the experiences of SE), Over 50 and out of work (which is a multimedia video showing the successful stories of 100 persons who started a business out of unemployment).

Several initiatives focus on specific groups of older entrepreneurs (unemployed, individuals willing to maintain an activity and / or who live in rural areas).

Future research should articulate these initiatives with policies on active ageing, entrepreneurship, small and medium businesses.

The ultimate objective of the present report was to draw scholars attention to practical initiatives and policies supporting senior entrepreneurship, while simultaneously generate insight to policymakers about state-of-the-art research in the field that can contribute for the design and success of practical programs and initiatives.

We believe that by helping recognize and understand the relationship between existing initiatives and senior entrepreneurship research, the present assessment may encourage and inform future empirical and theoretical inquiry in this area through integrating and developing existing knowledge and practice.

Appendix

Documentation of the Systematic Review Procedure

To examine senior entrepreneurship research (SER), we focus on entrepreneurship research in which age is central. Using EBSCO and ProQuest databases we searched for articles that met two criteria: (1) use variations of keywords of entrepreneurship²⁷ including the article's title, abstract and keywords; and (2) publication on or before May 2017²⁸. Thus, only peer reviewed articles, in English, published in a journal indexed in Web of Knowledge or SCOPUS are reviewed²⁹. This resulted in 48 hits³⁰. Details can be found in the appendix.

Previous studies on senior entrepreneurship employ a variety of age ranges with some receiving more attention than others. The most common type of age range used in this stream defines a SE as an individual who is 50 or over. While other studies (Ainsworth & Hardy, 2008; Hodges, 2012; Kautonen et al., 2011; Singh & Verma, 2003) focus on individuals older than forty-five and still others only consider SE those above the age of 55 (Burr & Mutchler, 2007; Small, 2012; Singh & DeNoble, 2003; Hantmana & Gimmona, 2014). As for the designation used, the majority of the studies do not use any unique designation for the individuals who become entrepreneurs at an older age, whereas others use more than one. However, the designations are multiple, the most frequently are 'older entrepreneur', 'third-age entrepreneur', and 'senior entrepreneur'. Other terms adopted include: grey entrepreneurs, late-career entrepreneur, later-life entrepreneur, mature entrepreneur, mid-career entrepreneur, olderpreneur, second-career entrepreneur, silver entrepreneur, and switcher.

²⁷ E.g. "entrepreneur*" or "self-employ*", "owner", "business owner", "small business", "small firm", "venture") and of ageing (e.g. "ageing/aging" or "third age" or "grey" or "mature" or "senior" or "old*" or "retirement" or "midlife" or "later life".

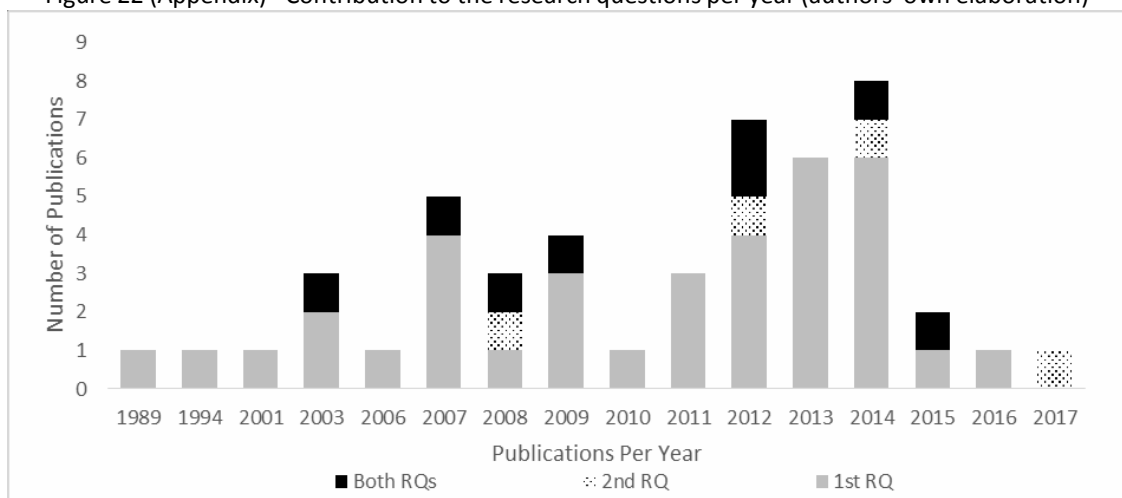
²⁸ In addition to the electronic databases used for our search, the search is supplemented by manual cross checking of relevant publications' references. Exclusion of articles not published in databases Web of Knowledge or SCOPUS , literature reviews , reports, editorials, conference proceedings, working papers , and books or book chapters.

²⁹ Articles are then screened by their relevance based on title and abstract. Afterwards, duplicates are removed. For the publications that meet the practical criteria, the full articles are analysed and evaluated.

³⁰ This sample is based exclusively on peer-reviewed papers published both in ISI and SCOPUS databases. We complement this information, when necessary, by mentioning other documents surveyed (such as articles published in databases other than ISI or SCOPUS, reports, non-published articles, working papers, conference proceedings, books, and books chapters). We think this twofold approach is useful because: (i) it gathers the advantage of being systematic (following a methodology that is reproducible) with being comprehensive (that is of higher importance in a field that is still young); (ii) it compares research that has already been published in peer-reviewed journals (ISI and SCOPUS databases) with research that is probably under development and that will be published in the near future; (iii) it allows for the identification of present and future trends of research.

Our literature review aims at answering two central research questions: "What determines senior entrepreneurship?" and "How do senior entrepreneurs perform? Whenever appropriate, each article under analysis is associated with one or more determinants for company start-up and performance among older individuals. We find an unequal dispersion of observations regarding the two research questions mentioned above in Figure 22. Most of the articles are related to the first research question (44 studies) and the analysis of senior entrepreneurial performance, the second research question, is underrepresented (12 studies). Potential causes for this disparity and bias toward entry are, firstly, the ease of access to this data in comparison to the difficulty of assessing outcome-based constructs, and secondly, the fact that the topic is still recent and thus previous literature was more oriented to understand what drives individuals to start a business instead of the outcomes of this activity.

Figure 22 (Appendix) - Contribution to the research questions per year (authors' own elaboration)

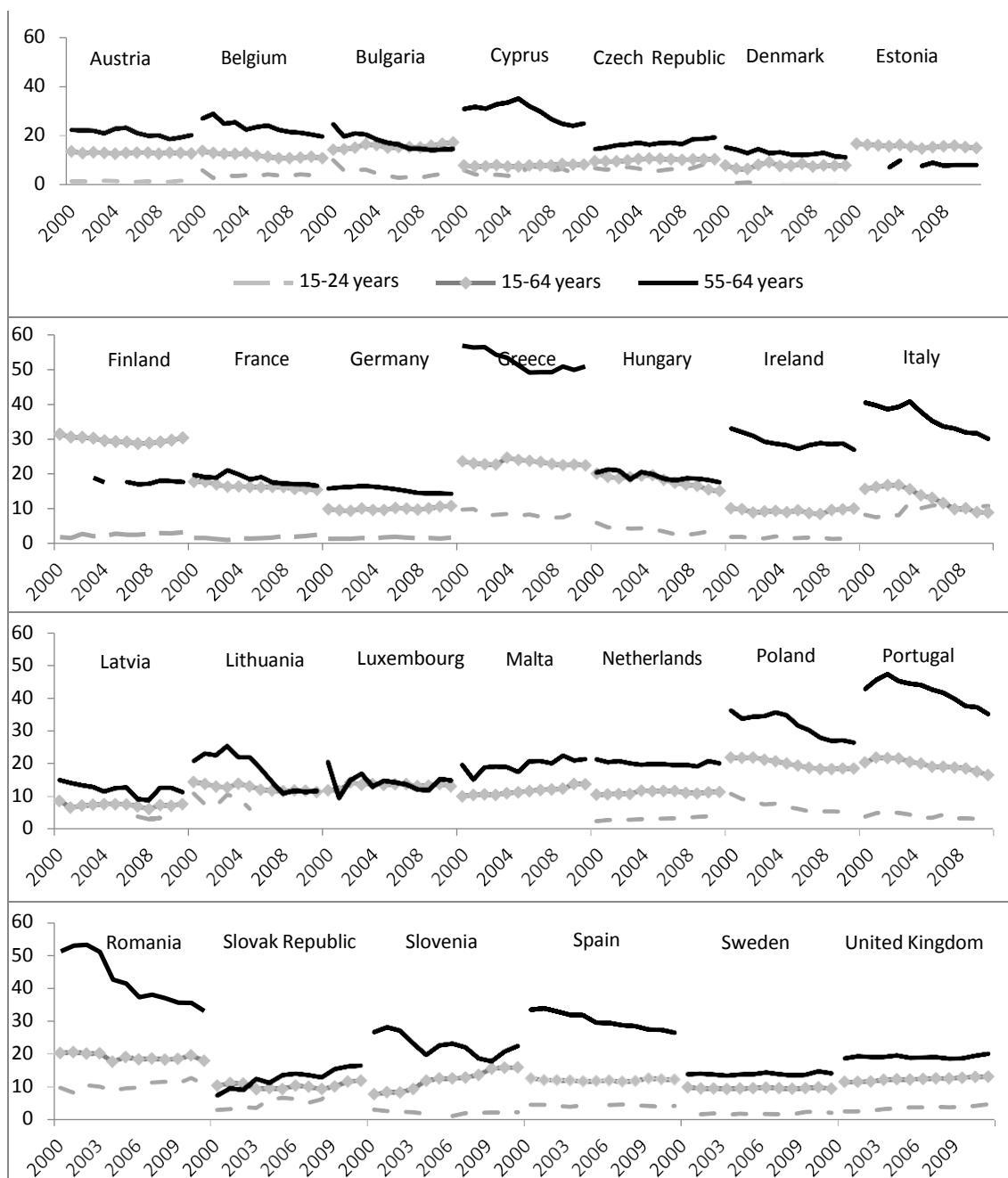


Specific determinants related with firm creation and performance are organized following the approach of Parker (2009) - human capital, social capital, pecuniary and non-pecuniary aspect, wealth, demographic and industry characteristics, psychological features, macroeconomic aspects. We also add another determinant to unveil the role played by 'culture'. According to Minola et al. (2016), culture is an important factor influencing firm creation. While 75% of the results contribute to enhance the knowledge on the first research question (entry), 25% pertain to entrepreneurial performance. More specifically, the literature reviewed mainly focus on human capital traits and pecuniary and non-pecuniary incentives. Only some of the studies focus on contextual factors such as macroeconomic characteristics and culture.

Table 18 (Appendix) - Focus of past research on determinants for senior entrepreneurship entry and performance – number of observations (authors' own elaboration)

	Human Capital	Social Capital	Wealth	Demogr. and Industry character.	(Non)-Pecuniary Incent.	ROP	Macroecon. Character.	Culture	Total
What determines senior entrepreneurship?	14	6	10	10	16	8	4	6	74
How is the performance of SEs?	5	3	2	3	6	3	2	1	25
Total	19	9	12	13	22	11	6	7	99

Figure 22 (Appendix) - Entrepreneurship rates by age, 2000-11³¹



Source: Eurostat, Labor Force Survey 2000-2011

³¹ Includes individuals who work alone (the largest share) and those who own a business that has employees.

Table 19 (Appendix) - Entrepreneurial potential in two cohorts of individuals (20-49 years and 50-64 years)

Country	Never thought about starting a business		Thinking about starting a business			Involved in early stage start-up activities		
	Prime		Prime	Older	Older/Prime	Prime	Older	Older/Prime
Belgium	85,6		7,7	2	26%	6,8	1,2	18%
Czech Republic	72,7		16,9	9,6	57%	10,5	8,4	80%
Denmark	56,6		35,5	21,1	59%	7,9	2,4	30%
Germany	65,9		18,7	6,9	37%	15,4	7,4	48%
Estonia	63,8		18,9	9,9	52%	17,3	7,9	46%
Greece	51,3		31,7	14	44%	17,1	8,8	51%
Spain	74,9		16,2	3,8	23%	8,9	5	56%
France	66,3		22,2	8	36%	11,4	2,7	24%
Ireland	62,8		21,6	18	83%	15,5	9	58%
Italy	74		10,8	2,6	24%	15,2	7,1	47%
Cyprus	57,5		18,9	2,6	14%	23,6	14,5	61%
Latvia	46		46,8	18,6	40%	7,1	5,8	82%
Lithuania	61,8		21,8	7,2	33%	16,4	6	37%
Luxembourg	79,3		14,5	3,5	24%	6,2	6,1	98%
Hungary	58,3		32,9	7,7	23%	8,8	5	57%
Malta	81		13,5	2,8	21%	5,6	5,5	98%
Netherlands	68,2		14,6	3,6	25%	17,3	10,3	60%
Austria	71,7		16,5	2,5	15%	11,8	3,8	32%
Poland	48,2		32,8	10,2	31%	19	13,6	72%
Portugal	75,9		8,6	1,7	20%	15,5	6,2	40%
Slovenia	60,2		28,3	7,7	27%	11,5	1,9	17%
Slovakia	71,8		20,8	13,6	65%	7,4	6,5	88%
Finland	54,7		8,5	4,2	49%	36,8	8,3	23%
Sweden	50,5		28,6	17,2	60%	21	11,8	56%
United Kingdom	67		19,6	5,8	30%	13,5	7,1	53%
Bulgaria	43,8		44,8	17,6	39%	11,4	7,7	68%
Croatia	74,2		15,9	7,8	49%	9,9	5,6	57%
Romania	52,3		29,2	19,4	66%	18,5	14	76%
Turkey	55,6		22	17,9	81%	22,4	8,9	40%
Norway	64,9		18,2	6,3	35%	16,9	6,3	37%
Switzerland	57,3		32,1	8,3	26%	10,7	9,7	91%
Iceland	51,4		26,8	25,8	96%	21,8	21,2	97%
United States	46,9		24,7	18,4	74%	28,4	21,8	77%
South Korea	47,6		33	7,6	23%	19,4	21,2	109%
Japan	84,4		9,4	2,1	22%	6,3	9,4	149%
China	28,6		24,5	1,5	6%	46,9	14,9	32%
Total (N)	62,6		21,5	8,5	40%	15,9	8	50%
	-4323		-1484	-378		-1094	-357	

Source: 2009 Flash Eurobarometer Survey on Entrepreneurship

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ANNEX (Summary table of all initiatives and programs on SE surveyed in the Report)

Status (active/inactive)	Name	Country	Type of organization	Mission/ goals	Name of the program	Research	Funding	Consulting	Provision of Information	Training	Coaching/ Mentoring (EC, 2016)	Development of networks	Other type of support /tools:	Type of funding (public vs private)	Starting year	Website
Active	50 Plus Web Marketing	USA	For-profit organization	I love helping the "fifty plus" achieve their independence, helping them start a online business so that they can live a better life. It's a great feeling watching them develop as I guide them through the process of marketing their new online business.	50 Something, 50 Plus Entrepreneur			1			1		Minimize Website Themes, WordPress Development, Custom web design, E Commerce	Private	No information	https://www.facebook.com/50pluswebmarketing/
Active	50+ Business	France	No information	To organise a training course on entrepreneurship tailored for seniors.					1	1	1	1	vocational training - allowing seniors to work in companies of the dormant projects	Mixed	2016	
Active	50plus entrepreneurship platform	EU	No information	Our goal is to help Europe grow a new generation of entrepreneurs, specifically from the 50+ demographic group.									To raise awareness of policy makers	Public	No information	http://www.50plus-europe.eu/opportunity-challenge/
Active	AARP – American Association of Retired Persons	USA	Non-profit organization	AARP promotes health life among individuals aged 50 or over.					1	1		1	the option of attending webinars (such as "From passion to profit", "How to start a business" - https://aarptek.aarp.org/tek-online-webinars/)	No information	1958	http://www.aarp.org
Active	AEP	Portugal	Non-profit organization		4560 Empreendedor	1			1	1	1	1	Projeto de Apoio ao Empreendedorismo e Apoio à Criação de	Public	2016	https://empreendedor4560.pt



Status (active/inactive)	Name	Country	Type of organization	Mission/ goals	Name of the program								Other type of support /tools:	Type of funding (public vs private)	Starting year	Website
						Research	Funding	Consulting	Provision of Information	Training	Coaching/ Mentoring (EC, 2016)	Development of networks				
													Empresas			
Active	Age UK	UK	Non-profit organization	It helps order individuals in several aspects from health to employability.	People Over 50				1					No information	No information	http://www.ageuk.org.uk/work-and-learning/looking-for-work/starting-your-own-business/
Inactive	Associação Empresarial de Portugal e Quartenaire Portugal	Portugal	Non-profit organization	The association provides services to the business community in the fields of fairs, exhibitions, congresses, information, business support, consultancy, professional training, business missions, business promotion and investments, defense of interests and representation of members, and strengthening the role of associativism national and international level.	O Envelhecimento Activo e os Empresários Seniores	1								Public	2013	http://empresarios-seniores.quartenaire.pt/01-0-estudo.html
Active	Bem Comum, S.A.	Portugal	For-profit organization	To stimulate qualified, unscrupulous workers by unemployment or in pre-retirement situation and with relevant professional experience to develop business projects. Support projects with growth potential, financially and with technical advice, in order to ensure the sustainable creation of	Fundo Bem Comum		1	1	1		1	1	venture capital	Mixed	2012	http://www.bemcomum.pt/104000/1/index.htm



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						Research	Funding	Consulting	Provision of Information	Training	Coaching/ Mentoring (EC, 2016)	Development of networks				
				jobs.												
Inactive	Best Agers Project	Baltic countries	Consortium	Improve the integration of older people into the labor market, innovation processes and entrepreneurship. In this sense, it seeks to sensitize public and private employers, policy makers, the general public and the people who are in the "best age", about the multiple potentialities of the elderly.	Promoting Generation 55+		1		1	1		1		Public	2010	http://www.best-agers-project.eu/
Active	BizStarters	USA	For-profit organization	BizStarters offers training and support to people who want to start an independent business, helping them transform their personal skills and interests into profitable businesses.	Boomer Entrepreneur. 50+ Entrepreneur			1	1	1	1			Private	1991	http://bizstarters.com/
Inactive	BOOM! The New Economy	USA	Non-profit organization	To transform Southeast Michigan's economy by assisting adults 50+ towards career change, entrepreneurship, and meaningful volunteer service	Boomer Entrepreneur				1			1		No information	No information	http://www.boomtheneweconomy.org/
Inactive	Boomerpreneur	USA	For-profit organization	Boomerpreneur is a company that aims to assist baby boomers in the area of entrepreneurship.					1		1			Private	No information	http://boomerpreneur.com/



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Active	Boomerpreneurs Network	Canada	No information	Boomerpreneurs Network aims to provide its members with opportunities for networking, information gathering, sharing and support. It offers a venue where Boomerpreneurs can promote their businesses, share their events, have real-time discussions through chat and participate in specialized talks and workshops that will further sharpen and develop their entrepreneurial skills. Collaboration and sharing of rich referrals through Boomerpreneurs Network will benefit not only their business but their personal life as well. Boomerpreneurs Network members also enjoy exclusive opportunities to promote their products and services through advertising on our website, webinars, workshops, tradeshows, conferences and events which will be organized especially for Boomerpreneurs.					1	1		1	Boomerpreneur of the Year Award, Golden Years Expo, Annual Conference, Tours	Private	No information	http://boomerpreneursnetwork.com
Inactive	Center for Productive Longevity	USA	Non-profit organization	The Center for Productive Longevity (CPL) is a non-profit organization created by Human Resource Services in 2006 to encourage the participation of people 50 years of age or older in productive, paid or voluntary activities.	People 50+	1			1			1		No information	2012	http://www.centerforproductivelongevity.org/entrepreneurship-meeting/overview
Active	CORE – Center of Rural Entrepreneurship	USA	For-profit organization	CORE is a Minnesota-based consulting firm that provides paid consulting services to open a business or improve the management of the organization.	Encore Entrepreneurship				1	1			Webcasts-training	Private	No information	http://mncore.com/resource-tools/encore-



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																entrepreneurship/
Active	Development of entrepreneurial skills in cross generation teams	Slovakia	Consortium	The project has been prepared by lecturers at the Department of Strategy and Entrepreneurship at the faculty of Management at the Comenius University, with the aim to create a cross generational environment for the course Development of entrepreneurial skills. Seniors - volunteers came from the University of the Third Age.						1				Public	2014	-
Inactive	Employee to Employer	EU	Consortium	The goal of E2E is to identify, document and disseminate good business education practices for people between the ages of 50 and 65.	E2E	1			1	1				Public	2012	http://www.caniceconsulting.com/e2eproject/
Active	Encore.org	USA	Non-profit organization	While many see our aging society as a problem, we view it as a solution. Those in and beyond midlife represent a powerful source of talent with the accumulated skills, experience and wisdom to tackle some of society's most urgent challenges. By embracing this unique opportunity, we can transform a zero-sum prediction into a win-win strategy, creating a better future for generations to come.	Encore Careers	1			1					No information	1997	http://encore.org
Inactive	ESF AGE	EU	Consortium	With a budget of € 75 billion, the ESF AGE network seeks to alert and sensitize the European community to the ongoing demographic change on the continent, including population aging.					1	1		1		Public	2007	http://esfage.isfol.it/



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Active	Experienced Founders	Germany	No information	The project aims to promote and stimulate the exchange and the discussion between stakeholders and researchers about start-up activities in this age group, to raise public awareness of the advantages of senior entrepreneurship for the population and, last but not the least, to encourage and help baby boomers to set up their own businesses.		1	1		1	1			Successful stories of senior entrepreneurs; marketing campaign	No information	2013	www.senior-entrepreneurship.de
Active	Fabafterfifty	UK	For-profit organization	Fabafterfifty is a virtual community where women, with similar ideas, can learn, share and draw on various issues related to women over 50 years.				1						No information	No information	http://www.fabafterfifty.co.uk/
Active	Federal Small Business	UK	Non-profit organization	Federal Small Business is an association of micro and small businesses that provides services to its associates in management and mentoring.	Olderpreneurs			1			1		award for older entrepreneur	No information	No information	http://www.fsb.org.uk/
Active	Force Femmes	France	Non-profit organization	It aims to support and accompany unemployed women over 45 years of age in the search for jobs or start-ups.				1	1	1	1			No information	2005	http://www.forcefemmes.com/
Inactive	Government of Canada	Canada	Public entity	The purpose of the Employment Assistance for Older Workers is to assist the unemployed and workers who wish to change their careers by promoting their insertion in the labor market as employees or as employers.	Employment Assistance for Older Workers		1	1		1				Public	No information	http://www.esc.gc.ca/
Inactive	Government of Poland	Poland	Public entity	Increase the entrepreneurial activity of people over 50 in the province of Pomerania unemployed for less than six months on the date of joining the project.	Maturidade e o Meu Trunfo		1	1		1				Public	2014	http://www.efs.pl/dojrzalosc



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Active	Grey Matters Programme	Scotland	No information	To drive the future of Energy in Scotland by utilising the experience, knowledge and innovation of senior level Oil and Gas professionals who are facing redundancy, or have been made redundant, but have the ambition to collaborate and create a high growth scalable business										No information	No information	http://www.levatoruk.com/accelerator/greymatters/
Active	Kauffman Foundation	USA	Non-profit organization	Kauffman Foundation is an organization that aims at the economic progress of society, through activities aimed at education and entrepreneurship.	FastTrac for the Boomer Entrepreneur	1				1			https://www.youtube.com/watch?v=ddOTApGrYiE	No information	2012	http://fasttrac.org/entrepreneurs/FastTrac-Courses-for-Boomers.aspx
Inactive	Laterlife South Africa	South africa	No information	The site has two main aspects to it: firstly it offers valuable reference information covering all the important aspects of making the most of later life and of retirement, for example take a look at the 30 or so LaterLife Guides. Secondly it offers an active monthly features section which brings you regular features such as laterlife health, laterlife relationships, gardeners diary and a host of other articles pre-viewed each month on laterlife today.				1	1					No information	No information	-



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Active	Laterlife UK	UK	No information	The site has two main aspects to it: firstly it offers valuable reference information covering all the important aspects of making the most of later life and of retirement, for example take a look at the 30 or so LaterLife Guides. Secondly it offers an active monthly features section which brings you regular features such as laterlife health, laterlife relationships, gardeners diary and a host of other articles pre-viewed each month on laterlife today. laterlife.com is regularly updated with the latest news, information and sites to visit, all selected for their relevance to later life.				1	1				No information	1999	http://www.laterlife.com/jobs-and-work/starting-your-own-business.htm	
Active	Lawrence N. Field Center for Entrepreneurship	USA	No information	The purpose of this research center is to conduct research in the field of senior entrepreneurship and provide tools for setting up a business.	Senior Entrepreneurship Initiative	1		1	1	1		Venture assessment tool - https://blogs.baruch.cuny.edu/fieldcenter/files/2013/09/Final-VAT-worksheet.pdf , https://blogs.baruch.cuny.edu/fieldcenter/files/2013/06/Finished-WHY-PDF-9.12.13.pdf ; success stories: https://blogs.baruch.cuny.edu/fieldcenter/late-life-entrepreneurship/success-stories-2/	No information	2006	http://blsciblogs.baruch.cuny.edu/fieldcenter/late-life-entrepreneurship/	



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Active	Mary Furlong & Associates	USA	For-profit organization	Since 2004, Mary Furlong & Associates has produced the Silicon Valley Boomer Venture Summit and Business Plan Competition and each year has been more successful than the one before. The event brings together entrepreneurs, leaders in the field of aging and the venture community to create a unique forum to explore, share and design products and services that will dominate the baby boomer market in coming years. In addition, this program is designed to teach entrepreneurs how to think through a business.	14th Annual Boomer Venture Summit				1	1		1	raise awareness	Private	2004	http://www.boomerventuresummit.com/index/about/
Active	MASTERhora	Germany	For-profit organization	"The MASTERhora on line platform brings together retired seniors and 50+ senior experts and entrepreneurs or organizations. The platform provides users with information about work, education, projects and health for senior citizens aged 50+" (EC, 2016).				1	1		1	other support: create a personal profile with a picture, CV, fields of interest and can let the platform visitors know what they are looking for. In search bar users, as well as companies can look for specific projects, companies hiring people aged 50+, senior experts, news and events.	Private	No information	masterhora.de	
Active	Memoro	Germany, France, Spain, the UK, Italy	No information	The 'Memoro' project in Germany, France, Spain, the UK and Italy collects stories from older entrepreneurs and makes short films to promote entrepreneurship among older people				1				raise awareness	No information	No information	http://www.memoro.org/de/	



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Active	mYmO	Spain	For-profit organization	It's mission is to provide new opportunities for active participation and to raise awareness in the community about the importance of respecting, integrating and acknowledging the talent of the older generation as na opportunity to build a more diverse society.				1	1	1	1	intergenerational spaces to collaborate	Private	2015	mymo.es	
Active	NEOS – Netwerk van Ondernemende Senioren	Belgium	Non-profit organization	NEOS is an association of the elderly that promotes cultural, tourist, sport and recreational activities. One of its objectives is to promote the financial education of the elderly and the entrepreneurship of the elderly.	Project Perspective 50+			1	1	1	1		Private	2014	http://www.neosvzw.be/	
Active	Over 50 and Out of Work	USA	No information	Our broader, long-term mission is to help people who are OVER 50 AND OUT OF WORK get back into the labor force by improving the cultural perception of older workers and by influencing public policy changes that will make it easier for them to find re-employment.	Americans 50 and Older			1			1	documentary and movies with 100 stories	Private	2010	http://www.over50andoutofwork.com/	
Inactive	PRIME – The Prince's Initiative for Mature Enterprise	UK	Non-profit organization	PRIME is an organization supported by the European Union, with the aim of stimulating the entrepreneurship of people aged 50 and over in various ways: training, networking and funding.		1	1	1	1	1	1		Mixed	1999	http://www.prime.org.uk/	
Active	Prime Strategies	USA	For-profit organization	Prime Strategies aims to offer consulting and training of entrepreneurs to manage a business, providing knowledge about strategies and changes in business life.	Consulting for Late-life Entrepreneurs			1	1	1			Private	No information	http://primestrategies.com/late-life-entrepreneurs-our-platinum-	



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																years-2/
Active	Programa 45+	France	No information	Promote and facilitate the creation of business by people aged 45 or over who are retired, close to retirement or unemployed.			1			1	1			Public	2013	-
Active	Romana Tiozzo	Spain	For-profit organization	Romana Tiozzo coaches and mentors, not exclusively but primarily seniors, who need to make significant life changes either because of bankruptcy, second opportunity initiatives, or situations of unemployment.					1	1	1			Private	2011	www.romana tiozzo.es
Inactive	Santa Casa da Misericórdia de Lisboa (Portugal)	Spain, Portugal and United Kingdom	Non-profit organization	The project aimed to simultaneously integrate young people and senior citizens in the labour market and create employment through the entrepreneurship activity. As both target groups represent a qualified population, either through academic preparation (youths) or professional experience (senior citizens), the model of intergenerational entrepreneurship intended to activate the specific skills and abilities of each generation and stimulate intergenerational learning	UAW – United at Work	1			1	1	1	1	Activities implemented • Conception of and facilitation of a public debate to discuss the problem of qualified unemployment; • Launch of the intergenerational entrepreneurship programme: ° Team building to create project teams; ° Training and empowerment of teams; ° Incubation of business projects; • Dissemination.	Public	2013	http://uaw.unitedatwork.eu/



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Active	Score	USA	For-profit organization	SCORE is the nation's largest network of volunteer, expert business mentors, with more than 10,000 volunteers in 300 chapters. As a resource partner of the U.S. Small Business Administration (SBA), SCORE has helped more than 10 million entrepreneurs through mentoring, workshops and educational resources since 1964.				1	1	1		Outstanding Veteran-Owned Small Business Award, Outstanding Encore Entrepreneur Award Mentoring - online platform in which u request/ search for a mentor and find a score location	Private	No information	https://www.score.org/	
Inactive	Senior Enterprise	EU	Consortium	The partnership develops the Aged Over 50 project, funded by the European Commission, which aims to raise awareness and promote the entrepreneurship of people over 50 years.	Aged Over 50				1	1	1	1		Public	2009	http://www.seniorenterprise.ie/
Inactive	Senior Entrepreneurship Works	USA	Non-profit organization	The Senior Entrepreneurship Works aims to support people over 50 in building a sustainable business and creating jobs, stimulating economic self-reliance and helping the community and society.	Seniors Aged 50+					1		1		No information	2009	http://www.seniorentrepreneurshipworks.org/
Active	Seniors Entrepreneurs	France	Non-profit organization	To promote the "coming back" of skilled seniors (either retired or in search of employment) in economic and social activities by associating them with the creation, the takeover or the development of na enterprise. This association fosters meetings between senior citizens of complementary profiles and skills with innovative project teams.					1		1	1		No information	2011	http://www.seniorsentrepreneurs.eu/



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Active	Service Corps of Retired Executives (SCORE)	USA	Non-profit organization	Association that provides business mentoring dgratuitos services to entrepreneurs in the United States. The organization also ensures workshops and seminars on management and business issues for a fee.	Empreen dedorism o Encore e empreen dedorism o veterano				1	1	1			Private	1964	http://www.business2community.com/strategy/10-great-resources-starting-business-50-01274586#GcEPzFhcUmM6khi.97
Active	Shaw Trust	UK	Non-profit organization	Shaw Trust is committed to providing services to support individuals aged 50 and over to achieve brighter futures by moving into employment, gaining independence and taking control of their lives. As part of this commitment, Shaw Trust runs The Age and Employment Network (TAEN). This is a dedicated resource for older people who are seeking work or who are already in work.	The Age and Employment Network (TAEN)				1				ideas, tips, case studies, guidance on good practice and background information	Public	2008	https://www.shaw-trust.org.uk/Services/50-Works
Inactive	Startups After 50	USA	For-profit organization	Using a web-based platform and personal coaching, we provide comprehensive resources, tutorials, and tools for starting, growing, and maintaining a thriving small business. We tailor our services to the unique needs of men and women who start their first business in their 50s or later, perhaps with no prior business experience.	Encore Entrepreneur			1	1		1			No information	No information	http://www.startupsafter50.com/about-us/who-we-are/



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Inactive	Teine Võimalus	Stonia	Non-profit organization	The NGO Teine Võimalus (second chance) aims to reduce the unemployment of older people, increase social inclusion and combat negative perceptions towards older workers.	Older People	1			1			1		Public	2009	http://www.teinevoimalus.ee/
Active	TempusXtra	UK	For-profit organization	TEMPUSXTRA celebrates and promotes the skills, experience and talents of the mature professional. TEMPUSXTRA TIMEWISE PEOPLE grew out of the realisation that the world of work and 'retirement' is changing. Many of us will either want to, or need to go on working for much longer - in the case of the entrepreneur, seek higher goals and aspirations not yet achieved. Current research indicates that success for the 50 plus entrepreneur is achieved through peer group support - the TEMPUSXTRA service provides this support through our professional members and employers.	TEMPUS XTRA TIMEWISE PEOPLE			1	1		1	1		Private	2012	http://www.tempusxtra.com/faq.php
Active	The Global Institute for Experienced Entrepreneurship	USA	No information			1			1				Raise awareness - Global Summit Series on Senior & Multi-Generational Entrepreneurship in 2015	No information	2016?	http://www.experiencedentrepreneurship.com
Inactive	The Next Phase	USA	For-profit organization	The Next Phase is a consulting firm focused on people over 50. It aims to provide advice to these people in your business.	Encore Venture Accelerator			1		1		1		Private	No information	http://www.thenextphase.biz/page/the-program



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Active	The Sloan Center of Aging and Work	USA	No information	This research center aims to study issues related to aging and work.	The Older Entrepreneur	1								No information	No information	http://agingandwork.bc.edu/blog/the-older-entrepreneur/?category_name=#comment
Inactive	U.S. Small Business Administration	USA	Public entity	Assist and protect the interests of micro and small businesses in the United States.	50+ Entrepreneurs e Encore Entrepreneurs			1				1		Public	No information	http://www.sba.gov/encore
Active	University of Hertfordshire	UK	No information	To gain an understanding of the skills that seniors, or so-called silver surfers, need to become entrepreneurs in this modern day of the internet. It identifies and understands whether Information and Communication Technologies (ICT); namely, the internet, online social networks, smartphones and tablet devices, and/or Information Technology (hardware, software, cyber security) are of vital importance or more important than the experience and knowledge of the silver surfers prior to becoming entrepreneurs.		1								No information	2015	-
Active	Voluntaris en Assessoria Empresarial (VAE)	Spain	No information	It strives to help individuals reintegrate into society through the so-called social inclusion services it provides. It targets beneficiaries being 50+ seniors and also					1	1				No information	No information	www.vaecat.org



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				younger people who are neither studying nor working.												
Active	Wisepreneurs	Australia	For-profit organization	I work with professional women, and the odd creative men, who are experts in their field wanting to start their own business and move to self-employment.			1	1	1	1			Private	na	https://wisepreneurs.com.au	