Erasmus University Rotterdam

Erasmus school of economics
Applied Economics

Determinants of Latent entrepreneurship: The role of Personality, Occupation and Unemployment benefit

Master Thesis

2013

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ABSTRACT

The determinants of latent entrepreneurship are extended with employment situations: self-employment, paid-employment and unemployment. Using Flash Eurobarometer no 283 direct and indirect effects of willingness to take risk, self-efficacy and internal locus of control on latent entrepreneurship and employment situation are investigated on. Using a four step method in determining mediating effects of these factors it was found that willingness to take risk, self-efficacy and internal locus underlie current employment situations, and through these situations influence a preference for self-employment (latent entrepreneurship). As extension, this research considers unemployment benefit (UB) generosity of a country as being of influence on latent entrepreneurship and investigates on its influence on employment situation and latent entrepreneurship. It was found that employment situation heavily influences the preference for self-employment.

Using binary logistic and multinomial logistic models, direct (employment situation) and indirect effects (through employment situation) of, character trait variables (risk taking, self-efficacy, internal locus) and UB generosity on latent entrepreneurship are investigated on.

Results show that willingness to take risk partially mediates a preference for self-employment through being more prevalent amongst the self-employed and unemployed compared to paid-employed individuals. Self-efficacy was found to mediate a preference for self-employment only through its association with being unemployed versus paid-employed. Internal locus mediates through being associated with self-employment and paid-employed, but differs in its effects when different models are used for interpretation. Willingness to take risk and self-efficacy are found to directly influence latent entrepreneurship while internal locus lacks significance in the full model (model 1).

UB generosity of countries determine partly in what employment situation individuals are –generous UB system countries destimulate entrepreneurship-, also they determine partly whether individuals express a preference for self-employment –directly and indirectly-.

INTRODUCTION

Research on entrepreneurship is a growing field; many researchers find themselves interested into the determinants and consequences of entrepreneurship. Shane and Venkataraman (2000) enlighten us with three important aspects of entrepreneurship. First, entrepreneurship is the mechanism by which technical information is transformed into products and services. Second, entrepreneurship is a mechanism for solving temporal and spatial inefficiencies. Third, it is generally believed that entrepreneurship brings economic growth (Acs, 1992; Wennekers and Thurik, 1999; Thurik, 1996; Audretsch and Thurik, 2000; Wong et al., 2005). This third aspect is more widely discussed in the literature and is believed to be caused by several effects of entrepreneurial activity, the most important aspects are creative destruction and employment generation. Starting off in 1911, Schumpeter (1911, 1942) talked about a "creative destruction" process; a process in which new technologies replace old technologies, causing new (more innovative) firms to displace older (less innovative) firms. Next to creating an innovative environment, new business creation brings employment generation. Indeed there is growing evidence that entrepreneurs create disproportionate numbers of jobs (Acs and Audretsch,1990; Audretsch, 2003; Haltiwanger, 2006; Baumol, 2002; Birch, 1987; Birch, 1979; Van Praag and Verloot, 2007).

More recently a fourth aspect is found; Entrepreneurship drives the transition from a centrally planned economy to a market oriented one (Grilo & Thurik, 2006). This transition is also called the movement from a "Managed economy" to an "Entrepreneurial economy" (Audretsch and Thurik, 2001). The shift is characterized by a change from large established firms, using natural resources, labour and capital, towards small firms using knowledge and ideas as survival and positioning systems. This shift gives notice to the importance of entrepreneurship for a country's economic progress and situation. Theories about markets, firms and organizations are incomplete if we do not consider entrepreneurship as an influential factor and therefore research is essential.

Entrepreneurship involves a nexus of two phenomena. First, it needs enterprising individuals and secondly business opportunities (Venkataraman, 1997). The combination of an opportunity and a willing individual eventually leads to entrepreneurship. It follows that whether one "becomes" an entrepreneur depends on different factors; Psychological-sociological individual characteristics (Brockhaus, 1980; Burke, 1997 ; Buttner et Moore, 1997; Evans et Leigthon, 1989; Hughes, 2003 ; Mason, 1989; Moore et Mueller, 2002 ; Ritsilä et Tervo, 2002 ; Orhan et Scott, 2001 ; Solymossy, 1997; Vivarelli, 2004) like risk perception; Demographic factors like age and gender -determining entrepreneurial spirit- but also macro level factors (Audretsch and Vivarelli, 1995; Davidsson et al., 1994; Foti and Vivarelli, 1994; Fritsch, 1992; Garofoli, 1994; Georgellis and Wall, 2000; Hamilton,

1989; Harrison and Hart, 1983; Hart and Gudgin, 1994; Mason, 1989; Moyes and Westhead, 1990; Noorderhaven et al., 2004; Ritsilä and Tervo, 2002; Robson, 1996) – determining opportunities in the market environment- play a role in employment choice[1] and new firm formation.

Research mainly focuses on factors influencing **nascent entrepreneurship**, **business startup rates**, **business success rates** or the **pre-startup process** (Arenius and Mininiti, 2005; Audretsch et al., 2007; Bates, 1990; Bhave, 1994; Blanchflower et al, 2001; Busenitz and Lau, 1996; Caliendo et al, 2009; Davidsson, 2006; Davidsson and Honig, 2003; De Wit et al, 2000; Delmar and Davidsson, 2000; Greenberger and Sexton, 1988; Grilo and Thurik, 2008; Herron and Sapienza, 1992; Hessels et al, 2007**;** Johnson, 1990; Kalleberg and Leicht, 1991; Kamm and Nurick, 1993; Larson and Starr, 1993; Learned, 1992; Naffziger et al., 1994; Starr and Fondas, 1992; Vanderwerf, 1993; Van Stel et al, 2007; Wagner, 2004**).** This research focuses on employment choice, employment preference and underlying character traits. Previous research on factors causing individuals to start their own business is useful in understanding what factors could be of influence on employment choice an employment preferences. Previous research found several factors to be of influence on the decision to start a business, among them are: gender, age, self-employed parents, (level of education[2]), level of risk tolerance, the stigma of failure, perception of administrative complexities, perception of insufficient information, perception of lack of finance, perception of self-efficacy and risk taking propensity (Grilo & Irigoyen, 2006).

Entrepreneurship looked at from a sociological perspective provides us with a push-pull explanation for entering entrepreneurship (Gilad and Levine, 1986; Giacomin et al, 2011; Harrison and Hart, 1983; Johnson and Darnel, 1976; Shapero and Sokol, 1982). It is thought that individuals experience several factors pushing them toward entrepreneurship like unemployment, dissatisfaction with the present situation or family pressure. Other factors are found to be pulling individuals into entrepreneurship for example: income, need for achievement, autonomy or self-realization (Grilo et al., 2007) .

Research on whether one **prefers** to be an entrepreneur (latent entrepreneurship) is more in early stage (Barbosa et al., 2007; Blanchflower et al., 2001; Blanchflower, 2004; Grilo and Irigoyen, 2006; Grilo and Thurik, 2005a;: Van de Zwan et al., 2009; Grilo & Irigoyen, 2006; Grilo & Thurik 2005a; Grilo et al. 2007; Souitaris et al, 2007). Preferences for self-employment are important for several reasons: First, entrepreneurial preferences are an early indicator of actual business startup (Davidsson, 1995); preferences combined with expectancies determine employment choice (Blau et al., 1956). Entrepreneurial energy, captured by latent and actual entrepreneurship, is also found a necessary

[1] In times of economic crisis, when unemployment levels are high, individuals are more likely to enter self-employment. This effect is called the recession push effect (Gudgin, 1984).
[2] No consistent result has been found for the influence of education on business startup, some studies find a negative effect, and others find positive (or no significant) effects of education (Grilo and Thurik, 2006).

condition for new firm formation (Grilo and Thurik, 2005). Second, understanding latent entrepreneurship or "entrepreneurial drive" is essential for discovering differences between actual startup and entrepreneurial drive[3]. For example, cultural differences have been investigated and proven to significantly influence the gap between latent and actual entrepreneurship (Blanchflower and Oswald, 2000; Grilo et al., 2007; Blanchflower et al., 2001). A large gap between drive and actual startup could indicate different counteracting forces for startup; study into latent entrepreneurship could reveal these forces.

Most interestingly, a preference for self-employment is often found amongst paid-employed individuals [4](Blanchflower, 1998a), also the gap between entrepreneurial drive and actual business startup is in most cases large, differing strongly between countries. Blanchflower (2001) finds that country differences, range from only 27% preferring entrepreneurship in Norway, Denmark and Russia, to 80% in Poland, Portugal and the USA, while in fact only around 15% of the labour force is self-employed. This leaves us with two questions; Why do so many people want to be, and so little are, in self-employment? And a second question; why are there such large country differences? This study focuses on latent entrepreneurship (preference for self-employment) and the influence of the current occupational state on this preference while considering an important country dependent factor influencing employment choice: unemployment benefit.

Grilo and Irigoyen (2006) Grilo and Thurik (2005a) and Blanchflower et al. (2001) find several person dependent factors to be of influence on latent entrepreneurship. Some of these factors are indeed country specific or cultural specific, other lay in demographic values. Significant influential factors are found to be: Gender, Age, Perception of lack of financial support, Perception of administrative complexity, Perception of insufficient information, Risk tolerance and Self-employed parents. Van der Zwan, Grilo, Paap and Thurik (2007) add to this literature an effect of current self-employment status on latent entrepreneurship. They find that several variables (Perception lack of financial support, Perception administrative complexity, Perception of insufficient information) do not have a direct effect on latent entrepreneurship but are indirectly of influence through actual entrepreneurship[5], indicating that different occupational states could be of influence on the preference for self-employment.

[3] Latent entrepreneurship or preference for self-employment is used as a synonym for entrepreneurial drive in Grilo and Thurik (2005).
[4] Studies show that as much as 80% of the labour force wants to be self-employed. (Blanchflower 1998a; Blanchflower et al., 2001)
[5] The study by Van der Zwan, Grilo, Paap and Thurik (2007) makes use of two bivariate probit models, where actual entrepreneurship is explained by latent entrepreneurship and a set of explanatory variables, and latent entrepreneurship is explained by actual entrepreneurship and an almost identical set of explanatory variables.

This research explores the influence of being in a certain occupational state –taken as individual characteristic- on entrepreneurial preference; the different states being unemployment, self-employment or paid-employment. The main question driving this research is:

Do different employment situations influence the preference for self-employment?

In finding an answer to this question I will identify what personality characteristics underlie the entrepreneur. Previous research mainly focused on socio-demographic factors, which will be controlled for, where after focus can be put on character traits. Personality characteristic underlying the current employment situation (self-employed, paid-employed or unemployed) could be of influence on the preference for self-employment as well. Employment decision making is not a precise individual mathematical process dependent on returns and chances, it is submissive to all kinds of influences. Van Stel and Stunnenberg, (2006) find that the employment decision is made at the individual level and therefore perceptions (dependent upon personality characteristics) heavily influence employment decision making. The most important personality characteristics, influential on latent entrepreneurship, are found to be: autonomy, risk taking, innovativeness, pro-activeness, competitiveness, general optimism and general self-efficacy (Bönte et al., 2012)

Risk tolerance, self-efficacy, and internal locus of control will be taken into consideration as more evidence points towards a direct association of these characteristics with latent entrepreneurship (Bönte et al., 2012; Grilo & Irigoyen, 2006; Grilo et al, 2007). As well as an indirect association of these characteristics with latent entrepreneurship through the current occupational state.

Which individual psychological characteristics are directly associated with latent entrepreneurship?

Next, I will see whether different occupational states are related to these personality characteristics and hereby influence the preference for self-employment.

Are the different psychological characteristics mediating a preference for self-employment through occupational state?

As we have seen, large differences exist between countries' percentages of latent entrepreneurial participation. These differences are believed to –at least partly- stem from cultural/country differences and could influences statistical outcomes. These cultural/country differences are however expected to be reflected in socio-demographic and psychological individual factors (Grilo & Irigoyen, 2006)- therefore- by controlling for socio-demographic and psychological individual factors, I will indirectly control for cultural/country differences. The focus can be directed towards influences of social security systems.

Gohmann (2012) finds that the institutional environment - through its effect on switching costs - accounts for some degree of difference in latent entrepreneurship, he also finds that the effect differs across truly and latent-non entrepreneurs[6]. Recent research on the effect of social security arrangements found that different arrangements affect - not only- the supply of entrepreneurship but also entrepreneurial aspirations (Hessels et al. 2007; Hessels et al. 2008; Wennekers et al. 2002; Parker and Robson 2004). The effect of a change in switching cost – whether it is inflicted by the institutional environment or social security arrangements – thus affects the preference for entrepreneurship differently amongst different occupational groups.

Effects of social security arrangements can be positive as well as negative. Social security provides a safety net -giving an entrepreneur a backup in case of business failure- found important for the employment decision making process (Bosch et al., 1998). However, as opportunity costs of paid-employment and self-employment increase, one can argue that social security arrangements remove the urge of (self) employment in general: *"social security benefits do not necessarily (or only) influence the choice between entrepreneurship and wage-employment, but rather (or also) the decision to participate on the labour market in general*" (Hessels et al, 2007. P 772).

Social security includes not just unemployment benefits but also disability insurance, child benefit insurance, old-age insurance, medical care insurance etc. Out of all these different parts of social security, unemployment insurance benefit (UI) - or somewhat simpler unemployment benefit (UB) - is the most obvious part of the social security arrangement influencing the employment decision process. Unemployment benefit directly influences the transaction/switching costs and returns of different employment situations. Unemployment benefit is also found to influence job search activities (unemployment to paid-employment or self-employment) and can be argued to provide a better environment to start a business (employment to self-employment or unemployment to self-employment) (Lentz, 2008). Therefore I argue that unemployment benefit is the most important social security factor for the employment decision process, also differing in effect with respect to different employment situations.

Focus on the generosity of unemployment benefit systems gives a clear country differentiating factor; a sub-question is stated:

Is there a relationship between unemployment benefit generosity and latent entrepreneurship?

To find answers to these questions, again, realize that entrepreneurship is a nexus of two phenomena (Shane & Venkataraman, 2000), individual characteristics matter but also the environment matters in

[6] Truly latent entrepreneurs are individuals currently not self-employed but would prefer to be self-employed, latent non-entrepreneurs would prefer to be a wage employee but are currently self-employed.

choosing an occupation. This results in two types of studies; studies using equilibrium models and studies using non-equilibrium models. Equilibrium models consider business opportunities to be equally distributed or non-important/non-existent. In disequilibrium models focus lays on the combination of a business opportunity and a willing individual. Shane and Venkataraman (2000) use a disequilibrium model because: ”We are describing the tendency of certain people to respond to the situational cues of opportunities -not a stable characteristic that differentiates some people from others across all situations” (Shane and Venkataraman, 2000, P 219). Although equilibrium models do not take the combination of opportunity situations and reaction into account, for this study an equilibrium model is appropriate. Regarding opportunities as equally distributed is useful for identifying personal characteristics of entrepreneurs and -for this study- identifying personal characteristics and situational factors - taken as individual characteristic[7] - influencing the entrepreneurial preference (latent entrepreneurship).

This thesis uses data from the Flash Eurobarometer (no. 283); A study covering 36 countries with more than 26,000 respondents. No. 283 was held in December 2009 and is the biggest of its sort covering questions about motivation, choices, experiences and obstacles (Europe.eu), but most importantly about current employment situation. A benchmark for generosity of unemployment benefit systems was developed by the European Commission; values are gives in the paper by Stovicek and Turrini (2012). These values will be categorized as generous and non-generous then to be transformed into a country dependent variable.

Starting this research, first a literature review covering entrepreneurship, latent entrepreneurship, employment choice, entrepreneurial profile, labour market situation and unemployment benefits will set out the current progress of research on this area. The literature review is followed by an empirical research dedicated in answering the above posed questions. I will make use of multinomial logit and logistic regression models, with various independent variables; explained in the methodology section. The mediating effects will be analyzed with the four-step method by Baron and Kenny (1986). These results will be analyzed in the results section, the conclusions will be drawn in the conclusion section and I will discuss the implications of this research for future research in discussion section.

[7] UB generosity will be determined per country, individuals living in this country will therefore be generalized with this UB generosity value. This value will be considered as person dependent, and hereby treated as individual characteristic in the same way as for example the variable age.

2. LITERATURE REVIEW

In order to start the research into the influence of different occupational states on the preference for self-employment, the literature review will set out the current progress on this subject. First the term 'entrepreneurship' and "latent" entrepreneurship will be discussed (section 2.1). Subsequent, section 2.2 discusses occupational choice models followed by section 2.3; defining an entrepreneurial profile. Section 2.4 discusses the expected influences of different occupational states on latent entrepreneurship and the fifth section will address unemployment benefits.

2.1 ENTREPRENEURSHIP

Entrepreneurship as a term is used to describe multiple phenomena (Gartner, 1990; Sharma & Chrisman, 1999; Zahra, 2007). In his book; "Researching Entrepreneurship", Davidsson (2005) recites different views on what entrepreneurship exactly is:

- New entry
- The creation of new enterprises
- The creation of new organizations
- A purposeful activity to initiate, maintain and aggrandize a profit oriented business
- ….etc

As one of the founders of economic research, Schumpeter (1934) states that: "*An entrepreneur is someone who carries out new combinations; these can take the form of processes, products and markets but also sources of supply and organizational forms"*. It follows that entrepreneurship is the process of carrying out new combinations (Sharma and Chrisman, 1999).

Hébert and Link (1989) point out two other main traditions in defining entrepreneurship besides the German tradition (Schumpeterian view); the Chicago (neo-classical) tradition and the Austrian tradition. The Austrian tradition focuses on the abilities of the entrepreneur to increase market efficiency (usually after an exogenous shock) as a consequence of their ability to perceive profit opportunities. The Chicago stradition perceives entrepreneurs as being catalysts of market equilibrium, having a production function, perfect information and rational choice (Wennekers & Thurik, 1999).

Whereas the Austrian tradition focuses on the abilities of the entrepreneur to perceive profit opportunities, the Schumpeterian tradition focuses on the dis-equilibrating force of entrepreneurs (Wennekers & Thurik, 1999; Audretsch, 2003). Schumpeter (1911, 1934) stated that entrepreneurship leads to a process of "creative destruction", whereby old technologies are replaced with new –more

innovative- technologies, hereby causing changes in the environment increasing competition and eventually efficiency. Focus thus lies on the dis-equilibrating force of entrepreneurs. Nooteboom (1993) gives a good distinction of the two views in one sentence: "The creation of potential may be seen as Schumpeterian and its realization as Austrian" (Nooteboom, 1993, p.1).

In coming to a good definition, Audretsch (1995) proposes that entrepreneurship is about change and, consequently, entrepreneurs are agents of change. The OECD extends this definition and proposes that: "*Entrepreneurs are agents of change and growth in a market economy and they can act to accelerate the generation, dissemination and application of innovative ideas….Entrepreneurs not only seek out and identify potentially profitable economic opportunities but are also willing to take risks to see if their hunches are right*" (OECD, 1998a, p.11). This broad definition includes owners of both incorporated and unincorporated businesses, but excludes family workers and wage and salary workers operating a side-business as a secondary work activity (Carree, Van Stel, Thurik and Wennekers, 2002). Notice that the OECD definition also considers "taking risks" as an entrepreneurial aspect, and hereby points towards certain individual psychological characteristics that are necessary for entrepreneurship.

The numerous definitions and the difficulty in coming to a unified description of what entrepreneurship is, indicates that entrepreneurship is a multidimensional concept (Audretsch, 2003). Grilo and Thurik (2005) explain that entrepreneurship's multidimensionality is reflected in different units of observation such as the firm, individual, region, industry or nation. They add that entrepreneurship has a wide range of roles such as exploitation of opportunities and innovation. Theoretical and conceptual approaches cover several disciplines such as psychology, sociology and economics to capture as much of the entrepreneurial concept as possible.

Entrepreneurship involves more than just business ownership or self-employment; entrepreneurship is a mindset (Carree et al, 2000). It involves change, innovativeness, risk seeking behavior, creativeness, luck, insight, skills and many more things. The fact that entrepreneurship is more than just business ownership is reflected in the concept of "Intrapreneurship" where the entrepreneurial mindset is thought to operate within existing businesses, indicating that actual business startup is not a necessary requirement for entrepreneurial activity (Stopford & Baden-Fuller, 1994). In this study I try to find individual factors influencing entrepreneurial energy or drive, and being self-employed (or paid-employed/unemployed) could influence this drive. In following Carree et al. (2002) and Grilo et al. (2007) (although in a different context), I argue that self-employment is a good indicator of actual entrepreneurship and therefore I use self-employment as equivalent to entrepreneurship[8]. Although the

[8] The self-employment or business ownership rate is an important static indicator of the level of entrepreneurship (EIM/ENSR, 1995).

definition of the OECD is certainly appropriate and more correct, seeing self-employment as entrepreneurship (individuals containing entrepreneurial characteristics) extends this research into the influence of entrepreneurship on entrepreneurial drive, and not just occupational situation (amongst others self-employment) on entrepreneurial drive. The usefulness becomes clear in paragraph 2.3; defining an entrepreneurial profile.

2.1.2 LATENT ENTREPRENEURSHIP

This study focuses on latent entrepreneurship; measured by the probability of a declared preference for self-employment. Flash Eurobarometer No. 283 Question Q1 measures employment preference:

Suppose you could choose between different kinds of jobs, which one would you prefer:

- *Being an employee*
- *Being self-employed*
- *None of these*
- *DK/NA*

Using this dependent variable has advantages and disadvantages. An advantage is that preferences for self-employment are much more volatile than actually becoming self-employed; it is easy to change your preference while starting a business takes time. Preferences – driven by the notion that being self-employed is a suitable alternative- can lead to startup intentions, and intentions can lead to actual business startup (Davidsson, 1995). In this way preferences can be seen as an early indicator of entrepreneurial startup activity, and the higher volatility of the latent variable could unveil more precise associations between certain factors influential on actual entrepreneurship through their influence on latent entrepreneurship.

Preferences are also thought to be highly submissive to psychological factors influencing the interpretation of what self-employment is. This fact is useful because this research has a focus on psychological characteristic traits, which may possibly be of more influence on latent entrepreneurship than on actual business startup. This research may hereby unveil psychological characteristics influential on actual business startup through their influence on latent entrepreneurship.

The most important disadvantage lies in the fact that latent entrepreneurship may not be an early indicator of actual entrepreneurship. The respondent could easily associate self-employment with fairytale-like thoughts of independence, high income and tax evasion, hereby forgetting to take all difficulties into account (Grilo et al. 2006). Blanchflower et al. (2004, p.18) confirm this by noting that people might have a “rosy view of what it is like to be running one’s own business”. Individuals

may find that their view was indeed rosy when taking steps towards business startup, and give-up their attempts. However, this can be counter argued; Although future entrepreneurs might have a rosy view on self-employment - entrepreneurs earn on average less (Hamilton, 2000; Åstebro, 2003) -, entrepreneurs are significantly more satisfied with their jobs, possibly as a result from more independence (Blanchflower, 2000, 2004; Blanchflower and Oswald, 1992: Bradley and Roberts, 2003; Eden 1975; Fuchs-Schündeln, 2009; Katz, 1993; Weaver and Franz, 1992).

All in all, a possible bias between latent entrepreneurship and actual business startup is expected to be equally large between different countries and individuals. Therefore - as no a-priori reasons exist to think otherwise - the impact of different employment situations on latent entrepreneurship can still be measured across countries and individuals (Grilo and Irigoyen, 2006).

Blanchflower and Oswald (2001) find an interesting association between countries with high entrepreneurial spirits and unemployment levels. Seemingly, countries high on the table of entrepreneurial spirit- like Portugal, the US and Switzerland- have especially low unemployment levels. This leads to a second advantage of the use of latent entrepreneurship; it could be more heavily associated with employment situation and/or unemployment benefit generosity (further explained in chapter 2.4), either way in case an association is present it should be measurable using latent entrepreneurship.

In finding differences of international entrepreneurial spirits, Blanchflower et al. (2001) did research on the International Social Survey Programme data set[9]. Most strikingly they find that the percentage of respondents answering the question: "Suppose you were working and could choose between different kinds of jobs. Which would you prefer? (1) Being an employee (2) Being self-employed" differs greatly from actual self-employment rates.

When looking at the data used for this research (Flash Eurobarometer no 283), a comparable difference is found. Actual self-employment averages to 17.7% while preferences for self-employment averages to 52.5% (see Table 1).

[9] Data on 25000 individuals across 23 countries over the period 1997-1998 (Blanchflower et al., 2001)

Table 1: Differences in Actual and Latent entrepreneurial rates

Country	Self-Employment%	%Preference self - employment	N
France	10,3	46,1	456
Belgium	8,6	68,4	256
The Netherlands	19,3	57,5	332
Germany	19,5	55,9	401
Italy	23,6	42,8	318
Luxembourg	14,3	51,9	210
Denmark	12,3	64,8	227
Ireland	16,8	53,7	214
United Kingdom	15,9	47,7	352
Greece	31,0	41,6	435
Spain	16,7	56,5	508
Portugal	17,5	41,0	366
Finland	28,2	46,3	188
Sweden	8,41	62,6	107
Austria	21,9	60,1	178
Czech Republic	21,0	64,9	376
Estonia	13,5	51,4	148
Hungary	17,3	57,2	173
Latvia	12,0	47,9	117
Lithuania	12,2	44,8	172
Malta	11,5	56,9	130
Poland	24,1	40,6	266
Slovakia	16,0	66,9	181
Slovenia	10,6	52,4	170
Total	**17,7**	**52,5**	**6,281**

N is the number of people interviewed in each nation. Data stems from Flash Eurobarometer No. 283

This raises two questions; where do these country differences in latent entrepreneurship come from? And where do differences in latent and actual entrepreneurship come from?; a question also posed in Grilo and Thurik (2005): Are the underlying causes found in intrinsic cultural differences or is this more due to legislative regulatory systems such as social security, labour market regulation and the tax environment?

For this research I do not consider differences in actual and latent entrepreneurship, but only investigate on factors influencing latent entrepreneurship. Research on latent entrepreneurship is important for sketching more precise associations between factors already found influential for nascent entrepreneurship and actual business startup. Research should first focus on whether individuals would like to be self-employed before taking the next step and consider whether individuals are self-employed. It is thought that with the right policy, latent entrepreneurs have a high possibility of realizing their self-employment wishes, important for future economic growth and job opportunities (Masuda, 2006).

2.2 OCCUPATIONAL CHOICE

Individuals can choose between 3 types of occupations: paid-employment, self-employment or unemployment (not really qualifying as occupation, but still one of the options). Each option comes with its advantages and disadvantages. The unemployment option comes with social welfare benefits (as will be discussed later in section 2.4), self-employment is thought to generate a higher level of job satisfaction (Blanchflower, 2000, 2004; Blanchflower and Oswald, 1992: Bradley and Roberts, 2003; Eden 1975; Fuchs-Schündeln, 2009; Katz, 1993; Weaver and Franz, 1992) and regular paid-employment comes with more stable pecuniary benefits (Hamilton, 2000; Åstebro, 2003), these are just a few aspects; modeling employment choice requires research into possible influential factors.

Baumol (1990) first suggested that employment choice depends on utility (from wealth, power and prestige) maximization. Later Campbell (1992) developed a model based on the net present value (NPV) of profit, and stated that individuals choose entrepreneurship in case the NPV is positive or supplies wage labour otherwise. He was also the first to state that an individual's attitude towards risk and monetary value of psychic costs are important for employment choice, but failed to incorporate this correctly into his model. Eisenhauer (1995) incorporated utility derived from working conditions into his model, later expanded by Douglas and Shepard (2000) who consider attitudes and abilities. They explain employment choice by human behavior utility maximization, considering independence; covering attitudes towards hard work, decision-making autonomy and financial risk. Here we see a clear shift from an economic approach to a somewhat more sociologic approach for explaining employment choice.

Blanchflower and Oswald (1998a) presented an economic explanation of employment choice; they states that in choosing to be unemployed, paid-employed or self-employed the main factor driving this decision is capital. His model explains that individuals can choose between wage (w) and $\pi(k)+I$, where $\pi(k)$ gives the profit from self-employment and "I" the non-pecuniary utility from independence. He also gives a set of underlying probabilities influencing the self-employment decision. These probabilities are, on their turn, dependent upon the personal characteristics of the individual, combined with some regional and industrial influences.

Von Greiff (2009) presented a theoretical framework where employment choice depends on the expected utility from each employment situation. The expected utility depends on the entrepreneurial ability, the wage in employment and the earnings from unemployment (which is always lower than the earning of employment):

$E(U_{SE}) = F(\emptyset)$

$E(U_E) = F(w)$

$E(U_{UE}) = F(kw)$

Ø stands for entrepreneurial ability and is equal to entrepreneurial earnings10. In this model paid-employment is always preferred to unemployment (k<1) but individuals can prefer unemployment over self-employment (if entrepreneurial ability is sufficiently low).

The somewhat more extended model of Douglas and Shepard (2000) based on the assumption that individuals derive utility from income and either utility-or disutility from *work effort*, *risk bearing*, *independence* and *other working conditions* is given below.

Their utility function from the j_{th} job comes down to:

$U_j = F(Y_j, W_j, R_j, I_j, O_j)$

where,

$Y_j =$ Income
$W_j =$ Work effort
$R_j =$ Risk
$I_j =$ Independence
$O_j =$ Other working conditions

These models give insight into influential factors of employment choice, usable as guidance for this research. Employment choice depends on an individual's preferences; these preferences are based on the expected returns of each employment option (Blau et al, 1956). As we have seen in some employment choice models each employment situation has its own expectations/perceptions of earnings, independence, risk bearing and work effort (Douglas and Shepard, 2002; Taylor, 1996). Arenius and Minniti (2005) find that perceptual variables are significantly correlated with new business creation. Van Stel and Stunnenberg (2006) explain that the self-employment decision is made at the individual level and thus perceptions play a big part:

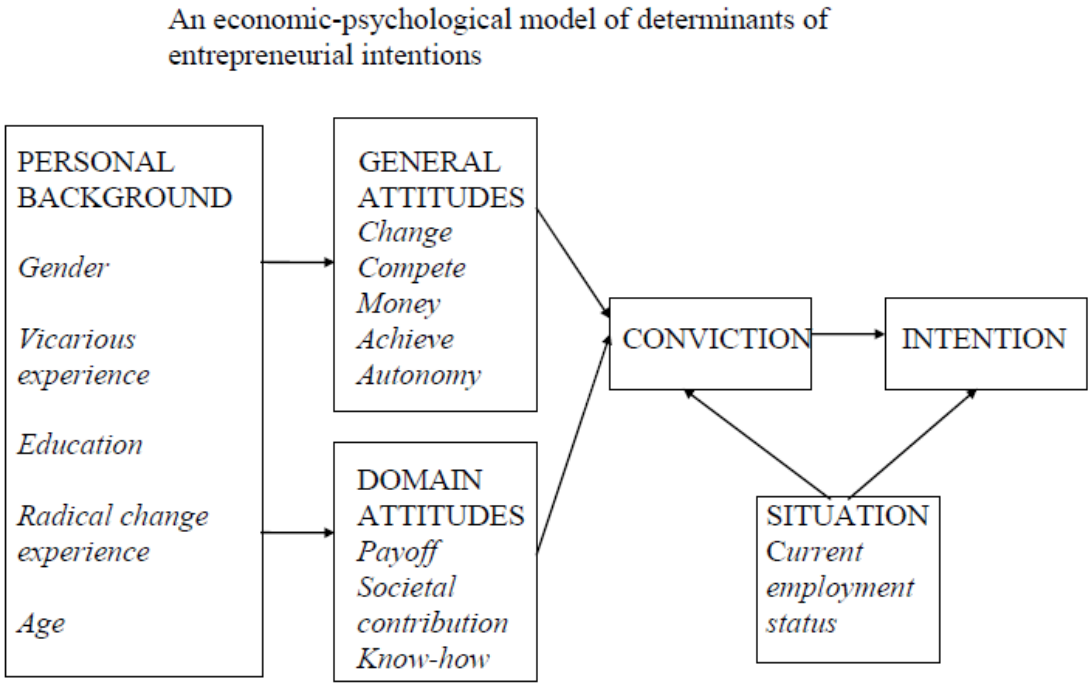
- Perceptions of Monetary rewards (Financial aspect, including possible opportunity costs)
- Perceptions of Abilities (Ability to succeed)
- Perceptions of Independence (Risk, Decision making autonomy, Work effort)
- Perceptions of Difficulties (Financial, Informational, Administrative)

[10] Already designed by Lucas (1978)

2.3 ENTREPRENEURIAL PROFILE

Figure 1 shows Davidsson's (1995) model of determinants of entrepreneurial intentions. Personal background (experiences) but also demographic factors determine entrepreneurial intentions. Attitudes (autonomy, money, achievement etc.) are also found important for having entrepreneurial intentions. Most of these factors are also found influential on actual and latent entrepreneurship. Notice that current employment situation is taken into consideration, just as will be done in this research. Before moving on to the influence of occupational situation on latent entrepreneurship, let us first consider a somewhat less researched area of influential factors on actual and latent entrepreneurship: Psychological individual characteristics.

Figure 1: Economic Psychological model of determinants of entrepreneurial intentions



Source: (Davidsson, 1995)

As already discussed in the introduction, many variables are found influential on actual business startup, among them are: Gender, age, self-employed parents, level of risk tolerance, internal locus of control, the stigma of failure, perception of administrative complexities, perception of insufficient information, perception of lack of finance and perception of self-efficacy.

Variables found influential for latent entrepreneurship are: Gender, age, perception of lack of financial support, perception of administrative complexity, perception of insufficient information[11][12], risk tolerance and self-employed parents. Clearly the psychological character traits internal locus of control and self-efficacy are missing; risk taking (being one of the factors of interest) has already been investigated and was found to heavily influence occupational choice (Kihlstrom and Laffont, 1979; Parker, 1997).

Researching the influence of these factors is important for several reasons. First, these psychological factors can possibly be influenced by occupational situation, Blau et al. (1956) indeed state that experiences in the labour market affect an individual's expectations/perceptions and therefore preferences toward the different occupational situations. But, as I will research in this paper, these factors can also underlie pervious employment decision making/outcome, and through the current employment situation have an indirect influence on latent entrepreneurship. Second, there is reason to believe that these factors also directly influence latent entrepreneurship (Bönte et al., 2012).

Perceptions of risk, internal locus of control and self-efficacy can be changed by experiences in a different employment situation. Sherer et al. (1982) find that differences in past experiences cause differences in self-efficacy, where positive experiences positively influence self-efficacy beliefs and vice versa. In the same line of reasoning perceptions of risk - resulting from certain decisions that have to be made in paid-employment- can be lower after experiences in the industry where individuals would like to be self-employed in (Gifford, 2003). Experiences in self-employment might therefore also lower perceptions of associated risk. Finally, internal locus of control is also positively influenced by successful experiences at work (Adrisani & Nestel, 1976). In section 2.4 I will discuss how these character traits may underlie the previously made (current) employment decision, important for this research. For the sake of clarity, this research does not focus on the effects an employment situation has on the mentioned character traits; it investigates on what character traits underlie the current employment situation.

Risk tolerance was already found to significantly influence actual business startup and business startup intentions (Douglas and Shepard, 2002; Barbosa et al., 2007; Grilo & Irigoyen, 2006). Self-efficacy is positively associated with startup intentions and actual startup (Chen et al., 1998; Wilson et al., 2007; Zhao et al, 2005) and internal locus of control is found to have a positive relationship with actual startup (Stokes, 1971; Shapero,et al., 1974; Ahmed, 1985; Grilo et al, 2007).

[11] The study by Grilo, Van der Zwan and Thurik (2007) finds that perceived lack of financial support, perceived administrative complexities and perceived insufficient information do not directly influence latent entrepreneurship but have an indirect effect through actual entrepreneurship. Therefore this study will control for these factors as they are found to be of influence through occupational state.

[12] Grilo and Irigoyen (2006) do not find any explanatory power of the perception of lack of available financial support on latent entrepreneurship.

As for the effect - or expected effect- of these variables on the preference for self-employment; risk tolerance and internal locus of control have been found influential on latent entrepreneurship (Grilo & Irigoyen, 2006; Grilo et al, 2007[13]). Risk tolerance was also found to heavily influence occupational choice and Venkatapathy (1984) claims that internality is one of the most dominant entrepreneurial characteristics. The best indication of the influence of entrepreneurial character traits on latent entrepreneurship is found when looking at the study by Bönte et al. (2012), using Flash Eurobarometer, they consider a group of personality traits: autonomy, risk taking, innovativeness, proactiveness, competitiveness, general optimism, general self-efficacy and internal locus of control, and find that this group of personality traits (called IEA[14]; Individual entrepreneurial aptitude) positively relates to latent entrepreneurship.

To identify a psychological latent entrepreneurial profile I will check if willingness to take risk, self-efficacy and internal locus of control are more often found amongst latent entrepreneurs. In the next paragraph I will use these "personality traits" as part of the explanation why different occupational situations differ in their effect on latent entrepreneurship, and will hereby search for a mediating effect of these psychological character traits through occupational situation.

Hypothesis 1: Individuals who are more willing to take risks are more likely to be latent entrepreneurs than individuals who are less willing to take risks.

Hypothesis 2: Individuals who express more self-efficacy are more likely to be latent entrepreneurs than individuals who express less self-efficacy.

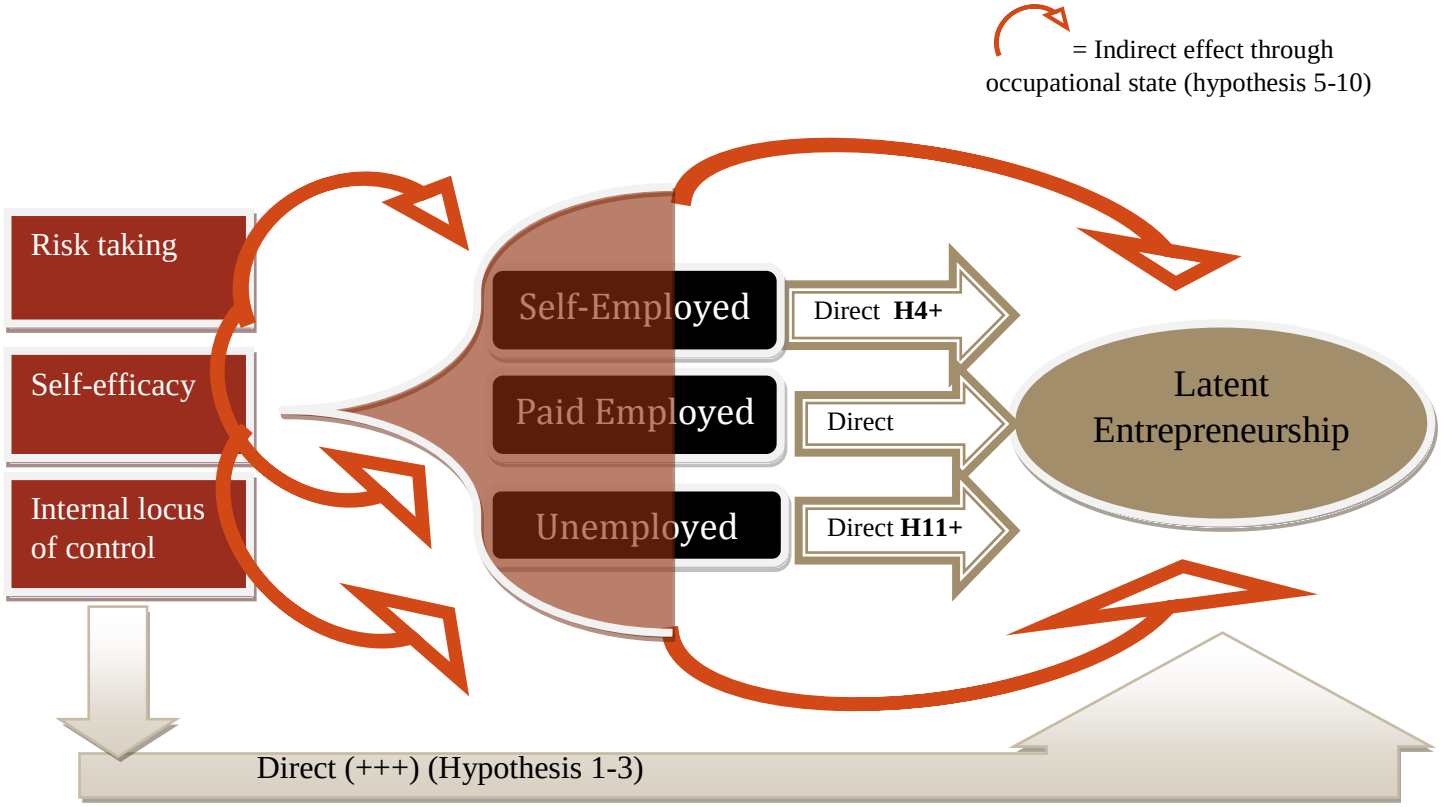
Hypothesis 3: Individuals who express more of an internal locus of control are more likely to be latent entrepreneurs than individuals who express less of an internal locus of control.

Figure 2 on the next page gives an overview of the direct and indirect associations that will be investigated on in this research. We see: direct associations of employment situation with latent entrepreneurship; indirect and direct associations of the character trait variables with latent entrepreneurship, and their expected (hypothesized) directions given in (+) or (-).

[13] Grilo et al (2007) do not discuss this result in their paper, however the result section shows that internal factors of success are significantly influential to latent entrepreneurship.

[14] Bönte et al. (2012) state that: "Estimation results based on individual level data suggest that *Individual Entrepreneurial Aptitude (IEA)* – our measure of task matched personality traits – is a strong and robust predictor of latent entrepreneurship" (Bönte et al., 2012, p26)

Figure 2: Visualization hypothese1-3, 5-10, 4 and 11



2.4 LABOUR MARKET SITUATION

In this chapter we will see how different labour market situations (occupational states) influence the preference for self-employment. The - to be expected - mediating effects of the entrepreneurial character traits - willingness to take *Risk*, *Self-efficacy* and *Internal locus of control* - through employment situation will also be discussed. This implies explaining the association of the character traits with the current occupational situation.

2.4.1 SELF-EMPLOYMENT AND LATENT ENTREPRENEURSHIP

Although self-employment often generates less income than being in paid-employment (Hamilton, 2000), self-employed individuals report higher levels of job satisfaction[15], see Figure 3 (Blanchflower, 2000, 2004; Blanchflower and Oswald, 1992: Bradley and Roberts, 2004; Eden 1975; Fuchs-Schündeln, 2009; Katz, 1993; Weaver and Franz, 1992). This proves that -as hypothesized in the employment choice models- non pecuniary benefits are indeed found to be of importance when choosing a type of occupation.

Figure 3: Job Satisfaction

	Employees	Self-employed
Very dissatisfied	3.8%	2.0%
A little dissatisfied	10.3%	5.8%
Moderately satisfied	39.9%	29.8%
Very satisfied	45.9%	62.5%

Source: Blanchflower (2004)16

Individuals experience utility from autonomy and income, whereas they experience disutility from work effort and risk (Douglas and Shepherd, 2002). Job satisfaction can be seen as a reflection of the net experienced utility, and it follows that entrepreneurs experience less disutility from work effort, risk and lower income than do paid-employed individuals. Also, entrepreneurs experience more utility from autonomy than do paid-employment individuals (Douglas and Shepherd, 2002; Caliendo et al., 2009; Kihlstrom and Laffont 1979; Rees and Shah 1986; Stewart et al. 1999; Wagner 2003; Muller 1999; Ekelund et al. 2005). Douglas and Shepherd (2002) confirm that the intention to be self-employed is stronger for individuals with more positive attitudes towards risk and independence.

[15] Job satisfaction takes pecuniary as well as non-pecuniary benefits into consideration.
[16] Data from the general social survey for the USA 1972-2002. The same results were found using the EBS survey, all but three countries (Greece, Finland, Austria) reported higher levels of job satisfaction when self-employed.

Indeed, self-employed individuals experience more autonomy, defined by exercising control over their work and developing valued skills (Argyris, 1957; Blauner, 1964; Braverman, 1974). Autonomy leads to a feeling of control over job security; entrepreneurs are not dependent on the skills and decisions of capricious supervisors (Hundley, 2001).

The total experienced utility from employment is not just bound to outcomes. The procedural utility theory states that individuals not only derive utility from outcomes but also attach a value to the procedures that lead to an outcome (Fuchs-Schündeln, 2009; Frey et al, 2004; Benz et al, 2002; Block and Koellinger, 2009). Entrepreneurs are able to choose their own procedures and are therefore likely to experience more utility, giving another argument for a higher job satisfaction level.

Entrepreneurs who fail in their first business startup attempt are likely to re-enter self-employment (Amaral et al., 2009). This phenomenon is called "Serial entrepreneurship" and is thought to partially result from developed survival skills (Stam et al. 2009; Ucbasaran et al. 2008). Serial entrepreneurs are expected to have increased their technical and managerial skills, they also have better excess to information networks (social capital) and are hereby better able to take advantage of new business opportunities (Adler and Kwon, 2002; Amaral, 2009; McGrath and MacMillan 2000; Ucbasaran et al. 2008; Mosey and Wright, 2007). These skills can – on their turn – influence perceptions of risk, self-efficacy and startup difficulties (Zhao et al., 2005) and can lead to a preference for self-employment. This could be a reason why unemployed individuals (partly failed/serial entrepreneurs) are more likely to express a preference for self-employment than do paid-employed individuals; see paragraph 2.4.3.

Entrepreneurs have a higher willingness to take risk, they express higher values of self-efficacy and have a higher internal locus of control (internal vs. external) than do paid-employees, in other words, psychological character traits are positively associated with being self-employed (Douglas and Shepard, 2002; Barbosa et al., 2007; Grilo & Irigoyen, 2006; Chen et al., 1998; Wilson et al., 2007; Zhao et al, 2005; Stokes, 1971; Shapero,et al., 1973; Ahmed, 1985; Grilo et al, 2007). These character traits may lead to a preference for self-employment as we have seen in the previous paragraph (Bönte et al., 2012). To see whether occupational situations changes these character traits, longitudinal data is required, which is outside the scope of this research. However, we can look at the relative influence of these factors on the preference for self-employment through current occupational state. The necessary underlying assumption for this research is that character traits remain stable over time.

The above discussed literature indicates that being in entrepreneurship enhances the chance of favoring entrepreneurship and returning to entrepreneurship. Therefore it is to be expected that preferences for self-employment are more present amongst individuals currently in self-employment than for individuals not in self-employment (being in either unemployment or paid-employment).

This higher preference is expected to partially result from a higher prevalence of the character traits: willingness to take risk, self-efficacy and internal locus of control; amongst self-employed individuals. I will test whether these character traits previously influenced the choice to become self-employed and hereby mediate a preference for self-employment. The next section provides the hypotheses to check these statements.

2.4.2 PAID-EMPLOYMENT AND LATENT ENTREPRENEURSHIP

Remember, next to the pecuniary benefits -important for employment choice-, are non pecuniary benefits. Non pecuniary benefits are found in independence, work effort, risk and decision making autonomy. People are independence and income preferring and are – overall- risk averse (Douglas and Shepherd, 2002). Self-employed individuals were found to experience more utility from independence and experience less disutility from risk.

In showing that paid-employed individuals are less likely to be in latent entrepreneurship than are self-employed individuals - first of all - salaried employees have on average a higher income than self-employed individuals (Hamilton, 2000). Since it was found that income is the most heavily weighted factor in choosing an employment type (Douglas and Shepherd, 2002), it can be argued that the paid-employed prefer paid-employment.

Paid-employed individuals, have –at some point in time- decided to work in paid-employment. Underlying personal characteristics, reflected in the disutility experienced from risk and the utility experienced from independence and autonomy played part in former employment decision making. These individual characteristics are assumed to have remained unchanged causing a preference for paid-employment when in paid-employment; risk tolerance is argued to be a stable characteristic that remains the same over one's lifetime, although it is always marginally subject to situational influences (Roszkowski and Davey, 2010).

The character traits discussed in paragraph 2.3; willingness to take risk, self-efficacy and internal locus of control are less present amongst non-entrepreneurs. Paid-employed individuals are less willing to take risk, express less self-efficacy[17] and have a lower internal locus of control than do self-employed individuals (Douglas and Shepard, 2002; Barbosa et al., 2007; Brockhaus, 1982; Grilo & Irigoyen, 2006; Chen et al., 1998; Wilson et al., 2007; Zhao et al, 2005; Stokes, 1971; Shapero,et al., 1973; Ahmed, 1985; Grilo et al, 2007; Izquierdo, 2008). Since these character traits are also thought to be

[17] Self-efficacy also proofs to be a main determinant of job satisfaction, remember that the self-employed are on average more satisfied with their job, pointing towards lower self-efficacy amongst the employed compared to the self-employed (Bradley & Roberts, 2003).

associated with latent entrepreneurship (Bönte et al., 2012), paid-employed individuals are also less likely to be in latent entrepreneurship than self-employed individuals.

Another important aspect influencing latent entrepreneurship lies in the effects of economic crisis; it brings market turmoil. One can argue that crisis brings possibilities; however, it was found that the market turmoil has a negative effect on the willingness to take risk; people rather prefer stability in times of economic crisis (Roszkowski and Davey, 2010). As entrepreneurship requires willingness to take risk, it can be argued that individuals who are in paid-employment rather remain in paid-employment as an effect of the economic crisis. Blanchflower and Oswald (1991a) give evidence for the so-called "Prosperity pull" argument, and state that people are driven into self-employment only when there is a favorable economic climate, giving justification to a lower entrepreneurial preference amongst individuals in paid-employment in times of economic crisis. However, the same can be argued for individuals in other employment situations and thus the overall effect may be equal.

Indications that paid-employed individuals are more likely to be in latent entrepreneurship are also present. First, as owning financial assets is found to significantly influence the transition into self-employment (Dunn and Holtz-Eakin, 2000), paid-employed individuals could be more likely to prefer self-employment as financial constraints could have dissolved. Second, expectations of earnings – although non-funded - from self-employment are estimated higher by individuals (Taylor, 1996) causing paid-employed individuals to prefer self-employment[18].

Third, human capital, which can be accumulated with education or experience (Davidsson and Honig, 2003) could lower risk perceptions (Gifford, 2003) hereby stimulating a preference for self-employment[19]. However; Experience is often coupled with age; Grilo and Thurik (2005a) find that the probability of being in self-employment increases with age while the probability of a preference for self-employment decreases with age. They explain that employment experience lowers constraints of becoming entrepreneur, and that there is a possible time gap between the moment of preference and seizing the opportunity to become self-employed. Work experience (in either self-employment or paid-employment) was found to significantly influence the probability of becoming self-employed and have success in terms of earnings (Robinson and Sexton, 1994). Work experience is thus expected to increase the possibility of becoming self-employed but not increase preferences for self-employment.

Fourth, job dissatisfaction in paid-employment due to little autonomy, low compensation levels and high (unsatisfied) ambition has been proven influential for job seeking behavior (Blau, 1994; Boudreau et al., 2006; Bretz et al., 1994). Self-employment could be a good alternative to paid-

[18] This effect is however equally large for unemployed individuals; serial entrepreneurs currently in unemployment excluded.
[19] It is however more likely that self-employed accumulate more useful human capital in the form of experience; remember the effect of serial entrepreneurship.

employment as it brings autonomy and possibilities of high payoffs, hereby possibly increasing self-employment preferences amongst the paid-employed.

Considering the above discussed literature - all in all- I expect:

Hypothesis 4: Self-employed individuals are more likely to be latent entrepreneur than are Paid-employed individuals.

Hypothesis 5: Individuals (a) who are more willing to take *Risk* are more likely to be Self-employed than Paid-employed and this (b) implies an indirect positive relationship of willingness to take *Risk* with latent entrepreneurship through its positive relation with being Self-employed (versus being Paid-employed).

Hypothesis 6: Individuals (a) who express more *Self-efficacy* are more likely to be Self-employed than Paid-employed and this (b) implies an indirect positive relationship of *Self-efficacy* with latent entrepreneurship through its positive relation with being Self-employed (versus being Paid-employed).

Hypothesis 7: Individuals (a) who express more of an *Internal locus of control* are more likely to be Self-employed than Paid-employed and this (b) implies an indirect positive relationship of *Internal locus of control* with latent entrepreneurship through its positive relation with being Self-employed (versus being Paid-employed).

2.4.3 UNEMPLOYMENT AND LATENT ENTREPRENEURSHIP

The "unemployment push" theory states that the unemployed could be pushed into entrepreneurship because of no other job options (Acs et al., 1994; Bögenhold and Staber, 1991; Granger et al., 1995; Meager, 1992; Evans and Leighton, 1989). Evans and Leighton (1990) find that self-employed individuals are more likely to have been in unemployment than are wage workers, which might indicate either an unemployment push effect or a preference for self-employment when in unemployment. Accordingly, in 1990, when Japan experienced a stagnating economy, unemployment was one of the main determinants of latent entrepreneurship (Santarelli & Vivarelli, 2007). As the data used for this study was compiled in December 2009, effects of the world wide economic dept crisis on unemployment rates are already visible. This could mean that there is a lot of involuntary unemployment reflected in an unemployment push effect. The effect of the unemployment push on the preference for self-employment is unclear. It could be that individuals would like to be in paid-employment, as it comes with income security. However, it could also be that individuals prefer to be self-employed because there are no other job opportunities.

The unemployed are the most unhappy individuals out of the three employment types, experiencing the most mental distress; most unemployment is hereby proven to be involuntary (Clark and Oswald, 1994). In general it can be stated that the unemployed would like to be paid-employees or self-employed. Still the question remains whether they are more likely to express a preference for self-employment than paid-employed individuals.

We know that the unemployed have **lower self-efficacy** than do paid-employed and self-employed individuals (Sherer and Maddux, 1982). However, they are **more likely to be willing to take risk** than paid-employed individuals; Wagner (2003) states that this is the reason why unemployed individuals become entrepreneurs. Most noticeably unemployed individuals are more likely to enter entrepreneurship than paid-employed individuals but sensitivity analysis revealed that risk attitudes only significantly increase the probability to enter self-employment for paid-employed individuals (Caliendo et al, 2006). This does not mean that latent entrepreneurship is affected in the same way; a higher willingness to take risk is thought to positively influence the preference for self-employment (Bönte et al., 2012). Unemployment may lead to a **lower internal locus of control** (Winefield et al, 1990). Internal locus of control is found to relate to work experience in two ways; Internal locus of control is enhanced by success at work and internal locus of control enhances success at work (Andrisani & Nestel, 1976). Internal success factors were found to be positively associated with actual entrepreneurship and latent entrepreneurship (Grilo et al, 2007; Brockhaus, 1982; Beugelsdijk & Noorderhaven, 2005).

Compared to the paid-employed workforce the unemployed are younger – the percentage of unemployed aged between 15-25 reaches 8% in 2008 compared to 4% for older individuals -; in times of economic crisis this effect increases (CBS.nl). Preference for self-employment is higher amongst younger individuals (Grilo and Thurik, 2005). This indicates again a higher preference for self-employment for the unemployed than the paid-employed.

Since the associations of internal locus of control and self-efficacy are less strong and less evident than the association of willingness to take risk with latent entrepreneurship, combined with the fact that more entrepreneurs have started from an unemployment position, and a lower average age of the unemployed; all in all I expect (first see hypothesis 11):

Hypothesis 8: Individuals (a) who are more willing to take *Risk* are more likely to be Unemployed than Paid-employed and this (b) implies an indirect positive relationship of willingness to take *Risk* with latent entrepreneurship through its positive relation with being Unemployed (versus being Paid-employed).

Hypothesis 9: Individuals (a) who express more *Self-efficacy* are less likely to be Unemployed than Paid-employed and this (b) implies an indirect negative relationship of *Self-efficacy* with latent entrepreneurship through its negative relation with being Unemployed (versus being Paid-employed)

Hypothesis 10: Individuals (a) who express more of an *Internal Locus of Control* are less likely to be Unemployed than Paid-employed and this (b) implies an indirect negative relationship of *Internal Locus of Control* with latent entrepreneurship through its negative relationship with being Unemployed (versus being Paid-employed)

Hypothesis 11: Unemployed individuals are more likely to be latent entrepreneurs than are Paid-employed individuals.

Hypothesis 5-10 are expressed in the figures below; Figure 4, Figure 5 and Figure 6.

Figure 4: Visualization hypothesis 5 and 8

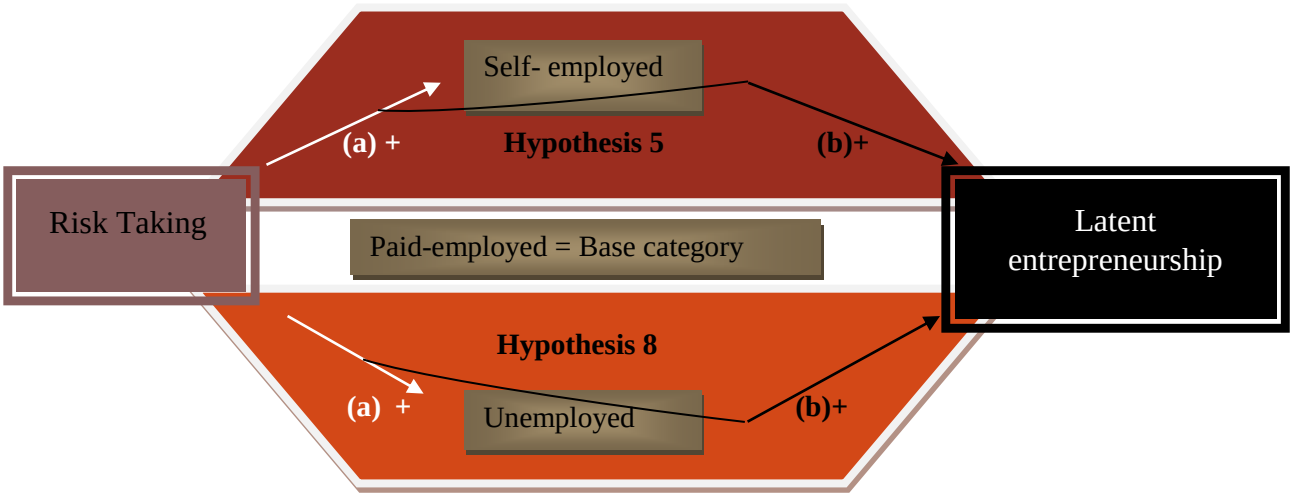


Figure 5: Visualization hypothesis 6 and 9

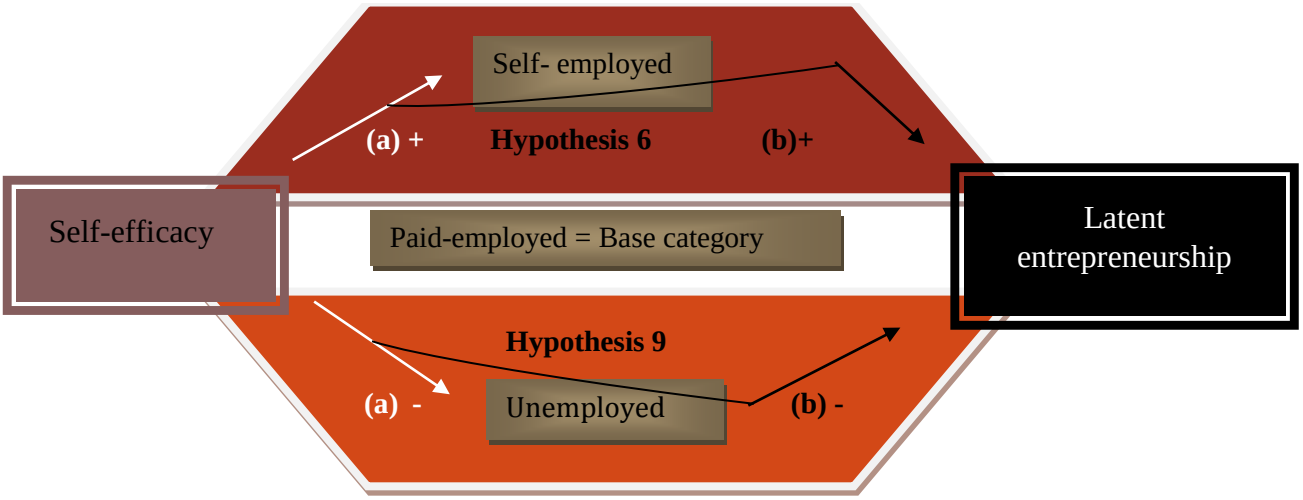
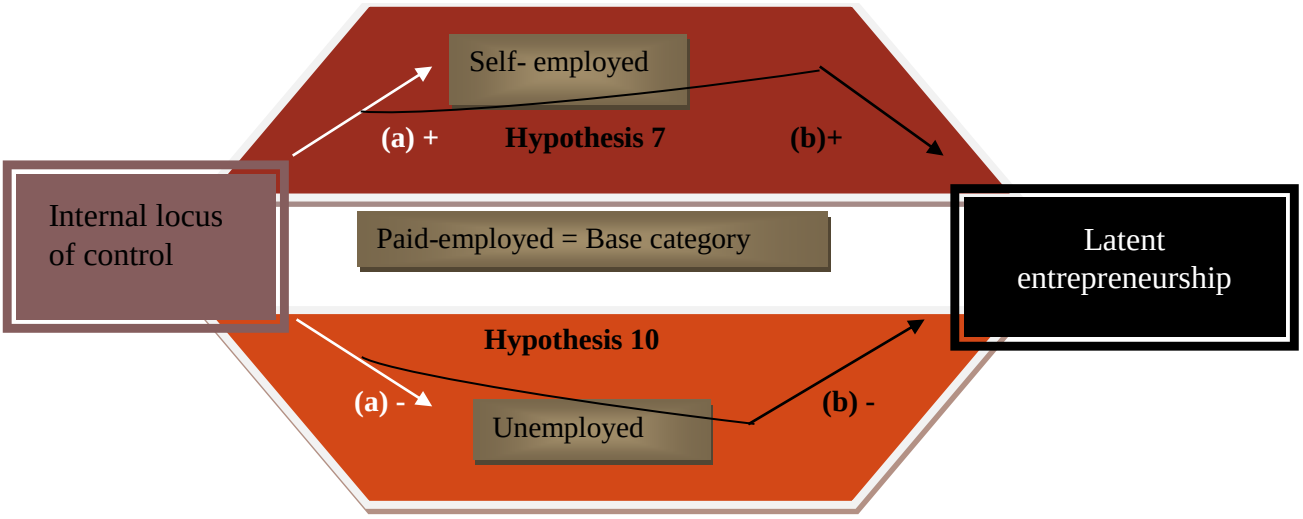


Figure 6: Visualization hypothesis 7 and 10



2.5 UNEMPLOYMENT BENEFITS

As for the social security system of a country, positive and negative effects on self-employment are present. Social security systems provide individuals with the option to be unemployed and yet have income, hereby providing time to setup a business. Also, when one's business fails, the social security system acts as a safety net providing – at least some- financial security. This social safety net also comes with a downside; individuals could be negatively stimulated in finding a job since opportunity costs of having a job are higher (Hessels et al, 2007). Following this reasoning; generous social security benefits raise opportunity cost of self-employment. Bosma et al (2005) also accentuate that a generous unemployment benefit system could remove the urgency of self-employment as an escape method out of unemployment. In finding the best possible social security system to support entrepreneurial preferences, several measurement methods of social security can be used. Let us take a look at the existing literature on the effects of social security systems on different entrepreneurial aspects.

Studies on the effects of social security systems on entrepreneurial activity are limited (Parker and Robson, 2004; Wennekers et al., 2005; Steinberger, 2005; Hessels et al, 2007; Hessels et al., 2008). In general these studies show a negative effect of social security benefits on entrepreneurial activity. On an aggregate level Parker and Robson (2004) find a significant negative relation between self-employment rates and benefit replacement rates. Parker and Robson's (2004) study does not focus on early stage entrepreneurial activity, therefore Hessels et al. (2007) find it only "loosely related" to occupational choice, indicating an important problem of existing studies; there is difficulty in the manner in which social security is measured. Wennekers et al. (2005) use social security expenditures as a measure[20] and not the social security income of individuals. Steinberger (2005) also uses contributions- not income- and -on top- does not include unemployment, sickness or accident insurance contributions. Hessels et al. (2007)[21] also find that studies do not make a distinction between employers or employees social security contributions and focus their study on this point[22]. They find that indeed higher relative employer's contribution rates negatively affect entrepreneurial rates. Most importantly, in their discussion they state that: *"social security benefits do not necessarily (or only) influence the choice between entrepreneurship and wage-employment, but rather (or also) the decision to participate on the labour market in general*" (Hessels et al, 2007. p 772).

[20] Wennekers et al. (2005) use nascent entrepreneurship as dependent variable.
[21] Their study uses TEA (total early stage entrepreneurial activity) as a measure – subdividing them into opportunity and necessity entrepreneurs -, as well as nascent entrepreneurship and young businesses.
[22] Higher relative employer contributions lead to relative higher cost for self-employment because of higher insurance contributions in case of sustaining the same level of insurance.

Literature on the labour force participation effect of social security is more numerous. Borsch-Supan (1998) finds that old age labour force participation is negatively affected[23]by pension systems. Studies on the effects of unemployment insurance (UI) benefits show a lengthening of the unemployment spell when a more generous UI benefit system is present. Katz & Meyer (1990) find that when UI benefit gets exhausted for an individual, sharp increases in job acceptances are apparent. Also, a one week increase of UI benefits leads to an increase of the average unemployment duration by 0.16-0.20 weeks[24]. For Europe these effects are also present and even stronger as a result of more generous UI benefits systems.

Social security includes not just unemployment benefits but also disability insurance, child benefit insurance, old-age insurance, medical care insurance etc. For this paper, as focus lays on employment situation, unemployment benefit systems will be taken as measure of social security. Unemployment insurance benefit (UI) is often referred to as unemployment benefit (UB). However UB includes –next to UI- unemployment assistance (UA) as well (see section 3.1.2).

Different countries use different UB systems, the difficulty lies in determining which countries have more generous UB systems. In coming to a just division of UB generosity, the Directorate-General for Economic and Financial Affairs of the European commission composed an indicator of generosity of UB systems. This indicator: "Measures ex ante the maximum potential income support available to those unemployed that fulfill all eligibility criteria e.g. fulfill the criteria for job search." (Stovicek & Turrini, 2012. p.9). Table 2 shows the actual value of UB generosity per country compared to the EU average.

[23] Kapteyn & de Vos(1998) find the same effect for the Netherlands. Blundell & Johnson (1998) find the same effect for the United Kingdom.
[24] Study performed with US data

Table 2: Unemployment benefit generosity

Unemployment benefit generosity and unemployment insurance generosity, actual values and different benchmarks, average 2007-2010

	Actual value by country - actual value at EU average		Actual value by country - actual value at GROUP average		Actual value by country - Prediction by country				Prediction by country - Actual value at EU average			
	UB generosity	UI generosity	UB generosity	UI generosity	UB generosity		UI generosity		UB generosity		UI generosity	
					1	2	1	2	1	2	1	2
LU	-6.7	-0.7	-16.1	-6.3	-18.0	-13.7	-10.7	-8.7	11.2	6.9	10.1	8.1
DK	17.9	23.9	11.5	15.6	10.8	11.3	18.0	17.9	7.1	6.5	5.9	6.0
FI	13.0	2.6	6.6	-5.8	7.0	8.6	-3.7	-2.9	6.1	4.4	6.3	5.5
SE	-4.5	1.5	-10.9	-6.8	-13.9	-15.7	-7.4	-8.7	5.9	7.2	7.1	8.1
IE	15.4	-4.7	6.4	2.6	12.4	11.6	-6.2	-6.4	3.0	3.7	1.5	1.7
ES	0.0	6.1	0.3	2.3	-2.8	-2.1	3.0	4.1	2.8	2.1	3.0	1.9
AT	18.9	-5.7	9.5	-11.3	16.2	16.8	-6.7	-6.2	2.6	2.0	1.0	0.6
NL	-0.8	5.3	-7.2	-3.1	-3.2	-6.4	4.1	1.7	2.4	5.6	1.2	3.6
UK	-4.4	-9.5	-13.4	-2.2	-6.0	-7.9	-8.8	-9.5	1.5	3.5	-0.6	0.1
FR	1.8	5.8	-7.6	0.2	2.4	0.1	5.6	4.2	-0.6	1.7	0.2	1.6
BE	26.1	32.2	16.8	26.6	26.9	25.3	31.2	29.7	-0.8	0.7	1.0	2.4
EE	-11.0	-4.9	0.1	0.4	-9.1	-6.9	-4.5	-3.2	-1.9	-4.1	-0.4	-1.7
DE	6.6	-3.7	-2.7	-9.3	8.5	4.4	-4.9	-8.3	-1.9	2.2	1.2	4.6
IT	-11.5	-5.4	-11.2	-9.2	-9.5	-7.3	-4.3	-2.9	-2.0	-4.2	-1.1	-2.4
SI	-10.5	-4.4	0.6	0.9	-8.1	-6.7	-2.1	-1.2	-2.3	-3.8	-2.2	-3.2
LV	-11.1	-5.0	0.0	0.3	-8.5	-7.1	-3.0	-1.4	-2.6	-4.0	-2.0	-3.6
LT	-12.9	-6.8	-1.8	-1.5	-10.2	-9.0	-3.9	-2.6	-2.7	-3.9	-2.9	-4.2
MT	20.4	-7.7	11.5	-0.4	24.1	24.7	-4.6	-4.1	-3.6	-4.3	-3.0	-3.6
CZ	-13.8	-7.7	-2.8	-2.5	-9.7	-9.5	-4.4	-4.2	-4.0	-4.3	-3.3	-3.5
PT	10.6	10.7	10.9	6.9	16.1	15.3	14.2	13.8	-5.4	-4.7	-3.4	-3.1
HU	-11.3	-6.0	-0.3	-0.8	-5.2	-5.0	-1.2	-0.6	-6.1	-6.3	-4.9	-5.4
PL	-11.5	-5.4	-0.4	-0.1	-5.3	-5.6	-1.8	-1.9	-6.2	-5.9	-3.5	-3.5
GR	-8.0	-4.3	3.1	1.0	-1.3	0.2	2.0	3.6	-6.7	-8.2	-6.3	-7.9
SK	-12.6	-6.6	-1.6	-1.3	-0.6	-3.2	-1.7	-4.2	-12.1	-9.4	-4.9	-2.3

Legend: UB = unemployment benefits; UI = unemployment insurance;
Notes: Unemployment insurance generosity is computed for a single, low-wage person, 40 years old and with 22 years of a contribution period. See Section 3.2. for the definition and interpretation of the unemployment benefit generosity.
Last eight columns in the table take into account predictions obtained from the multivariate regressions specified in Table A1 in the Appendix.

Source: Stovicek & Turrini, 2012

The question remains whether country-effects on latent entrepreneurship are mainly determined by the generosity of the UB systems. Research into country effects show that entrepreneurial drive in European countries is lower than in the US[25]. Most noticeable is that after controlling for age, gender, educational level, perception of availability of financial support, perception of complexity of administrative procedures and risk tolerance; Greece, Ireland, Italy and Portugal are exceptions to this result (Grilo & Irigoyen, 2005). Greece, Italy and Portugal belong to the so-called "Mediterranean social model"[26]; out of the four European social models thé model with the lowest form of social

[25] The US generally does not use generous UB systems.
[26] Notice that Ireland is not part of this Mediterranean system; when looking at their UB system, Ireland does seem to have hard to reach criteria to be in UB . "Individuals must at least have 104 weeks of paid contribution

assistance (Sapir, 2006). We can see in the table above that indeed these European countries have a noticeable lower (Greece, -8.2; Italy, -4.2; Portugal, -4.7) UB generosity value compared to the rest of Europe. This could be an indication that generosity of UB systems contribute a large part of country effect on latent entrepreneurship

This could also be an indication that countries with less generous UB systems stimulate the unemployed more heavily into entrepreneurship (or employment) than countries with more generous UB systems, or somewhat wider; less generous unemployment benefit systems de-stimulate a preference for unemployment. In the same line of reasoning generous employment systems can lead to a preference for unemployment, from any employment situation.

Based on the information provided in this paragraph I expect:

Hypothesis 12: Individuals living in countries with a non-generous[27] UB system are more likely to express a preference for self-employment then individuals living in countries with generous UB systems.

Hypothesis 13: Individuals (a) living in countries with generous UB systems are less likely to be Self-employed than Paid-employed and this (b) implies an indirect negative association of generous UB systems with latent entrepreneurship through its negative association with being Self-employed (versus being Paid-employed).

including at least 39 weeks of paid or credited in the second last calendar year or at least 26 contributions paid in each of the last complete contribution years" (www.ssa.gov).

[27] Generosity of benefit system will be categorized as non-generous in case of a number lower than 0, and generous when above 0.

3 EMPIRICAL RESEARCH

3.1 DATA

The data used in the statistical analysis comes from Flash Eurobarometer (No. 283), combined with UB generosity data from the paper by Stovicek & Turrini (2012).

3.1.1 FLASH EUROBAROMETER

In investigating the relationship between different occupational situation and preferences for self-employment, this thesis uses the Flash Eurobarometer dataset on entrepreneurship. Flash Eurobarometer measures the current occupation and includes the "latent entrepreneurship" question. I will use No. 283 as it was held late 2009 - begin 2010, hereby including a possible stronger unemployment push effect due to the economic recession. Flash Eurobarometer covers entrepreneurial attitudes, motivations and perceptions and can be used for identifying certain personality characteristics.

On behalf of the European Commission the No. 283 survey was conducted in December 2009 – January 2010, using telephone and door-to door interviews. Just over 26,000 individuals were questioned, covering 36 countries: 27 EU member states plus Turkey, Norway, Croatia, Iceland, Switzerland, USA, Japan, South Korea and China. Respondents were randomly selected only meeting up the standard of 15 years or older. Chinese respondent are an exception to the randomness of the sample; interviews were held in cities, neglecting rural areas.

This study is limited to the 27 EU member states excluding Turkey, Norway, Croatia, Iceland, Switzerland, USA, Japan, South Korea and China. The exclusion of (especially) China and the USA has been done to limit cultural differences. After dropping the observations from these countries and any observation with value "DK/NA". Also excluding "retired/student/looking after home" from question D4 and individuals "still in full time education" from question D3[28]. A total of 6708 observations remained. Unfortunately a further downsizing had to be done. No data on UB generosity is available for the countries: Cyprus, Bulgaria and Romania; Leaving the dataset with 24 countries and a total of 6281 observations. Observations per country differ from a minimum of 107 and 117 respondents (Sweden and Latvia) to a maximum of 456 and 508 respondents (France and Spain).

The survey provides information on socio-demographic factors like: gender, age, self-employed parent and the level of education. In addition it also includes perceptional variables such as perception of difficulty of obtaining financial support, perception of difficulty of administrative complexities,

[28] See section 3.2 and 3.3 for explanation

perception of difficulty of obtaining sufficient start-up information. Finally, it also includes current occupational situation, willingness to take risk, self-efficacy and internal locus of control. Most importantly it includes the employment preference question.

3.1.2 UB GENEROSITY

The data used in qualifying the generosity of UB systems comes from the paper "Benchmarking Unemployment Benefit Systems" by Stovicek & Turrini (2012); written on behalf of the European Commission. They explain that Unemployment benefits consist out of two main instruments: unemployment insurance and unemployment assistance. And define:" Unemployment insurance aim at insuring individual incomes during the unemployment spell and are typically based on an insurance principle" and "Unemployment assistance aims at preventing unemployment-related poverty. It is means-tested and based on the welfare principle" (Stovicek & Turrini, 2012, p. 5).

The following equation is used to estimate the generosity of unemployment benefits:

$$UBgenerosity = \sum_{i=1}^{k} nrr_{UI,i} * duration_{UI,i} + nrr_{UA} * duration_{UA}$$

where "*nrr* stands for net replacement rate, *UI* and *UA* at the pedix of variables denote,respectively, unemployment insurance and unemployment assistance, the index *i* refers to the different replacement levels for unemployment insurance over the unemployment spell." In presenting the unemployment benefit benchmark figures, Stovicek and Turrini (2012) not only consider the values at EU-average, but also at group average.

The last eight columns (see Table 2, section 2.5) take into account predictions from two different multivariate regressions (indicated with 1/2) where the last four columns present predictions at EU average. As indicated in the table 2, I will use the column which encloses the full multivariate model (column 2; see appendix table 21), also considering labour market expenditures. As Stovicek and Turrini find that the R^2-value increases from 0.2186 to 0.2856 it seems logical to consider the full multivariate model[29].

[29] Stovicek and Turrini use two different multivariate regressions (see appendix Figure 9) the first does not take into account the labour market expenditures, the second does. The indicated column in the above table presents predictions corrected for all factors used in the multivariate regressions, the column on the left of the indicated column (column; 1) gives the predicted corrected values without taking into account labour market expenditures, note that the table is sorted using this column. For more information see Stovicek & Turrini (2012).

3.2 VARIABLES

Table 3 gives an overview of the used models, with their dependent, independent and control variables.

Table 3: Used variables per hypothesis and model

Use of variables in each model	**Hypothesis 1-3**				**Hypothesis 5-10**	**Hypothesis 4, 11**		**Hypothesis 12**		**Hypothesis 13**	
	Logit				Multinomial logit	Logit		Logit		Multinomial logit	Logit
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10	Model 11
Dependent											
Latent entrepreneurship	*	*	*	*		*	*	*	*		*
Occupation					*					*	
Independent											
UB_Generosity								*			
Generous									*	*	*
Risk taking	*	*			*						
Self-efficacy	*		*		*						
Internal locus	*			*	*						
Self-employed_d						*	*				
Paid-employed_d						Base	Base				
Unemployed_d						*	*				
Control											
Self-employed_d								*	*		
Paid-employed_d								Omitted	Omitted		
Unemployed_d								*	*		
Risktaking							*	*	*	*	*
Self-efficacy							*	*	*	*	*
Internal locus							*	*	*	*	*
Gender	*	*	*	*	*	*	*	*	*	*	*
Age	*	*	*	*	*	*	*	*	*	*	*
Age^2	*	*	*	*	*	*	*	*	*	*	*
Self-employed parents	*	*	*	*	*	*	*	*	*	*	*
Education	*	*	*	*	*	*	*	*	*	*	*
Financial difficulties	*	*	*	*	*	*	*	*	*	*	*
Administrative difficulties	*	*	*	*	*	*	*	*	*	*	*
Informational difficulties	*	*	*	*	*	*	*	*	*	*	*

3.2.1 DEPENDENT VARIABLES

The statistic analysis makes use of two different dependent variables: *Latent entrepreneurship* and *Occupational state.*

Latent entrepreneurship

The dependent variable used in model 1-4, 6-9 and 11(used in testing hypothesis 1-4, 11, 12 and 13; see methodology) is latent entrepreneurship. Entrepreneurial drive, or latent entrepreneurship, is measured with the following question:

Question Q1:

Suppose you could choose between different kinds of jobs, which one would you prefer:

- *Being an employee*
- *Being self-employed*
- *None of these*
- *DK/NA (don't know/not applicable)*

In Table 4 below we see the distribution of answers. Individuals who answered "DK/NA" were excluded from the dataset.

Table 4: Distribution of employment preference

Answer	Frequency	Percent
Being an employee	3,298	52.51
Being self-employed	2,888	45.98
None of these	95	1.51
Total	6,281	100.00

The answers to question Q1 were used to construct the dummy variable "Latent_d" giving value 1 in case the respondent prefers to be in self-employment and value 0 in case he does not prefer to be in self-employment.

Table 5: Distribution of dummy variable "Latent_d"

Dummy	Frequency "1"	Frequency "0"	Total
Latent_d	2,888	3,393	6,281

Occupational State

The dependent variable used in model 5 and 10 (used to test hypothesis 5-10 and 13; see methodology), is employment status. The following question is used to measure current employment status:

Question D4:

As far as your current occupation is concerned, would you say that you are self-employed, in paid employment or would you say that you are without a professional activity?

- *Self-employed*
- *In paid employment*
- *Without a professional activity*
- *Refusal/no answer*

For reliability reasons, the group who answered "without professional activity" has been filtered with respect to fulltime students, retired individuals and individuals who answered "looking after the home"[30], to get a more realistic involuntary unemployment group. Question D4 resulted in variable "Occupation" giving value "1" in case an individual is in self-employment, value "2" when in paid-employment and value "3" when unemployed. Table 6 below gives the resulting distribution.

Table 6: Distribution of variable "Occupation"

Answer	Value	Frequency	Percent
Self-employed	**1**	1,111	17.69
Paid-employment	**2**	4,430	70.53
Unemployed	**3**	740 (807 excluded)	11.78
Total		6,281	100.00

3.2.2 INDEPENDENT VARIABLES

The independent variables used for model 1 and 5 (used in testing hypothesis 1-3 and 5-10) are: "Risk taking", "Self-efficacy" and "Internal locus". The independent variables used for model 6 and 7 (used in testing Hypothesis 4 and 11) are: "Unemployed_d", "Self-employed_d" and "Paid-employed_d". The independent variables used for model 8, 9-11 (used to test Hypothesis 12 and 13) are "UB_generosity" and "Generous".

Risk taking, Self-efficacy and Internal locus

To check the value of willingness to take risk amongst individuals, question D10a is used.

Do you strongly agree, agree, disagree, or strongly disagree with the following statements

[30] The response group "without professional activity" is categorized into (1) looking after the home (2) Student (3) retired (4) seeking a job (5) other. For this research the unemployed group only includes individuals in forced unemployment or willingly unemployed because of other reasons than "looking after the home", "Student (full time)" or "Retired".

(A) In general, I am willing to take risks.

Question B is used to check whether latent entrepreneurs report higher self-efficacy:

(B) Generally, when facing difficult tasks, I am certain that I will accomplish them.

Question C is used to determine whether latent entrepreneurs have higher value of internal locus of control:

(C) My life is determined by my own actions, not by others or by chance.

Again any values with DK/NA were deleted[31].

Table 7: Answer distribution of variables "Risktaking" "Selfefficacy" and "Internal locus"

Question D10 A,B,C	Risk taking (A) frequency	Risk taking (A) percent	Self efficacy (B) frequency	Self efficacy (B) percent	Internal locus (C) frequency	Internal locus (C) percent
Strongly agree (4)	1,069	17.02	1,529	24.34	1,969	31.35
Agree (3)	3,240	51.58	3,896	62.03	3,458	55.05
Disagree (2)	1,657	26.38	748	12.48	751	11.96
Strongly disagree (1)	315	5.02	72	1.15	103	1.64
Total	6281	100.00	6281	100.00	6281	100.00

Since all individuals are in some way willing to take risk, have self-efficacy or experience an internal locus of control, the variables are interpreted as ordinal variables, where value "1" is the lowest and value "4" the highest achievable value.

Occupation dummies

The variable "Occupation" was transformed into several dummy variables. "Self-employed_d" gives value "1" in case an individual is in self-employment and value "0" if otherwise. "Employed_d" gives value "1" in case an individual is in paid-employment and value "0" if otherwise. "Unemployed_d" gives value "1" in case an individual is in unemployment and value "0" if otherwise.

[31] Also the values were reversed, value 1 (strongly agree) was changed to 4, value 2 (agree) was changed to 3, value 3 (disagree) was changed to 2, value 4 (strongly disagree) was changed to 1. This has been done for ease of interpretation of the regression results.

Table 8: Distribution of dummy variables "Self-employed_d" "Paid-employed_d" and "Unemployed_d"

Dummy	Frequency "1"	Frequency "0"	Total
Self-employed_d	1,111	5,170	6,281
Paid-employed_d	4,430	1,851	6,281
Unemployed_d	740	5,541	6,281

UB_Generosity, Generous

The variable "UB_generosity" was constructed by adding the database with UB generosity data from the paper by Stovicek & Turrini (2012). Per country the corresponding value was added, with exception of the countries: Cyprus, Bulgaria and Romania of which the values per countries were insufficient to construct a UB generosity value (Stovicek & Turrini, 2012). All values from these countries were therefore deleted from the database. Values for "UB_Generosity" differ from -9.4 for Slovakia to 7.2 for Sweden[32]. Next a dummy variable showing whether a country has a generous or a non-generous UB system was created. Dummy variable "Generous" gives value "1" in case "UB_generosity" is larger than 0 and value "0" in case "UB_generosity" is smaller than 0.

Table 9 gives the resulting distribution of the variable "Generous".

Table 9: Distribution of dummy variable "Generous"

Generous	Frequency	Percent
0 (non generous)	2,852	45.41
1 (generous)	3,429	54.59
Total	6,281	100.00

3.2.3 CONTROL VARIABLES

The base selection of control variables accounts to: gender, age, self-employed parents, education, financial difficulties, administrative difficulties and informational difficulties. For model 7, 10 and 11, the selection of control variables is extended with the character trait variables, again extended with occupational dummies for model 8 and 9 (already explained in section 3.2.1).

[32] See Stovicek & Turrini, 2012 (Table 4) for the exact value's per country.

Financial support, Administrative procedures, Sufficient information

Perception of administrative complexities

Individuals are less likely to start a business or become self-employed in case of a perception of administrative complexities. Preferences for self-employment are also negatively affected by this perception, but only through actual entrepreneurship. (Grilo & Irigoyen, 2005; Grilo & Thurik 2005a; van de Zwan et al. 2007)[33].

Perception of insufficient information

As for the perception of insufficient information, van de Zwan et al. (2007) find that this perception affects the preference for self-employment, but – again - only through actual entrepreneurship. A perception of insufficient information was not found to impact different engagement levels[34] studied in Bhola et al. (2006).

Perception of lack of finance

Grilo & Thurik (2006) find that the perception of lack of financial support as an obstacle[35] is positively related to latent entrepreneurship but not to actual entrepreneurship. This result however does not find any support in the paper by Grilo & Irigoyen (2005), where lack of financial support only has a significant direct effect on being self-employed and no significant effect on preferences for self-employment. A perception of lack of financial support does not influence different engagement levels according to Bhola et al. (2006), and hereby supports Grilo & Thurik (2006).

Question Q18 of the Flash Eurobarometer no. 286 measures perceptions of these difficulties; Table 10 gives an overview of response frequencies and their percentages.

Q18: Do you strongly agree, agree, disagree or strongly disagree with the following opinion?

(A) It is difficult to start one's own business due to a lack of available financial support
(B) It is difficult to start one's own business due to the complex administrative procedures
(C) It is difficult to obtain sufficient information on how to start a business

[33] In their study, both the preference and actual status of entrepreneurship are investigated in a multi-country setting.
[34] The different engagement levels account to "taking steps for starting", "having a young business", "having a older business" and "no longer being an entrepreneur".
[35] Based on two similar surveys in 2000 and 2004.

Table 10: Distribution of variables "Financial difficulties" "Administrative difficulties" and "Informational difficulties"

Question Q18 A,B,C	Financial (A) frequency	Financial (A) %	Administrative (B) frequency	Administrative (B) %	Information (C) frequency	Information (C) %
Strongly agree	2,192	34.90	1,841	29.31	1,083	17.24
Agree	3,077	48.99	2,849	45.36	2,310	36.78
Disagree	848	13.50	1,275	20.30	2,223	35.39
Strongly disagree	164	2.61	316	5.03	665	10.59
Total	6281	100.00	6281	100.00	6281	100.00

Next, the question was used to construct dummy variables. "Finan" gives value "1" in case an individual agrees or strongly agrees with statement (A) and value "0" in case the individual disagrees or strongly disagrees with the statement. "Admin" gives value "1" in case an individual agrees or strongly agrees with statement "B" and value "0" in case the individual disagrees or strongly disagrees with the statement. "Info" " gives value "1" in case an individual agrees or strongly agrees with statement "C" and value "0" in case the individual disagrees or strongly disagrees with the statement. The regressions make use of the dummy variables as control variables. Table 11 below gives the obtained distribution of the dummy variables.

Table 11: Distribution of dummy variables "Finan" "Admin" and "Info"

Question Q18 A,B,C	Finan (A) frequency	Finan (A) percent	Admin (B) frequency	Admin (B) percent	Info (C) frequency	Info (C) percent
0	1,012	16.11	1,591	25.33	2,888	45.98
1	5,269	83.89	4,690	74.67	3,393	54.02
Total	6281	100.00	6281	100.00	6281	100.00

Socio-demographic factors

Several socio-demographic factors influence whether one is more likely to enter self-employment. Although there is little quantitative testing on the precise influence of several socio-demographic factors on latent entrepreneurship, this section will discuss the factors taken into account in the performed research of this thesis. The choice of the variables was constrained by the use of the Flash Eurobarometer No.286 survey, where only a limited number of factors are included. Most noticeably

these variables can be -directly or indirectly-intertwined with other used variables; for example, females seem to have lower self-efficacy where age seems to have a positive effect on self-efficacy.

Gender

In general men are –about twice- more likely to be self-employed than women (Reynolds et al, 2002). In high income countries men are 33% more likely than women to be active in entrepreneurship compared to 41% in low income countries. In middle income countries this percentage is even higher; men are 75% more likely to be in self-employment (Minniti, Arenius, & Langowitz, 2005). Reasons for why women are less interested in entrepreneurial careers are found in self-efficacy beliefs; women tend to think they lack the skills or potential to start a business (Bandura, 1992; Lent & Hackett, 1987; Nevill & Schleckler, 1988). Women tend to have lower expectations of success for a range of different occupations (Eccles, 1994), exerting extra pressure on non-traditional occupations like entrepreneurial careers (Bandura et al., 2001). Greene (2000) attributes the difference in entrepreneurial activity to human and social capital aspects. Other reasons are found in risk tolerance and number of children [36](Jianakoplos and Bernasek, 1998; Lefkowitz ,1994). Van de Zwan et al. (2009) find that being male has a substantial positive impact on the probability of preferring self-employment above other employment options. This effect on latent entrepreneurship is also found in Grilo & Irigoyen (2006) and Blanchflower et al. (2001).

Age

The age effect on nascent entrepreneurship seems inconclusive. New firm creation is found to be "a young man's game" (Lévesque & Minniti, 2006, p.177; Reynolds et al., 2002). The average CEO age of the fastest growing American firms was 34 in 2001 and 32 in 2000[37]. The explanation, according to Lévesque & Minniti (2006), lies in a management accounting perspective. Business startup can be seen as a future stream of cash flows which do not pay in the beginning. Time is less scarce for young people and therefore the discount rate is lower for young people, also they expect a longer cash flow span (Becker and Ghez, 1975). This should explain why the probability of being a nascent entrepreneur is highest among the age-group of 25 to 35. In the EU it is found that the probability of being self-employed rises with age[38]. However, again, the probability of being a nascent entrepreneur is maximized among young individuals (Blanchflower, 2004). The GEM global report (2005) shows that for high and middle income countries most established business owners belong to the 45-54 age-group. Early stage entrepreneurs are most prevalent in the 25-34 age-group (Minniti et al., 2005).

[36] After controlling for perceived job characteristics, age and tenure, level of education, income and occupational level, differences in job attitudes disappeared for men and women
[37] Based on data from Inc. 500; fastest growing private companies in the US
[38] Based on the Mannheim Eurobarometer Trend file, combining 70 eurobarometer surveys, reaching approximately 385,000 people.

More importantly for this research; the willingness to be self-employed is highest amongst young individuals (Blanchflower, 2004) and decreases with age (van de Zwan et al., 2007).

Age^2

As there are indications (See section 3.5: Descriptive statistics) that age follows a non-linear path with respect to latent entrepreneurship the variable Age-Squared will be taken into account to control for this non-linearity.

Self-employed parents

The term social capital covers the ability of an entrepreneur to use social ties to overcome startup problems. Social capital belongs to the most important factors influencing business startup intentions and success (Bosma et al., 2004). Parents are part of this social capital and are found to be more often self-employed amongst entrepreneurial children. Reasons are found in the fact that knowledge can easily flow between the two parties hereby creating opportunity recognition and development of new ideas (Bohla et al., 2006). Parents can also often solve part of the funding problem young entrepreneurs usually experience (Verheul et al., 2002; Dunn and Holtz-Eakin, 1996). Studies show that entrepreneurs often have social ties to other entrepreneurs; self-employed parents can -in this aspect- be a bridging element for their children, connecting them to other entrepreneurs (Greve & Salaff, 2003). Family networks are found to positively influence necessity and opportunity entrepreneurship in Djankov et al. (2004). Van de Zwan et al. (2007) find that having self-employed parents significantly influences the preference for self-employment and actual entrepreneurship; again an effect through actual entrepreneurship is found.

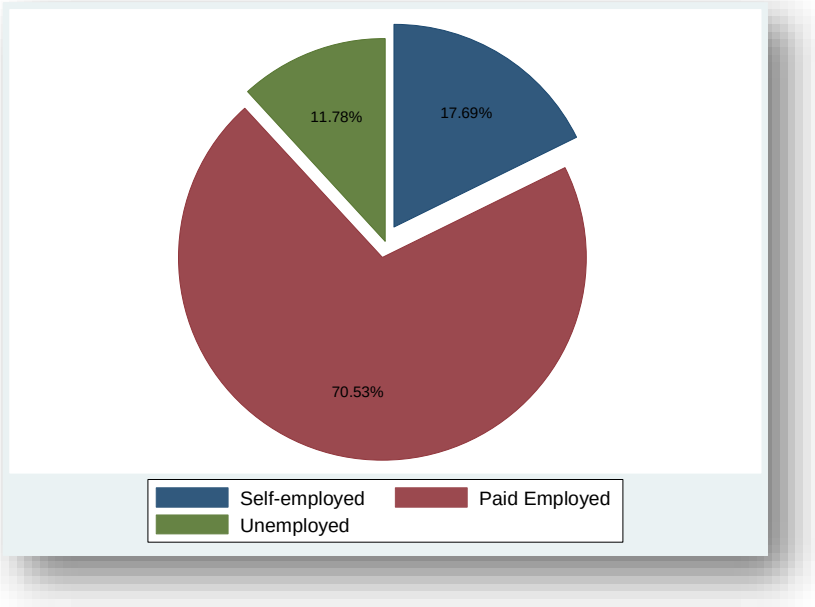
Education:

No consensus exists as for the influence of education on entrepreneurial activity or preference. Individuals with a higher education might be better able to identify and exploit opportunities (Davidsson and Honig, 2003). Evans and Leighton (1989) find that high educated individuals are more likely to participate in entrepreneurship. Studies show that entrepreneurs are on average higher educated; indicating that education in general raises entrepreneurial activity (Robinson & Sexton, 1994)[39]. Van der Zwan et al. (2007) find no significant influence in their full model for education on latent entrepreneurship; there is some significance for actual entrepreneurship but they conclude that education does not seem to be a very important influential factor. Blanchflower et al. (2001) and Grilo & Irigoyen (2005) do not find a significant impact of educational level on preference of self-employment either. Education can however be of influence on unemployment push effects; individuals with a low level of education could have more trouble finding a job, and therefore be forced into self-employment (Bhola et al., 2006).

[39] Average years of education for the self-employed were 14.57 versus 13.58 years for the employed.

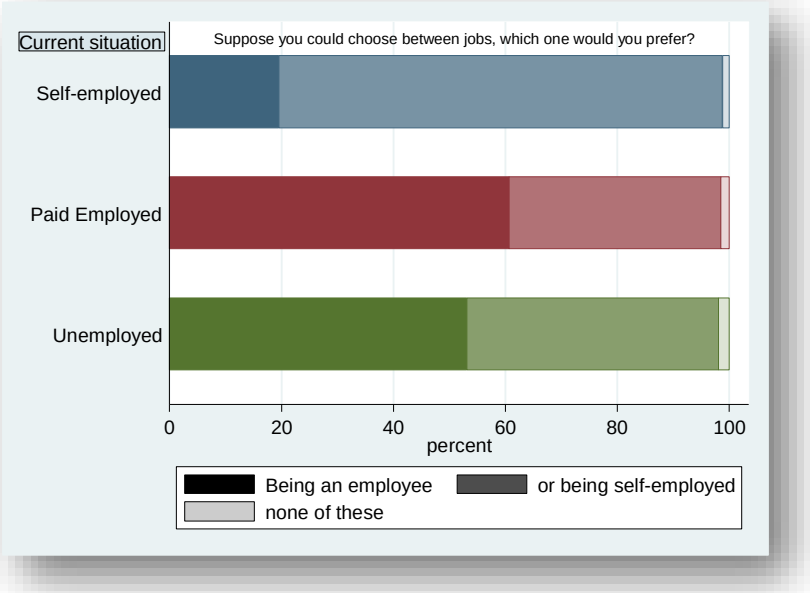
3.3 DESCRIPTIVE STATISTICS

To get a better understanding of how the data fits together; this sections shows different aspects of the data in bar and pie charts. Notice that that the color Green reveals information about the unemployed; the color Red reveals information about the paid-employed and the color Blue reveals information about the self-employed individuals.



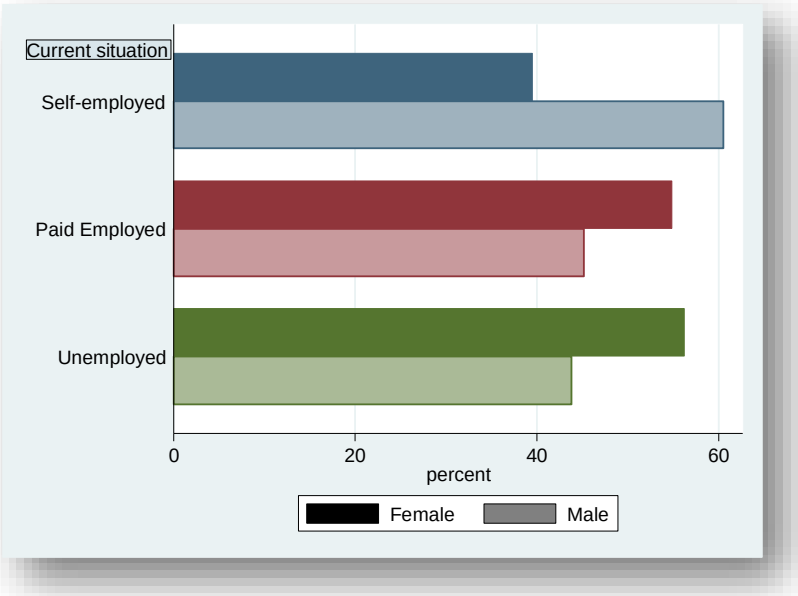
The employment situation distribution of the sample is given in Graph 1. As expected the sample consist mainly out of paid-employed individuals (70.53%), the self-employed group accounts for 17.69% of the total sample. The unemployed group is smallest and account for 11.78% of the sample.

Graph 1
Distribution of employment situation (%)



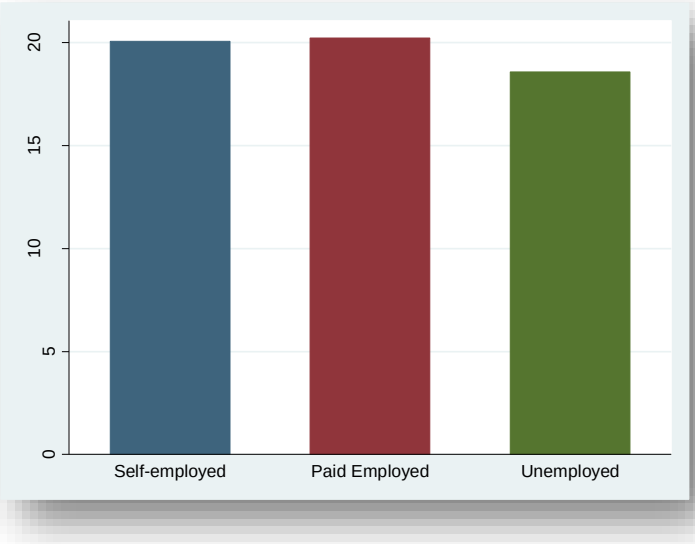
Graph 2
Preference for different employment situations (%)

The distribution of answering to question Q1 - preference for different occupational situations - is given in Graph 2, the self-employed indeed seem to prefer self-employment and only about 20% would like to be paid-employed. Paid-employed individuals indicate in 40% of the time they would rather be self-employed than paid-employed. Almost half of the unemployed individuals indicate they would rather be self-employed than paid-employed.



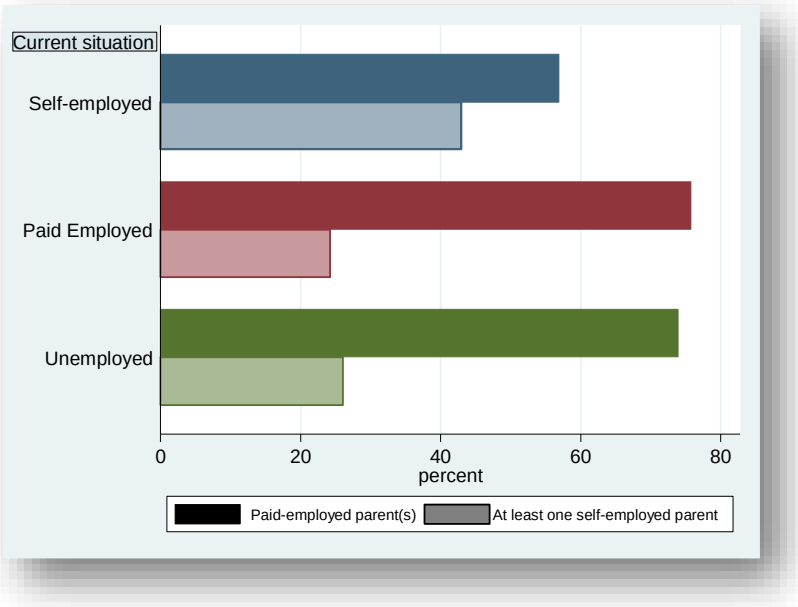
In Graph 3 the percentage of male and female respondents is given for every employment situation group. Notice that indeed self-employed individuals are more often male compared to the other employment groups.

Graph 3
Male/female amongst different employment groups (%)



As Graph 4 shows; no big differences exist as for years of education amongst the different age groups. Unemployed seem to have somewhat less years of education compared to the average amount of years of education.

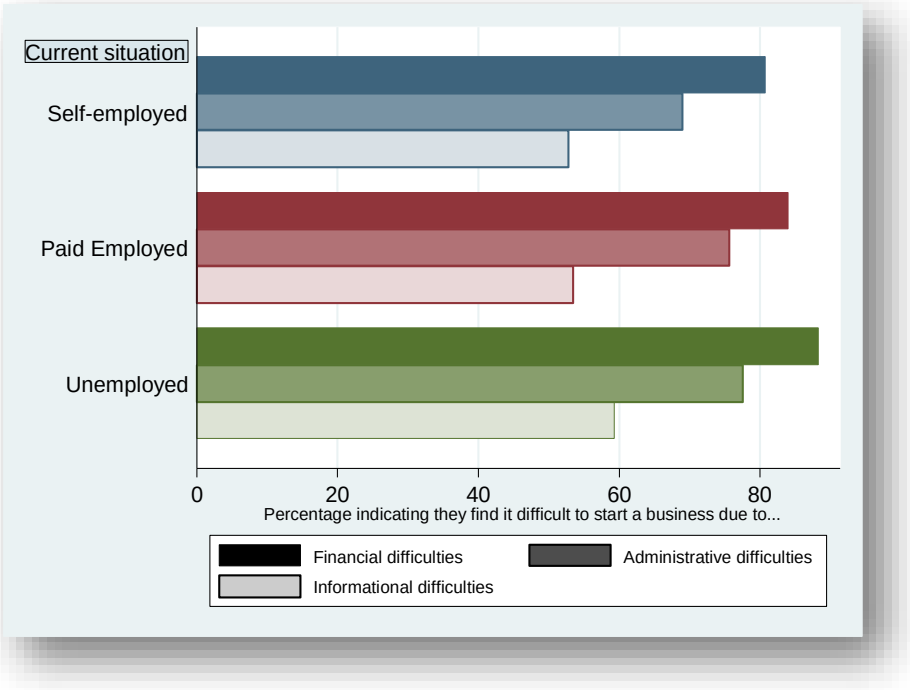
Graph 4:
Mean years of education amongst different employment groups



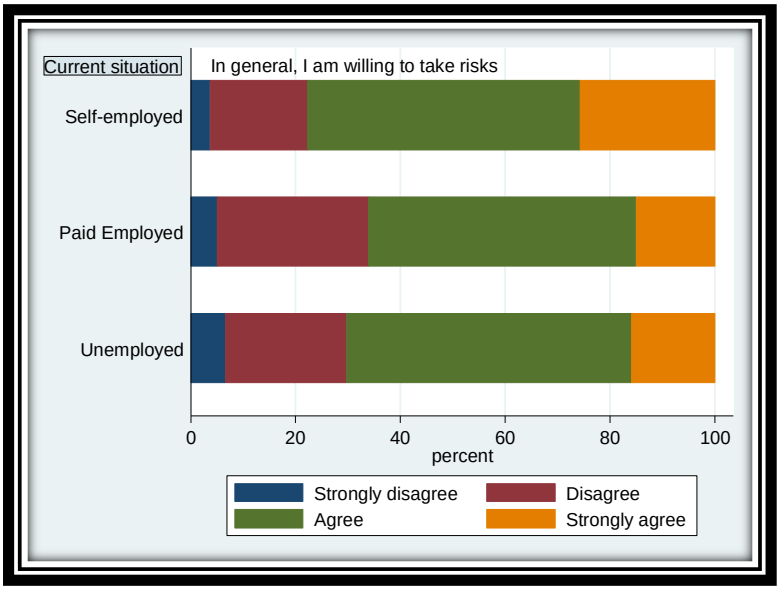
Graph 5 shows that the self-employed are more likely to have at least one self-employed parent compared to the other employment (situational) groups.

Graph 5
Self-employed parents amongst different employment groups (%)

In Graph 6 we see that in each employment group more than 80% of the individuals find it hard to start a business due to financial difficulties, indicating that finances are the biggest obstacle for business startup compared to the other difficulties. Administrative difficulties are perceived by more than 70% of the respondents. Informational difficulties are perceived by more than 50% of the respondents. Notice that no big differences exist amongst the different employment groups. However the unemployed experience –overall- more difficulties, probably as a result from their current situation.



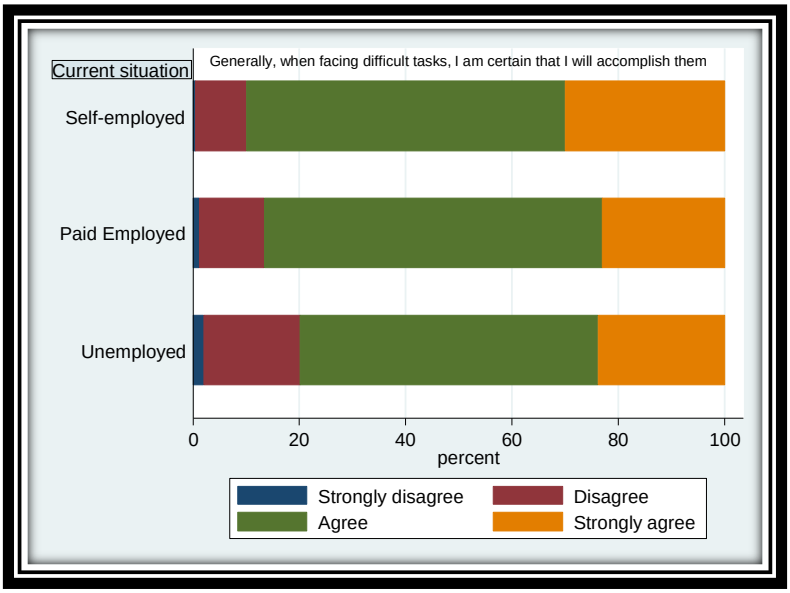
Graph 6
Distribution startup difficulties amongst different employment groups (%)



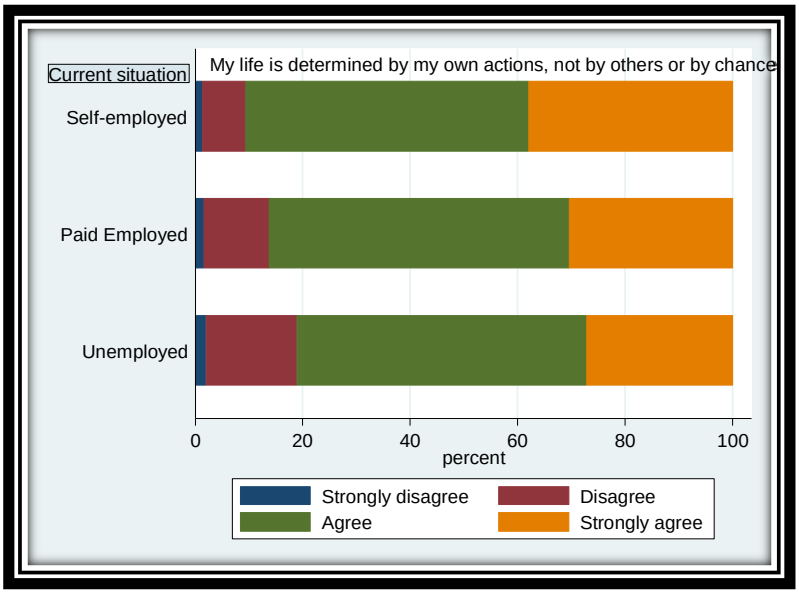
Graph 7
Distribution of answers "Risk taking" amongst different employment groups (%)

As for willingness to take risks, self-employed individuals are indeed more willing to take risk (followed by the unemployed) than are paid-employed individuals. Note that the answer "strongly agree" is also more present amongst the self-employed, giving notice to a certain confidence in their answering. At the same time we see the same (but smaller) effect for "strongly disagree" amongst the unemployed group (see Graph 7).

Self-efficacy is most often expressed amongst the self-employed although paid-employed individuals also feel they can accomplish difficult tasks. Self-employed individuals are however somewhat more certain in their abilities. As expected the unemployed have less self-efficacy; almost double as many individuals in the unemployment group answer "disagree" compared to the self-employed (see Graph 8).



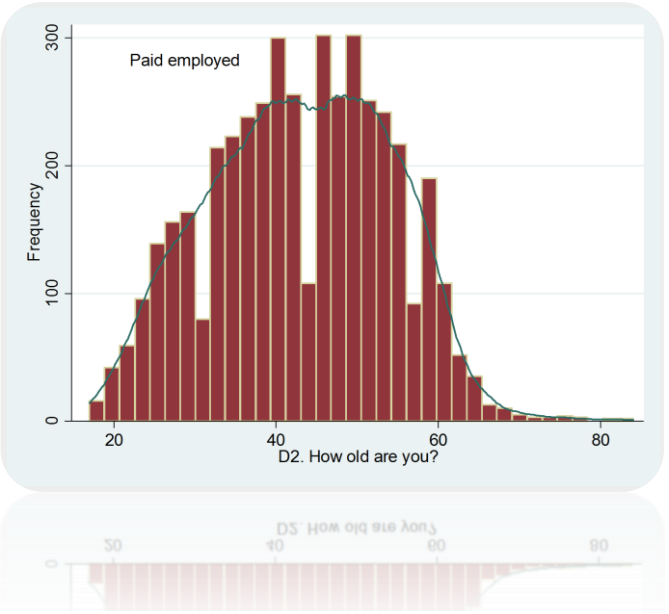
Graph 8:
Distribution of answers "Self-efficacy" amongst different employment groups (%)



The variable internal locus of control is again more positively answered amongst the self-employed, again with a larger fraction answering "strongly agree" compared to the other occupation groups. The unemployed answer more negative than the paid-employed (differing in their reaction compared to the risk-question). See Graph 9

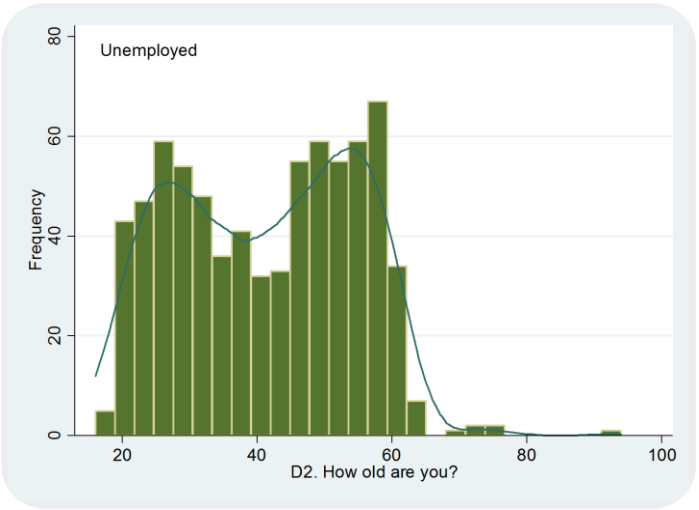
Graph 9:
Distribution of answers "Internal locus" amongst different employment groups (%)

In Graph 10, 11 and 12 we see the distribution of age amongst the different employment groups. Notice that the paid-employed and the self-employed both approach the normal-curve. However, the unemployed group experiences two peaks, indeed young individuals between 20 and 30 seem to be more often unemployed. Also, older individuals between 45-55 seem to be more often unemployed. The "gaps" in the data considering Graph 10 Result from the way STATA groups age categories.



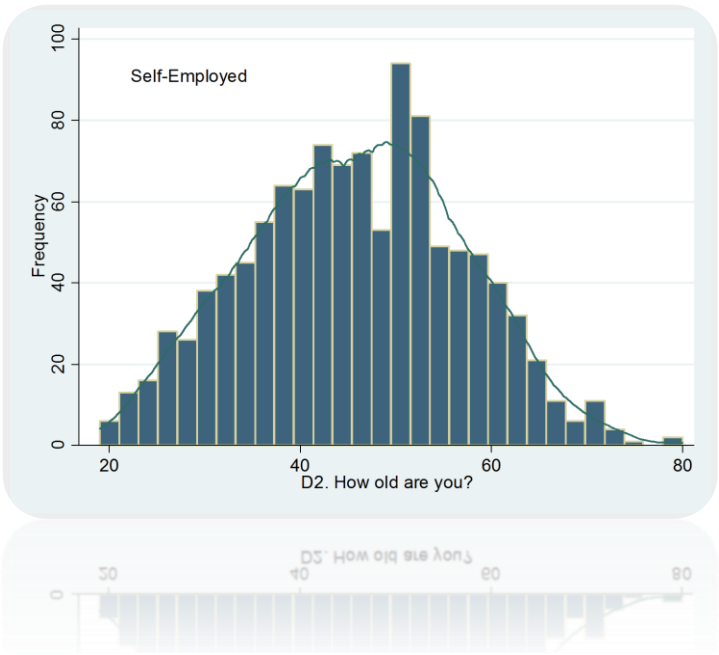
Graph 10
Age distribution; paid-employed (freq)

Note that the x-axis in Graph 11 differs somewhat from the other graphs due to some outliers.

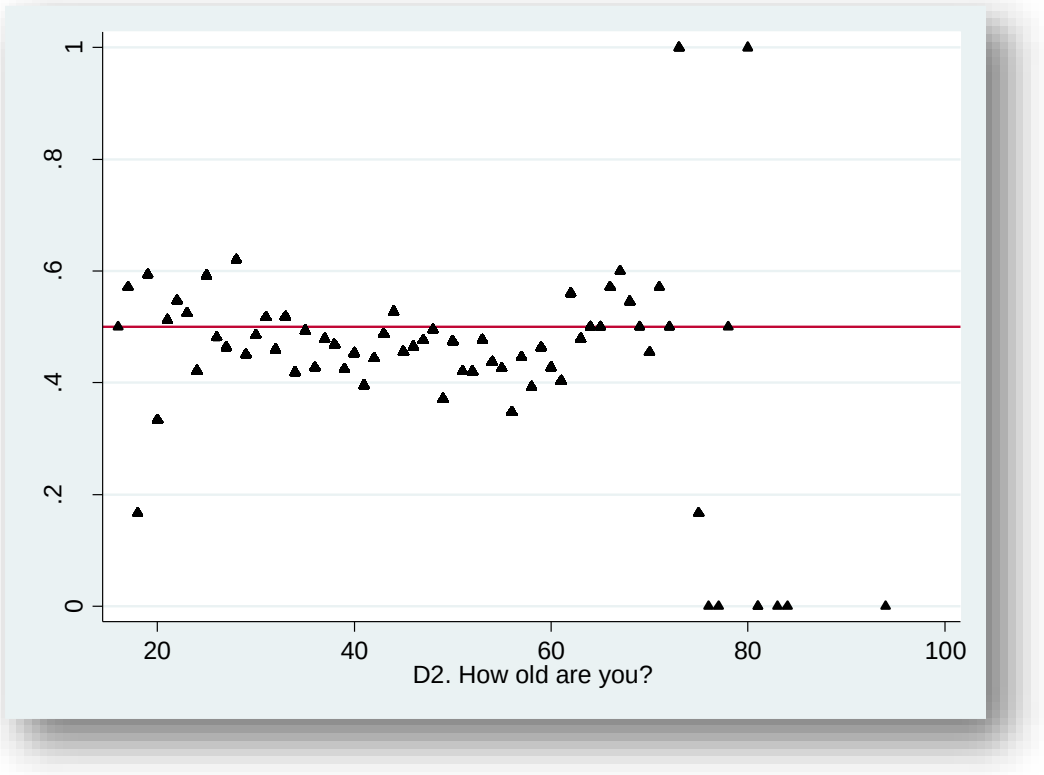


Graph 11
Age distribution; unemployed (freq)

Note that the self-employed have somewhat more weight on the right side of the Graph compared to the paid-employed; and are –thus- relatively older.

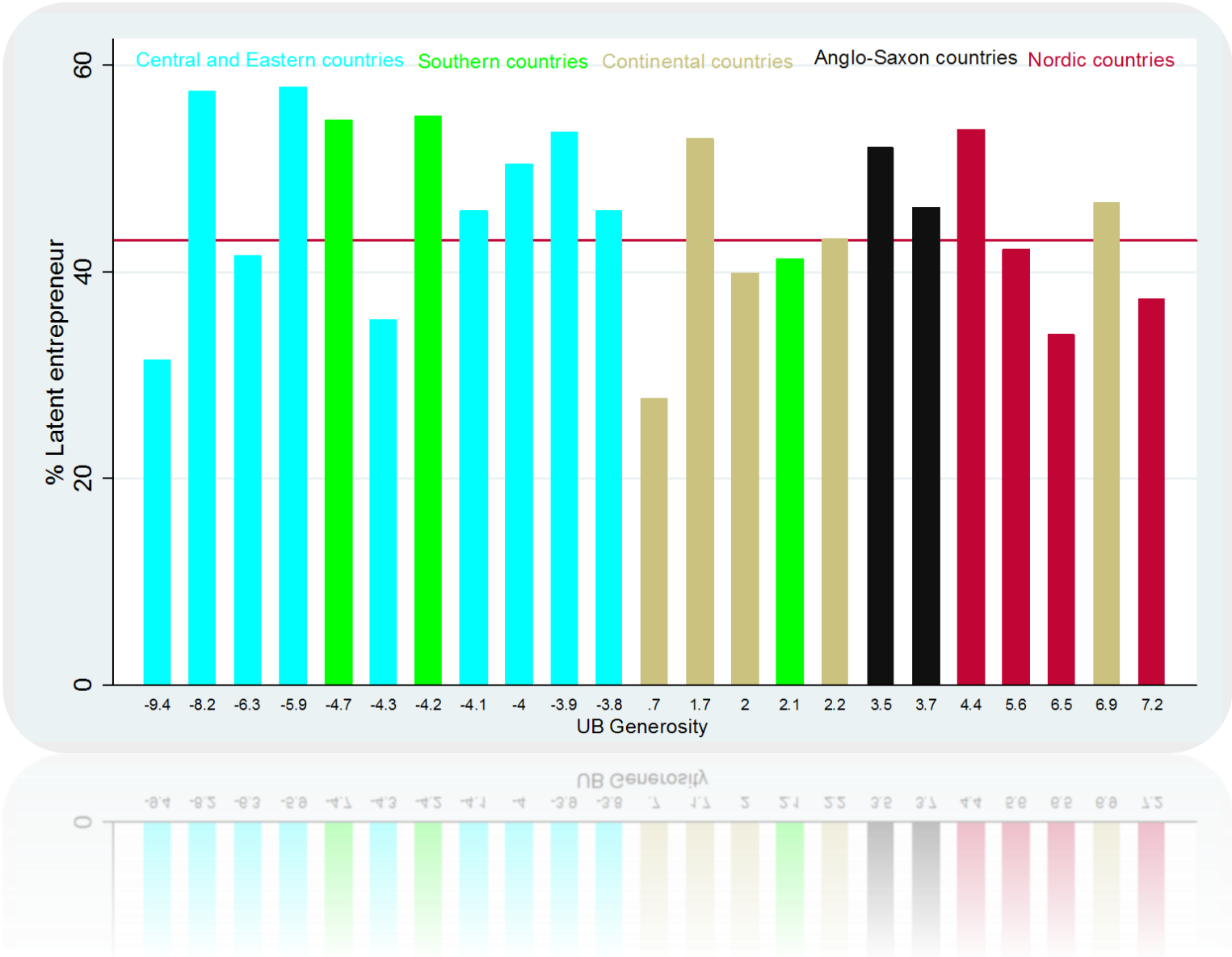


Graph 12
Age distribution; self-employed (freq)



Graph 13
Prevalence of latent entrepreneurship amongst different ages

When plotting age and the average of the dummy variable "latent" (giving 1 in case of a preference for self-employment and 0 otherwise), the plot shows that younger and older individuals are more likely to express a preference for self-employment (Graph 13). This indicates that latent entrepreneurship follows a non linear pattern with respect to age.



Graph 14
UB generosity and latent entrepreneurship (%)

In Graph 14 the different countries with their UB generosity values are plotted, the y-axis shows the percentage of latent entrepreneurs for each country. The different colors indicate whether the country belongs either to the Central-eastern, Southern, Continental, Anglo-Saxon or Nordic countries (as specified in Stovicek and Torrini, 2012). On average latent entrepreneurship seems somewhat more prevalent amongst countries with lower UB generosity values. However, there is lots of variance, some low generosity countries have very low latent entrepreneurial rates, in the same line, some high generosity countries have very high latent entrepreneurial rates. However, the country with the lowest entrepreneurial rate is found amongst the high generosity countries and the country with the highest entrepreneurial rate is found amongst the low generosity countries. All in all it seems that UB generosity of a country is related to latent entrepreneurship.

3.6 METHODOLOGY

To test hypothesis 1-3,

Hypothesis 1: Individuals who are more willing to take risks are more likely to be latent entrepreneurs than individuals who are less willing to take risks.

Hypothesis 2: Individuals who express more self-efficacy are more likely to be latent entrepreneurs than individuals who express less self-efficacy.

Hypothesis 3: Individuals who express more of an internal locus of control are more likely to be latent entrepreneurs than individuals who express less of an internal locus of control.

Four "Logit" models are used. The dependent dummy variable is "latent entrepreneurship", the independent variables are "Willingness to take risk", "Self-efficacy" and "Internal locus of control". Four models are used for the first three hypothesis. Model 1 incorporates all independent and control variables. Model 2 incorporates only the dependent variable "Risk taking" and the control variables. Model 3 incorporates only the dependent variable "Self-efficacy" and the control variables. Model 4 incorporates only the dependent variable "Internal locus" and the control variables.

Assumptions underlying the logistic regression are:

- Binary dependent variable
- Independence in errors
- No Multicollinearity
- Sample size

All assumptions are met for all logistic models.

To test Hypothesis 5- 10

Hypothesis 5: Individuals (a) who are more willing to take *Risk* are more likely to be Self-employed than Paid-employed and this (b) implies an indirect positive relationship of willingness to take *Risk* with latent entrepreneurship through its positive relation with being Self-employed (versus being Paid-employed).

Hypothesis 6: Individuals (a) who express more *Self-efficacy* are more likely to be Self-employed than Paid-employed and this (b) implies an indirect positive relationship of *Self-efficacy* with latent entrepreneurship through its positive relation with being Self-employed (versus being Paid-employed).

Hypothesis 7: Individuals (a) who express more of an *Internal locus of control* are more likely to be Self-employed than Paid-employed and this (b) implies an indirect positive relationship of *Internal locus of control* with latent entrepreneurship through its positive relation with being Self-employed (versus being Paid-employed).

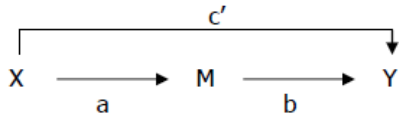
Hypothesis 8: Individuals (a) who are more willing to take *Risk* are more likely to be Unemployed than Paid-employed and this (b) implies an indirect positive relationship of willingness to take *Risk* with latent entrepreneurship through its positive relation with being Unemployed (versus being Paid-employed).

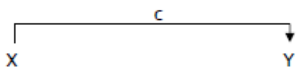
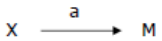
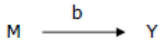
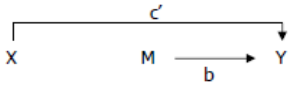
Hypothesis 9: Individuals (a) who express more *Self-efficacy* are less likely to be Unemployed than Paid-employed and this (b) implies an indirect negative relationship of *Self-efficacy* with latent entrepreneurship through its negative relation with being Unemployed (versus being Paid-employed)

Hypothesis 10: Individuals (a) who express more of an *Internal Locus of Control* are less likely to be Unemployed than Paid-employed and this (b) implies an indirect negative relationship of *Internal Locus of Control* with latent entrepreneurship through its negative relationship with being Unemployed (versus being Paid-employed)

To test these mediation effects, a four step method – as proposed by Baron and Kenny (1986) - is used. Figure 7 shows this 4-step method.

Figure 7: Four step method in testing mediation effects



	Analysis	*Visual Depiction*
Step 1	Conduct a simple regression analysis with X predicting Y to test for path *c* alone, $Y = B_0 + B_1X + e$	
Step 2	Conduct a simple regression analysis with X predicting M to test for path *a*, $M = B_0 + B_1X + e$.	
Step 3	Conduct a simple regression analysis with M predicting Y to test the significance of path *b* alone, $Y = B_0 + B_1M + e$.	
Step 4	Conduct a multiple regression analysis with X and M predicting Y, $Y = B_0 + B_1X + B_2M + e$	

The purpose of Steps 1-3 is to establish that zero-order relationships among the variables exist. If one or more of these relationships are nonsignificant, researchers usually conclude that mediation is not possible or likely (although this is not always true; see MacKinnon, Fairchild, & Fritz, 2007). Assuming there are significant relationships from Steps 1 through 3, one proceeds to Step 4. In the Step 4 model, some form of mediation is supported if the effect of M (path *b*) remains significant after controlling for X. If X is no longer significant when M is controlled, the finding supports *full mediation*. If X is still significant (i.e., both X and M both significantly predict Y), the finding supports *partial mediation*.

Source: Upa.edu

As visualized in Figure 3, 4 and 5, I will test the mediating effects of all three character trait variables. ***Step one*** is identifying the direct association of the character trait variables with latent entrepreneurship, as given in- the already discussed- **model 1-4** of "hypothesis 1-3". Step two is; identifying the direct association of the character trait variables with occupational state, as given in **model 5** (see Table 3). Step three is; testing the direct association of occupational state with latent entrepreneurship as given in **model 6**. Step four is the same as step three, but including the character trait variables, see **model 7**. Thus, 4 models are necessary to identify whether there are mediating effects.

A "Multinominal logit" model (5) is used to test the direct association of the character trait variables with occupational situation (***Step 2***). The dependent variable is "Occupation", the independent variables are again "Risk taking", "Self-efficacy" and "Internal locus". The same set of control variables as for model 1-4 is used. The Multinominal logit model compares the different outcomes with the base category (paid-employment). The coefficients give the log odds ratio difference (of being in one of the groups compared to the base group) per 1-value increase of the independent variables (and control variables). The base value is paid-employed individuals: group 2. Group 1 are the self-employed and group 3 are the unemployed.

Next ***step 3*** tests the direct effect of occupational state with latent entrepreneurship, model 6 will be used. ***Step 4*** is used to see whether significance is lost for the character trait variables (model 7), and concludes if there is a fully mediating effect or a partial mediating effect.

To test the "general" hypothesis 4 and 11:

Hypothesis 4: Self-employed individuals are more likely to be latent entrepreneur than Paid-employed individuals.

Hypothesis 11: Unemployed individuals are more likely to be latent entrepreneurs than Paid-employed individuals.

A "Logit" model (7) is used. The dependent dummy variable is "Latent entrepreneurship", the independent variables are "Self-employed dummy", "Unemployed dummy" and "Employed dummy". The same set of control variables is included as in model 1-6, extended with the variables "Risk taking", "Internal locus" and "Self-efficacy"

To test hypothesis 12:

Hypothesis 12: Individuals living in countries with a non-generous[40] UB system are more likely to express a preference for self-employment than individuals living in countries with generous UB systems.

Two "Logit" models (8 and 9) are used. In both models the dependent dummy variable is "Latent entrepreneurship"; in model one the independent variable is "UB Generosity", whereas in model two the independent variable is "Generous[41]". Again the same set of control variables is added as was used in model 7, extended with the employment dummies.

To test hypothesis 13:

Hypothesis 13: Individuals (a) living in countries with a generous unemployment benefit system are less likely to be self-employed and this (b) implies an indirect negative association of generous Ub-systems with latent entrepreneurship through its negative association with being self-employed (versus being paid-employed).

Again the four step method for testing mediating effects is used, explained above.

The ***first step***, tests whether there is a direct effect of "generous" and latent entrepreneurship, using model 11. The ***second step***, tests whether there is a direct effect of "generous" on occupational situation, using model 10. The ***third step*** tests whether there is a direct effect of occupational situation on latent entrepreneurship, using model 7. The ***fourth step*** tests whether there is partial mediation or full mediation, using model 9.

[40] Generosity of benefit system will be categorized as non-generous in case of a number lower than 0, and generous when above 0.
[41] Remember that "Generous" is a dummy variable giving value one in case of a UB generosity value above 0 and value zero in case of a UB generosity value below zero.

3.7 RESULTS

This section shows the result of the different estimated models using STATA. The results will be discussed in order of hypothesis and per grouping of hypotheses an overview is given in a preceding table. For model 1-4 average marginal effects are estimated for ease of interpretation. The same has been done for model 6, 7, 8, 9 and 11. 1% significance is indicated with ***, 5% significance is indicated with ** and 10% significance is indicated with *. Each table shows the number of observations, Wald Chi and degrees of freedom, log likelihood and pseudo R^2 values at the bottom. Let us proceed to the discussion of the results.

HYPOTHESIS 1-3

Model 1-4 in Table 12 show the average marginal effects of the independent variables "Risk taking", "Self-efficacy" and "Internal locus" on being a latent entrepreneur. Model 1 incorporates all character trait variables and shows that risk taking and self-efficacy have a significant positive association with latent entrepreneurship. Internal locus also appears to have a positive relationship with latent entrepreneurship but the relation is not significantly different from zero.

Being more willing to take risk (a move from 1-2, 2-3 or 3-4) increases the change of being a latent entrepreneur with 10.6 percentage points. The same can be said for self-efficacy; expressing more self-efficacy (see section 3.2.2 independent variables) increases the chance of being a latent entrepreneur with 1.9 percentage points. As stated, no significant association is found for internal locus. After controlling for non linearity of age, no significant effect of age is found. Other variables that do not significantly differ from zero in their influence on latent entrepreneurship are "Education" and "Informational difficulties".

Model 2 only considers "Risk taking" as independent variable and consequently has a stronger effect on latent entrepreneurship compared to model 1. Notice that the explanatory value of model 2 decreases somewhat compared to model 1, from $R^2 = 0.0384$ to 0.0376. The results (of model 1 and 2) give support for hypothesis 1; individuals who are more willing to take risk are more likely to be latent entrepreneurs.

Model 3 only considers "Self-efficacy" as independent variable and consequently has a stronger effect on latent entrepreneurship compared to model 1. Having more self-efficacy increases the chance of being a latent entrepreneur with 5.1 percentage points. The results (of model 1 and 3) give support for hypothesis 2; Individuals who express more self-efficacy are more likely to be latent entrepreneurs.

Notice that the influence of "Self-efficacy" on latent entrepreneurship is much weaker than the influence of "Risk taking"

Model 4 only considers "Internal locus" as independent variable and consequently has a stronger (and significant) effect on latent entrepreneurship. Having more internal locus of control increases the chance of being a latent entrepreneur with 3.6 percentage points. The results give partial support for hypothesis 3; Individuals who express more of an internal locus of control are more likely to be latent entrepreneur. However this result only holds for model 4 and not model 1.

Table 12 - Estimation results of logistic regression, Model 1-4, with latent entrepreneurship as dependent variable.

	Model 1		Model 2	
	Average marginal effect	Robust std err	Average marginal effect	Robust std err
Independent Variable				
Risk taking	0.1057***	0.0091	0.1113***	0.0088
Self-efficacy	0.0186*	0.0109		
Internal locus	0.0158	0.0099		
Control variables				
Gender	0.0988***	0.0129	0.0997***	0.0129
Age	- 0.0010	0.0036	- 0.0011	0.0036
Age^2	0.0000	0.0000	0.0000	0.0000
Self-employed parents	0.0872***	0.0144	0.0877***	0.0144
Education	- 0.0003	0.0013	- 0.0004	0.0013
Financial difficulties	0.0386**	0.0181	0.0384**	0.0180
Administrative difficulties	- 0.0594***	0.0161	- 0.0599***	0.0161
Informational difficulties	0.0132	0.0140	0.0116	0.014
Observations	6281		6281	
Wald Chi/ degrees of freedom	306.06/11		297.93/ 9	
Prob>chi	0.0000		0.0000	
Log-likelihood	- 4166.8324		- 4170.3961	
Pseudo R	0.0384		0.0376	

	Model 3		Model 4	
	Average marginal effect	Robust std err	Average marginal effect	Robust std err
Independent Variable				
Risktaking				
Selfefficacy	0.0511***	0.0102		
Internal locus			0.0364***	0.0094
Control variables				
Gender	0.1093***	0.0127	0.1125***	0.0126
Age	- 0.0031	0.0036	- 0.0025	0.0036
Age^2	0.0000	0.0000	0.0000	0.0000
Self-employed parents	0.0962***	0.0142	0.0973***	0.0142
Education	0.0003	0.0013	0.0005	0.0013
Financial difficulties	0.0344*	0.0180	0.0329*	0.0180
Administrative difficulties	- 0.0619***	0.0159	- 0.0640***	0.0159
Informational difficulties	0.0176	0.0138	0.0160	0.0138
Observations	6281		6281	
Wald Chi/ degrees of freedom	173.35/9		163.33/9	
Prob>chi	0.0000		0.0000	
Log-likelihood	- 4243.0851		- 4248.1725	
Pseudo R2	0.0208		0.0197	

*** denotes significance at 1%; ** denotes significance at 5%; * denotes significance at 10%.

HYPOTHESIS 4 AND 11

In Table 14, model 7, we see that a change in the dummy variable "Self-employed _d" from 0 to 1 increases the change of being a latent entrepreneur with 39.7 percentage points. Being self-employed –thus- drastically increases the chance of preferring self-employment above paid-employment; hereby giving support for hypothesis 3. Being unemployed is also positively associated with latent entrepreneurship. A change in the dummy variable "unemployed_d" from 0 to 1 increases the change of being a latent entrepreneur with 6.97 percentage points; hypothesis 11 is accepted on base of this result. When comparing this model (7) with model 1 (used for hypothesis 1-3); including employment situation dummies results in a non-significant value for "Self-efficacy". Significance for "Internal locus" dropped from 0.111 (in model 1) –already non significant- to 0.506. "Risk taking" is significantly different from zero in both models, but the percentage points dropped from 10.6 to 9.6; hereby giving some indications that these character traits are mediating through employment situation. Let us proceed to hypothesis 5-10.

Table 13 - Estimation results of logistic regression, Model 6, with latent entrepreneurship as dependent variable.

	Average marginal effect	Robust std err
Independent Variable		
Self-employed_d	0.4060***	0.0145
Paid-employed_d	0	Omitted
Unemployed_d	0.0696***	0.0204
Control variables		
Gender	0.0870***	0.0134
Age	- 0.0034	0.00365
Age^2	- 0.0000	0.0000
Self-employed parents	0.0514***	0.0151
Education	0.0006	0.0014
Financial difficulties	0.0431***	0.0184
Administrative difficulties	- 0.0481***	0.0165
Informational difficulties	0.0102	0.0145
Observations	6281	
Wald Chi/ degrees of freedom	592.84	
Prob>chi	0.0000	
Log-likelihood	- 3966.6061	
Pseudo R	0.0846	

*** denotes significance at 1%; ** denotes significance at 5%; * denotes significance at 10%.

Table 14 - Estimation results of logistic regression, Model 7, with latent entrepreneurship as dependent variable.

		Average marginal effect	Robust std err
Independent Variable			
Self-employed_d		0.3970***	0.0149
Paid-employed_d		0	Omitted
Unemployed_d		0.0697***	0.0207
Control variables			
Risk taking		0.0960***	0.0095
Self-efficacy		0.0158	0.0115
Internal locus		0.0070	0.0105
Gender		0.0752***	0.0136
Age	-	0.0016	0.00368
Age^2	-	0.0000	0.0000
Self-employed parents		0.0432***	0.0153
Education		0.0000	0.0014
Financial difficulties		0.0476***	0.0185
Administrative difficulties	-	0.0440***	0.0166
Informational difficulties		0.0087	0.0146
Observations		6281	
Wald Chi/ degrees of freedom		689.76	
Prob>chi		0.0000	
Log-likelihood	-	3902.6921	
Pseudo R2		0.0994	

*** denotes significance at 1%; ** denotes significance at 5%; * denotes significance at 10%.

Let us first consider the first part of each hypothesis: part (a). This is also considered ***step 2*** in finding a mediating effect (see methodology).

Table 17 provides the estimations of the multinomial regression of model 5. A one-unit increase in the variable "Risk taking " is associated with a 0.3348 increase in the relative log odds of being in the category self-employed vs. paid-employed; And a 0.0989 increase in the relative log odds of being in the category unemployed vs. paid-employed. Individuals who are more willing to take risk are more likely to be self-employed or unemployed than paid-employed; hereby giving support for hypothesis 5 and 8 (a).

A one-unit increase in the variable "Self-efficacy" is associated with a 0.0796 increase in the relative log odds of being in the category self-employed vs. paid-employed; however, the relation is not significantly different from zero. A one-unit increase in the variable "Self-efficacy" is associated with a 0.1194 decrease in the relative log odds of being in the category unemployed vs. paid-employed. Individuals who express more self-efficacy are less likely to be unemployed than paid-employed. Notice that we cannot state that individuals who express more self-efficacy are more likely to be self-employed than paid-employed and thus hypothesis 6 (a) and (b) are rejected. Hypothesis 9; indeed individuals expressing more self-efficacy are more likely to be paid-employed than unemployed. And thus hypothesis 9(a) is supported

A one-unit increase in the variable "Internal locus" is associated with a 0.17499 increase in the relative log odds of being in the category self-employed vs. paid-employed. A one-unit increase in the variable "Internal locus" is associated with a 0.1957 decrease in the relative log odds of being in the category unemployed vs. paid-employed. Hypothesis 7(a) and 10 (a) are hereby supported, individuals who express a higher internal locus of control are more likely to be self-employed, and self-employed individuals are more likely to be latent entrepreneur. Individuals expressing a higher internal locus of control are less likely to be unemployed than paid-employed

Remember that hypothesis 5 – 10 (b) test mediating effects. In testing hypothesis 4 and 11 it was found that being self-employed and unemployed is positively associated with latent entrepreneurship compared to being paid-employed (using model 7). The same result is found when looking at model 6 (model 7, only without character trait variables). Model 6 shows that being self-employed increases the chance of being a latent entrepreneur with 40.6 percentage points. Also, being unemployed increases the chance of being a latent entrepreneur with 6.96 percentage points. The result shows that ***step 3*** is accepted.

This leaves us with step 1 and step 4. Step 1 is finding a direct association between the character trait variables and latent entrepreneurship. We already did this in testing hypothesis 1-3, using model 1-4. It was found that all character trait variables are positively associated with latent entrepreneurship, with the exception of "Internal locus" in model 1 because of no significance. Let us keep in mind that in model 4 the variable did have a (positive) significant association with latent entrepreneurship. ***Step 1*** is therefore confirmed with respect to "Risk taking" and "Self-efficacy", and plausible for "Internal locus".

Combining these steps results in concluding that:

Hypothesis 5 (b) and 8 (b) are correct; there is a mediating effect of risk taking through self-employment and unemployment. The effect is however partially mediating, because of a remaining significant association of "Risk taking" with latent entrepreneurship in model 7 (***step 4).***

Hypothesis 9 (b) is correct; there is a mediating effect of self-efficacy through unemployment. The effect is fully mediating since "Self-efficacy" loses its significance in model 7 (***step 4).***

Hypothesis 7 and 10 are incorrect when using model one in step 1. However, when using model 4 in step 1, not only is there a mediating effect of internal locus through self-employment and unemployment, the effect is fully mediating because of no significance of "Internal locus" in model 7 (***step 4).***

Some noteworthy information in the control variable is also found (Table 15). Gender differs significantly from zero for the self-employed vs. paid-employed group, but does not significantly differ from zero for the unemployed vs. paid-employed group. Age is not significantly associated with self-employed vs. paid-employed, but is significantly negatively associated with the unemployed vs. paid-employed group. Self-employed parents are indeed found to significantly positively influence the self-employed vs. paid-employed group, but does not significantly differ from zero for the unemployed vs. paid-employed group. Education is negatively- and financial difficulties positively-associated with the unemployed vs. paid-employed group; whereas these variables do not significantly differ from zero for the self-employed vs. paid-employed group.

Table 15 - Estimation results of Multinomial logistic regression, Model 5 with occupation as dependent variable.

		Coefficient	Robust std err
Self-employed			
Independent variables			
Risk taking		0.3348***	0.0492
Self-efficacy		0.0796	0.0576
Internal locus		0.1749***	0.0536
Control variables			
Gender		0.5706***	0.0707
Age		0.0303	0.0205
Age^2	-	0.0000	0.0002
Self-employed parents		0.8235***	0.0718
Education	-	0.0061	0.0067
Financial difficulties	-	0.0812	0.0941
Administrative difficulties	-	0.3334***	0.0834
Informational difficulties		0.1008	0.0754
Paid-employed		**(Base Outcome)**	
Unemployed			
Independent variables			
Risk taking		0.0989*	0.0571
Self-efficacy	-	0.1194*	0.0720
Internal locus	-	0.1957***	0.0602
Control variables			
Gender	-	0.1094	0.0824
Age	-	0.01674***	0.0185
Age^2		0.0018***	0.0002
Self-employed parents		0.0866	0.0923
Education	-	0.0754***	0.0111
Financial difficulties		0.2652**	0.1279
Administrative difficulties	-	0.0242	0.1035
Informational difficulties		0.1006	0.0879
Observations		6281	
Wald Chi/ degrees of freedom		561.75	
Prob>chi		0.0000	
Log-likelihood	-	4755.413	
Pseudo R2		0.0590	

*** denotes significance at 1%; ** denotes significance at 5%; * denotes significance at 10%.

HYPOTHESIS 12

Table 16 shows the two models (8 and 9) used to test hypothesis 12. The more generous (a higher value for the variable "UB generosity") a country is in its UB system, the less likely the individual living in that country is to be a latent entrepreneur. Individuals living in more generous UB system-countries are 0.34 percentage point – per 1 point increase in UB generosity- more likely to be latent entrepreneur. In checking this result, the second model generalizes countries in generous or non-generous. Individuals living in generous UB system-countries are 3.96 percentage points more likely to be latent entrepreneur; hypothesis 12 is hereby supported. It can even be stated that the more generous a country is the less likely individuals in that country are to be latent entrepreneurs.

HYPOTHESIS 13

Table 17 shows the results from the multinomial logit model (10) used to test hypothesis 13(a). A change from 0 to 1 for the independent dummy variable "Generous" is associated with a 0.4650 decrease in the relative log odds of being in the category self-employed vs. paid-employed, (and is significant at the 1% level); which is the second highest value for a coefficient is this model (gender being even larger with a value of 0.5744). The results give support for hypothesis 13(a) and hereby ***step 2***. Living in a country with a generous UB system, makes it less likely that one is in self-employment. However, living in a country with a generous UB system does not significantly influence the odds of being in unemployment vs. paid-employment.

Looking at model 11, we see that "Generous" is significantly negatively associated with the chance of being in latent entrepreneurship (6.05 percentage points) confirming ***step 1***.

Results from model 7 (Table 14) show us that being self-employed or being unemployed significantly increases the likeliness of being a latent entrepreneur (see hypothesis 4 and 11); giving evidence for ***step 3***.

From the comparison with Table 16 model 9, and Table 18 (model 11) (only difference being the inclusion of occupational dummies in model 9 table 18), it can be stated that indeed the variable "Generous" loses about 30% of its direct association with latent entrepreneurship when including occupational dummies (move from -0.0605 to -0.0396). This result gives support for Hypothesis 13(b). However "Generous" is still significant in model 9 and thus "Generous" only partially (negatively) meditates (***step 4***) through occupational situation a preference for self-employment.

Table 16 - Estimation results of logistic regression, Model 8 and 9, with latent entrepreneurship as dependent variable.

	Model 8		Model 9	
	Average marginal effect	Robust std err.	Average marginal effect	Robust std err.
Independent Variable				
UB_generosity	- 0.0034**	0.0015		
Generous			- 0.0396***	0.0139
Control variables				
Self-employed_d	0.3944***	0.015	0.3943***	0.150
Paid-employed_d	Omitted		Omitted	
Unemployed_d	0.0685***	0.0207	0.0690***	0.2073
Risk taking	0.0970***	0.0095	0.0972***	0.0095
Self-efficacy	0.0170	0.0115	0.0167	0.0115
Internal locus	0.0069	0.0105	0.0066	0.0105
Gender	0.0757***	0.0136	0.0756***	0.0136
Age	- 0.0016	0.0037	- 0.0014	0.0037
Age^2	0.0000	0.0000	- 0.0000	0.0000
Self-employed parents	0.0447***	0.0153	0.0462***	0.0154
Education	0.0001	0.0014	0.0000	0.0014
Financial difficulties	0.0429**	0.0186	0.0432**	0.0186
Administrative difficulties	- 0.0454***	0.0166	- 0.0459***	0.0166
Informational difficulties	0.0057	0.0147	0.0062	0.0147
Observations	6281		6281	
Wald Chi/ Degrees of freedom	689.32		690.16	
Prob>chi	0.0000		0.0000	
Log-likelihood	- 3899.9831		- 3898.5968	
Pseudo R2	0.1000		0.1003	

*** denotes significance at 1%; ** denotes significance at 5%; * denotes significance at 10%.

Table 17 - Estimation results of Multinomial logistic regression, Model 10, with occupation as dependent variable.

		Coefficient	Robust std err
Self-employed			
Independent variable			
Generous	-	0.4650***	0.0717
Control variables			
Risk taking		0.3407***	0.0490
Self-efficacy		0.0888	0.0573
Internal locus		0.1689***	0.0536
Gender		0.5744***	0.0709
Age		0.0348*	0.0209
Age^2	-	0.000	0.0002
Self-employed parents		0.8579***	0.0724
Education	-	0.0052	0.0069
Financial difficulties	-	0.1339	0.0951
Administrative difficulties	-	0.3581***	0.0841
Informational difficulties		0.0643	0.0760
Paid-employed		(base outcome)	
Unemployed			
Independent variable			
Generous	-	0.1118	0.0815
Control variables			
Risk taking		0.1022*	0.0571
Self-efficacy	-	0.1167	0.0721
Internal locus	-	0.1970***	0.0602
Gender	-	0.1085	0.0824
Age	-	0.1667***	0.0185
Age^2		0.0018***	0.0002
Self-employed parents		0.0951	0.0924
Education	-	0.0753***	0.0111
Financial difficulties		0.2525**	0.1281
Administrative difficulties	-	0.0291	0.1035
Informational difficulties		0.0950	0.0881
Observations		*6281*	
Wald Chi/ degrees of freedom		*591.65/24*	
Prob>chi		*0.0000*	
Log-likelihood	-	*4734.107*	
Pseudo R		*0.0633*	

*** denotes significance at 1%; ** denotes significance at 5%; * denotes significance at 10%.

Table 18 - Estimation results of logistic regression, Model 11, with latent entrepreneurship as dependent variable.

		Average marginal effect	Robust standard error
Independent Variable			
Generous	-	0.0605***	0.0132
Control variables			
Risk taking		0.1072***	0.0091
Self-efficacy		0.0199*	0.0110
Internal locus		0.0150	0.0100
Gender		0.0991***	0.0129
Age	-	0.0007***	0.0100
Age^2		0.0000	0.0000
Self-employed parents		0.0911***	0.0144
Education	-	0.0003	0.0013
Financial difficulties		0.0320*	0.0182
Administrative difficulties	-	0.0621***	0.0161
Informational difficulties		0.0093	0.0140
Observations		*6281*	
Wald Chi/ degrees of freedom		*323.03/12*	
Prob>chi		*0.0000*	
Log-likelihood	-	*4156.345*	
Pseudo R		*0.0408*	

*** denotes significance at 1%; ** denotes significance at 5%; * denotes significance at 10%.

4.0 CONCLUSION

This paper investigates whether individuals in different employment situations differ in their preferences for self-employment. I have looked at underlying character traits influencing previous employment decisions/outcomes[42] and investigated on direct and indirect effects of these character traits on latent entrepreneurship. Combining these effects gave insight into the mediation of these character traits through employment situation on latent entrepreneurship. An external factor was also taken into consideration: UB generosity. Unemployment benefit generosity influences switching and opportunity costs of different employment situations and is hereby expected to influence not only directly the preference for self-employment but also indirectly through employment situation.

From the results of the empirical research can be concluded that current employment situation has a strong direct association with preference for self-employment. Self-employed individuals were found to be significantly more likely to be latent entrepreneurs compared to the paid-employed individuals. Unemployed individuals were also found more likely to be latent entrepreneurs than paid-employed individuals, but less likely to be latent entrepreneurs compared to self-employed individuals. Especially the association between being self-employed and latent entrepreneurship was found to be very strong. Several factors like gender (being male), having self-employed parents and administrative difficulties are possibly only influential on latent entrepreneurship through being self-employed[43].

It was found that the studied character traits influence the preference for self-employment directly and indirectly. As for the direct effects; the more willing individuals are to take risk and/or the more self-efficacy individuals show, the more likely they are to be latent entrepreneurs, in line with Grilo & Irigoyen, 2006; Grilo et al, 2007 and Bönte et al., 2012. There are also indications that an internal locus of control directly contributes to a preference for self-employment, but this effect is less evident. Although self-efficacy has a direct positive association with latent entrepreneurship, it loses this direct association when incorporating employment situational dummies. There are also indications that the other character traits lose some of their direct association with latent entrepreneurship when incorporating the employment dummies; indicating an indirect association of the character traits with latent entrepreneurship. However, these indirect effects have to be interpreted with great care, in some cases significance is lacking, or associations are very weak. Before I conclude on indirect (mediating) effects, first the associations of the character traits with employment situation must be discussed.

[42] Individuals do not always have a choice as for which employment situation they are in

[43] Deducted from the fact that these factors have no significant association with being in unemployment but do have a significant association with being self-employed; combined with the fact that these factors are directly associated with latent entrepreneurship.

Results from the multinomial logistic model used for hypothesis 5-10 (Table 16) shows that different factors are otherwise associated with different occupational situations. Not surprising self-employed and unemployed individuals are found to be more willing to take risk than are paid-employed individuals in line with Douglas and Shepard, 2002; Barbosa et al., 2007; Grilo & Irigoyen, 2006; Chen et al., 1998;Wagner, 2003; Wilson et al., 2007; Zhao et al, 2005; Stokes, 1971; Shapero,et al., 1973; Ahmed, 1985; Grilo et al, 2007. However, that was about the only resemblance there is between these two parties. While internal locus is positively associated with being self-employed, it is negatively associated with being unemployed, confirming the thoughts of Winefield et al (1990). The same can be stated for the character trait self-efficacy in line with Sherer and Maddux (1982) and Barbosa et al. (2007); however this result lacks significance for the self-employed group.

Because self-efficacy and internal locus are negatively (-) associated with unemployment and unemployment is positively (+) associated with latent entrepreneurship, self-efficacy and internal locus lose some of their indirect positive (+) association with latent entrepreneurship (because – and + =/= -) through unemployment. However the reverse is true for their association with self-employment. Self-efficacy and internal locus are positively associated with being self-employed, self-employment is positively associated with latent entrepreneurship and therefore self-efficacy and internal locus gain some of their indirect positive association with latent entrepreneurship. Willingness to take risk is positively related to unemployment and self-employment; both self- and unemployment are -on their turn- positively associated with latent entrepreneurship, hereby showing a mediating effect of willingness to take risk through occupation. An overview of the found mediating effects is given on the last two pages of this section.

Further, self-employed individuals are indeed associated with being male, they are heavily associated with having self-employed parents and are negatively associated with a perception of administrative difficulties being a startup difficulty. The values for age, education, financial- and informational difficulties do not significantly differ from zero and therefore do not seem to have an influence on being self-employed.

The unemployed are indeed associated with being younger, lacking education, and perceiving financial difficulties as an obstacle for business startup compared to the paid-employed. The values for gender, self-employed parents, administrative and informational difficulties do no significantly differ from zero and therefore do not seem to have an influence on being unemployed vs. paid-employed. The stereotype unemployed individual is hereby somewhat confirmed; Young, uneducated and likely having no money. However the unemployed still prefer to be self-employed and are willing to take risk compared to the paid-employed individuals. This could be due to a part of the unemployment group being serial entrepreneur currently in unemployment because of a failed business; however these results do not support such a conclusion.

Moving on to the effect of UB generosity of countries, it can be stated that individuals living in countries with more generous UB systems (a 1 point increase in UB generosity) are less likely to prefer self-employment above other employment types. The effect becomes even stronger for being in a "generous" UB system-country. Most interesting, living in a generous UB system-country drastically decreases the change of being in self-employment, confirming the results of Parker and Robson (2004); Wennekers et al. (2005); Steinberger (2005); Hessels et al (2007); Hessels et al. (2008). Through this association with occupational situation, generosity mediates the preference for self-employment negatively.

Hypothesis	Empirical result	Hypothesis (not) supported
Hypothesis 1: Individuals who are more willing to take risks are more likely to be latent entrepreneurs than individuals who are less willing to take risks.	Increases in willingness to take risk are positively associated with latent entrepreneurship in both model 1 and 2	*Supported*
Hypothesis 2: Individuals who express more self-efficacy are more likely to be latent entrepreneurs than individuals who express less self-efficacy.	Increases in self-efficacy are positively associated with latent entrepreneurship in both model 1 and 3	*Supported*
Hypothesis 3: Individuals who express more of an internal locus of control are more likely to be latent entrepreneurs than individuals who express less of an internal locus of control.	Increases in internal locus of control are only positively related to latent entrepreneurship in model 4, and not in model 1	*Not fully supported*
Hypothesis 4: Self-employed individuals are more likely to be latent entrepreneur than are Paid-employed individuals.	Being self-employed is positively associated with latent entrepreneurship	*Supported*
Hypothesis 5: Individuals (a) who are more willing to take *Risk* are more likely to be Self-employed than Paid-employed and this (b) implies an indirect positive relationship of willingness to take *Risk* with latent entrepreneurship through its positive relation with being Self-employed (versus being Paid-employed).	Willingness to take risk is positively associated with being self-employed vs. being paid-employed, combined with the result from hypothesis 4 (model 6), this means that risk taking is positively indirect associated with latent entrepreneurship.	*Supported(a), partial mediation(b)*
Hypothesis 6: Individuals (a) who express more *Self-efficacy* are more likely to be Self-employed than Paid-employed and this (b) implies an indirect positive relationship of *Self-efficacy* with latent entrepreneurship through its positive relation with being Self-employed (versus being Paid-employed).	No significant difference from zero has been found for the association of self-efficacy with self-employment	*Not supported*
Hypothesis 7: Individuals (a) who express more of an *Internal locus of control* are more likely to be Self-employed than Paid-employed and this (b) implies an indirect positive relationship of *Internal locus of control* with latent entrepreneurship through its positive relation with being Self-employed (versus being Paid-employed).	Internal locus of control is positively associated with being self-employed vs. being paid-employed, combined with the result from hypothesis 4, this means that internal locus of control is positively indirect associated with latent entrepreneurship through its positive association with being self-employed.	*Supported(a), No mediation when using model 1, full mediation when using model 4(b)*

Hypothesis 8: Individuals (a) who are more willing to take *Risk* are more likely to be Unemployed than Paid-employed and this (b) implies an indirect positive relationship of willingness to take *Risk* with latent entrepreneurship through its positive relation with being Unemployed (versus being Paid-employed).	Willingness to take risk is positively associated with being unemployment vs. being paid-employment, combined with the result from hypothesis 11, this means that risk taking is positively indirect associated with latent entrepreneurship.	*Supported(a), partial mediation(b)*
Hypothesis 9: Individuals (a) who express more *Self-efficacy* are less likely to be Unemployed than Paid-employed and this (b) implies an indirect negative relationship of *Self-efficacy* with latent entrepreneurship through its negative relation with being Unemployed (versus being Paid-employed)	Self-efficacy is negatively associated with being unemployed vs. being paid employed, combined with the result from hypothesis 11, this means that self-efficacy is negatively indirect associated with latent entrepreneurship through its negative association with unemployment	*Supported(a), full mediation(b)*
Hypothesis 10: Individuals (a) who express more of an *Internal Locus of Control* are less likely to be Unemployed than Paid-employed and this (b) implies an indirect negative relationship of *Internal Locus of Control* with latent entrepreneurship through its negative relationship with being Unemployed (versus being Paid-employed)	Internal locus of control is negatively associated with being unemployed vs. paid-employed, combined with the result from hypothesis 11, this means that Internal locus of control is negatively indirect associated with latent entrepreneurship through its negative association with unemployment.	*Supported(a), No mediation when using model 1, full mediation when using model 4(b)*
Hypothesis 11: Unemployed individuals are more likely to be latent entrepreneurs than are Paid-employed individuals.	Being unemployed is positively associated with latent entrepreneurship	*Supported*
Hypothesis 12: Individuals living in countries with a non-generous[44] UB system are more likely to express a preference for self-employment then individuals living in countries with generous UB systems.	Individuals living in countries with a non-generous UB system are more likely to be latent entrepreneur. The results show that the more generous a country is , the less likely one -living in such a country- is to be latent entrepreneur	*Supported*
Hypothesis 13: Individuals (a) living in countries with generous UB systems are less likely to be Self-employed than Paid-employed and this (b) implies an indirect negative association of generous UB systems with latent entrepreneurship through its negative association with being Self-employed (versus being Paid-employed).	The variable "Generous" is negatively associated with being self-employed, combined with the result from hypothesis 4, this means that generous UB systems-countries are negatively indirect associated with latent entrepreneurship through its negative association with self-employment	*Supported(a), partial mediation(b)*

[44] Generosity of benefit system will be categorized as non-generous in case of a number lower than 0, and generous when above 0.

5.0 DISCUSSION

As a result of the strong association of current employment situation with latent entrepreneurship, found in this research, future research should differentiate in this area. Current employment situation influences the preference for self-employment such that when we do not consider this aspect of latent entrepreneurship research is heavily biased. Using latent entrepreneurship as a measure for entrepreneurial drive and/or as a predictor of potential –or actual entrepreneurship could therefore be useless if current employment situation is not taken into consideration. For example, country differences hold responsible for differences in entrepreneurial drive are expected to be a result – at least partly- of current employment situation differing between countries (mainly low income and high income countries); research on country differences in latent entrepreneurship should therefore consider employment situation.

It seems logical that individuals in a certain employment situation also prefer to be in that situation; at some point in time they chose it above the other situations. However, a preference for self-employment was found amongst every employment situation. Reasons why certain individuals prefer to be in self-employment are therefore interesting. Individuals in low income countries, forced into self-employment are likely to prefer to be in paid-employment because of steady income. Individuals in high income countries trying to make their current business flourish, without any success, could also prefer to be in paid-employment because of too much stress (or any other reason). Above all, employment choice is made at the individual level and therefore it is difficult to generalize on this discipline. A good starting point made in this research is found in the psychological/sociological area. Since the individual is central in employment choice, individual characteristics are indispensable for research on this area.

The character trait variables were found to be positively associated with self-employment and negatively so with unemployment vs. paid-employment (with exception of risk taking, although much lower for the unemployed). This indicates that the self-employed differ from the unemployed and paid-employed on a psychological level. This research indicates that these factors are present amongst individuals who are willing to be self-employed. However, the effect of the current occupation on these character trait variables is not investigated on, and therefore conclusions are hard to draw. Future research should investigate on the relation between being in a certain occupation on the perception of their willingness to take risk (and for that matter all character traits). Explanations for why certain character traits were found influential in some situations point towards the fact that they might be influenced by that situation.

For example take model 5, risk taking and internal locus are positively associated with being self-employed, self-efficacy is not. Expectations are that most entrepreneurs think they take risks, and are responsible for the outcomes of their actions. They do not think that they are able to do anything (self-efficacy) because - as we know –most entrepreneurs work very hard and earn less than in paid-employment. It seems that the factors are influenced by the current occupation and not the other way around. The same is found when looking at the unemployed, again see model 5. The unemployed say they are willing to take risk, but are negatively associated with self-efficacy and internal locus. If one is in unemployment it is easy to think that one is not capable, and that external factors determine the outcome of things; again explanations point towards the influence of employment situations on the character traits and not the other way around.

That said; individual characteristics determine not only what profession one is in, but also whether one is likely to prefer self-employment. To model latent entrepreneurship correctly, not only should demographic values be considered, also situational and psychological/sociological factors should be taken into consideration. The personality traits used in this research were found to underlie the decision making process (deducted from the fact that they were more prevalent amongst certain employment situations) and employment preferences; the research field of entrepreneurship should therefore intertwine with sociology.

Most apparent is that the generosity of UB systems influences employment situations of individuals[45]. Also generosity of UB systems determine partly if individuals prefer to be self-employed or not. UB generosity is important because policy can be adjusted to stimulate entrepreneurship.

The performed research does unfortunately have its weak points, first of all the data used does not include all countries in the EU, since UB generosity values could not be calculated due to to-little values. Still the differences in UB values were sufficient to say something about the association between generosity and latent entrepreneurship.

It is expected that current employment situation influences the perception of the individual towards willingness to take risk, internal locus and self-efficacy however the research does not includes this effect. Another major limitation lies in the fact that UB generosity is the only used country dependent variable. No corrections are made for other country variables, and UB generosity could therefore be a reflection of other country dependent factors not taken into consideration.

The data mainly consist out of paid-employed individuals, the amount of unemployed individuals only accounts to around 740 (11.78%) respondents. This might have resulted in less significance in variables for the unemployed group. However, the amounts exceed rules of thumb and results were overall significant. However, a larger sample would give more confidence in the findings.

[45] Generosity is corrected for GDP data, see appendix Figure 9

The data was transformed into variables to conduct the empirical analysis, because of missing values, some respondents had to be deleted from the sample. It could be that these respondents had something in common and therefore the sample has become a-select. However because of the size of the sample it is to be expected that deleted values are a-select overall.

Some variables were transformed from categorical values to dummy values, hereby losing some information. There are however two sides to this construction; information can be lost, but it could also result in more clear associations. For example the variable "UB generosity" and "Generous" both showed the same sign in the used models, however "Generous" had larger coefficient values.

Besides the fact that one could use multilevel techniques for investigating country level data combined with individual level data, the used models give reliable results. Direct associations of the used dependent variables with latent entrepreneurship are indeed reliable and in line with previous research. Indirect associations are harder to confirm using these logit and multinomial logit models. One can deduct associations only through changes in significance and coefficient of variables and not directly test such associations (in line with Baron and Kenny (1986) approach). Future research could make use of more sophisticated testing of the indirect effects[46]. Also, a the necessary assumption for testing mediating effects of character traits through employment situation involved seeing character traits as stable factors, not being influenced by time or other factors (such as occupational situation). Character traits are however expected to be influenced by experiences in the market place; therefore future research should take this into consideration.

Most importantly an association of low GDP and UB generosity is expected to be present. Low income countries are expected to have non-generous systems. This lurking variable should be corrected for in future research. Stovicek and Turrini (2012) did correct their UB generosity data for GDP per capita (see Figure 9, appendix), and thus expectations are that their "UB generosity" value is a reliable estimator.

[46] See Shrout and Bolger (2002) or Preacher and Hayes (2004)

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D1. Sex
- male 1
- female 2

D2. Exact Age:
- exact age ..... [_][_]
- refusal/no answer 00

D3. Age when finished full time education: **[EXACT AGE IN 2 DIGITS]**
- exact age ..... [_][_]
- refusal/no answer 00
- never been in full time education 01
- still in fulltime education 99

D4. As far as your current occupation is concerned, would you say you are self-employed, in paid employment or would you say that you are without a professional activity?
[READ OUT LEFT ITEMS - THEN ASK TO SPECIFY ("that is to say")
- ONLY ONE ANSWER]
- **Self-employed, i.e.:**
- farmer, forester, fisherman 11
- owner of a shop, craftsman..... 12
- professional (lawyer, medical practitioner, accountant, architect etc. 13
- owner-manager of a company 14
- other 15
- **In paid employment, i.e.:**

White-collar:
- professional (employed doctor, lawyer, accountant, architect etc.) 21
- general management, director, top management 22
- management 23
- middle management, ... 24
- civil servant 25
- office clerk 26
- other 27

Blue-collar:
- supervisor / foreman (team manager, etc) 31
- skilled manual worker 32
- unskilled manual worker 33
- other…… 34
- **Without a professional activity, i.e.:**
- looking after the home 41
- student (full time) 42
- retired 43
- seeking a job 44
- other 45
- [refusal/no answer] 99

D7. Could you tell me the occupation of your father? Is he or was he self-employed,

white-collar employee in private sector, blue-collar employee in private sector, civil servant or without a professional activity?
[READ OUT – ONLY ONE ANSWER]
- self-employed 1
- white-collar employee in private sector 2
- blue-collar employee in private sector 3
- civil servant 4
- without a professional activity 5
- other 6
- [DK/NA] 9

D8. Could you tell me the occupation of your mother? Is she or was she self-employed, white-collar employee in private sector, blue-collar employee in private sector, civil servant or without a professional activity?
[READ OUT – ONLY ONE ANSWER]
- self-employed 1
- white-collar employee in private sector 2
- blue-collar employee in private sector 3
- civil servant 4
- without a professional activity 5
- other 6
- [DK/NA]..... 9

D10. Do you strongly agree, agree, disagree or strongly disagree with the following statements?
[READ OUT – ROTATE – ONE ANSWER ONLY FOR EACH ITEM]
- strongly agree 1
- agree 2
- disagree..... 3
- strongly disagree 4
- [DK/NA] 9

a) In general, I am willing to take risks 1 2 3 4 9
b) Generally, when facing difficult tasks, I am certain that I will accomplish them 1 2 3 4 9
c) My life is determined by my own actions, not by others or by chance 1 2 3 4 9

We are conducting a survey in the 27 countries of the European Union and in some other countries concerning entrepreneurial activity.

Q1. Suppose you could choose between different kinds of jobs, which one would you prefer:
[READ OUT – ONE ANSWER ONLY]
- being an employee 1
- being self-employed … 2
- [none of these] 3
- [DK/NA] 9

[TO THOSE WHO ANSWERED "EMPLOYEE" IN Q1 (Q1=1)]31

31) If nothing is specified questions are asked to all.

Q18. Do you strongly agree, agree, disagree or strongly disagree with the following opinion?
[READ OUT – ROTATE – ONE ANSWER ONLY FOR EACH ITEM]
- strongly agree 1
- agree 2
- disagree..... 3
- strongly disagree 4
- [DK/NA] 9

a) It is difficult to start one's own business due to a lack of available financial support..... 1 2 3 4 9
b) It is difficult to start one's own business due to the complex administrative procedures 1 2 3 4 9
c) It is difficult to obtain sufficient information on how to start a business 1 2 3 4 9

Figure 8: Multivariate model used by Stovicek and Turrini (2012)

Table A1 – Determinants of unemployment benefit generosity
24 EU countries, 2001-2010

	Dependent variable: UB generosity		Dependent variable: UI generosity	
Explanatory variables	(1)	(2)	(1)	(2)
Real GDP per capita	0.1956405* [0.0954045]	0.1757816+ [0.0922541]	0.170726** [0.0546395]	0.1672543** [0.0562539]
Unemployment rate	0.7726355+ [0.4089653]	0.8328556+ [0.4795027]	0.7913636* [0.3047878]	0.7128282+ [0.3666056]
Long term unemployment rate	-2.196717** [0.638547]	-1.679218* [0.7149512]	-0.9264094+ [0.5282451]	-0.2675044 [0.6642391]
Government budget balance	0.4436693+ [0.261754]	0.3652645 [0.2908932]	0.7276251** [0.1998956]	0.806174** [0.2497218]
Expenditures on labour market services		21.89311* [10.68627]		14.39714* [7.208663]
Constant	13.10658* [5.277544]	23.00918** [4.858395]	6.251502+ [3.410164]	8.957961 [5.955565]
Observations	216	174	216	174
R-squared	0.2186	0.2856	0.1562	0.2143
Number of countries	24	24	24	24

Estimation method: evidence from year-by-year cross-section regression. Robust standard errors in brackets. Clustering of standard errors by country: ** p<0.01; * p<0.05; + p<0.1.

Source: (Stovicek & Turrini, 2012)

Figure 9: Multivariate model used by Stovicek and Turrini (2012)

A1. Specification, sample, estimation

The specification of the regression equation for, respectively overall unemployment benefit generosity and unemployment insurance generosity are as follows:

$$UBgenerosity_{i,t} = \alpha_t + \beta_1 y_{i,t-1} + \beta_2 u_{i,t-1} + \beta_3 ltu_{i,t-1} + \beta_4 fbalance_{i,t-1} + \beta_5 lmp_{i,t-1} + e_{it}, \quad \text{(A1)}$$

$$UIgenerosity_{i,t} = \alpha_t + \beta_1 y_{i,t-1} + \beta_2 u_{i,t-1} + \beta_3 ltu_{i,t-1} + \beta_4 fbalance_{i,t-1} + \beta_5 lmp_{i,t-1} + e_{it}, \quad \text{(A2)}$$

where the term α_t refers to time fixed effects.

The definition of variables is provided in the following table.

Variable	Definition
UBgenerosity	Total available unemployment benefit support (unemployment insurance + unemployment assistance) for a low wage single person, in months of previous full net income, joint EC-OECD tax and benefits project
UIgenerosity	Total available unemployment insurance support for a low wage single person, in months of previous full net income, joint EC-OECD tax and benefits project
y	Real GDP per capita at constant prices from 2005, AMECO
u	Unemployment rate, Labour Force Survey, Eurostat
ltu	Long term unemployment rate measured as a share of long-term unemployed in labour force, Labour Force Survey, Eurostat
fbalance	Government budget balance, as % of GDP, AMECO
lmp	Expenditures on labour market services (activation policies), as % of GDP, Eurostat

The sample includes 24 EU countries over the period 2001-2010. Bulgaria, Romania and Cyprus are excluded from the sample due to short available time series.

The estimation is carried out across countries, controlling for time effects, by means of OLS with standard errors robust with respect to heteroscedastic errors.

Source: (Stovicek & Turrini, 2012)