Entrepreneurship: A Way Towards a Happier Society

"A policy case for supporting entrepreneurship to make our society happier"

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Annotation

In this paper I present evidence suggesting that opportunity entrepreneurship can make people happier and there are policy opportunities in making a society better off by supporting entrepreneurship. I develop a framework based on the domain satisfaction model of well-being, in which demographic, personality and societal factors can influence the life-satisfaction of individuals. The startling point of my analysis is the findings of Easterlin (1974), who encouraged the evaluation of policies with well-being measures, of Frey et al. (2004) about the procedural utility benefits of self-employment that can lead to higher life-satisfaction, and the findings of Blanchflower (2000), who identified the large international pool of "latent entrepreneurs", who would prefer self-employment, but does not start own businesses because of various reasons. Besides the implications for economic theory, the results also have consequences for economic policy. I made a case that there is an unexploited pool of potential opportunity entrepreneurs and call for policies supporting opportunity entrepreneurship to build a happier society. I identify the policy areas with the biggest potential in this area to be the lowering the bureaucratic and regulatory barriers associated with the establishment and operation of businesses, the education of the people about the business operations and creating competition through trade openness.

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Glossary

Procedural utility: A concept that extends the outcome-oriented approach to human well-being in economics; it proposes that people do not only value outcomes, but also have preferences about how outcomes are generated.

Subjective Well-Being: A concept for measuring human happiness by self-reported indicators. Used as synonym for life-satisfaction and well-being in this paper.

Set Point: An individual-specific genetically pre-determined level of well-being throughout our life. Our SWB scores fluctuate around it.

Hedonic Treadmill (Hedonic Adaptation): A concept developed by Campbell & Brickman (1971) stating that we are driven by different goals through our life, but once we reach them, we get used to the situation and not get as much utility from them as we expected to.

Domain Approach: A concept stating that SWB can be seen as the construct of our satisfaction with different domains of our life (eg. family, health, finances, work).

Research Question: Does self-employment make us happier? How can this effect be used for policy purposes?

List of Abbreviations

AccLoans – Ease of access to loans in a counrry
Broadband – Broadband subscription per 100 capita
Broadband – Broadband subscription per 100 capita
Comp – The level of competition in a given country
Comp – The level of competition in a given country
d – Refers to a group of demographic factors influencing SWB in the Domain Satisfaction Framework.
Days2Bus – Number of days necessary to open up a new buisness
Days2Bus – Number of days necessary to open up a new buisness
DEM – a vector of demographic variables
Exp2GDP – Export-to-GDP ratio
Exp2GDP – Export-to-GDP ratio
GCR - Global Competitiveness report
GovBurden – Burden of government regulation
GovBurden – Burden of government regulation
GovInnov – Gov't procurement of innovative technologies
GovInnov – Gov't procurement of innovative technologies
Helpothers – Respondent feels che can help others in her job
HighInc – Respondent feels her income is high
ImpHelpothers– Respondent feels it is important being able helping others at work
ImpHighIncome – Respondent feels income is important
ImpIntjob – Respondent feels it is important to have an interesting job
ImpJobsec – Respondent feels job security is important
ImpUseful – Respondent feels having a usefully percieved job is important
InvProt – Level of investor protection
InvProt – Level of investor protection
ISSP – International Social Survey Program
Iteresting job – Respondent feels her job is interesting
Jobsat– Respondent is satisfied with her job
Jobsec – Respondent feels her job is secure
NE – Necessity Entrepreneurs
OE – Opportunity Entrepreneurs
OECD - Organization for Economic Co-operation and Development
ORG – Organizationally Employed
p – Refers to a group of personality factors influencing SWB in the Domain Satisfaction Framework.
PERS – a vector of characterisitcs trying to capture your personality traits
QualEud – Country quality of education
QualEud – Country quality of education
Reserved– Respondent feels she is reserved
RHS – Right Hand Side (regression)
s– Refers to a group of societal factors influencing SWB in the Domain Satisfaction Framework.
SE – Self-Employed
SecEDU – Highest education: secondary
SMB – Small and Medium Sized Businesses
Sociable– Respondent feels to be sociable
Stress – Respondent feels her job is stressful
Tariffs – Effective rate of tariffs
Tax – The effective tax rate in a given country
Tax – The effective tax rate in a given country
TIME – a vector of charachteristics about how you spend your free time
TimeAlone– Respondent spends most of her free alone
TimeFamily – Respondent spends most of her free time with family
TimeFriend – Respondent spends most of her free time with friends
TimeJob – Respondent spends most of her free time at job
Trust– Respondent feels most people can be trusted
UniEDU – Highest education: terciary
VAL – a vector of value charachterisitcs
Venture – Accessability of venture capital
Venture – Accessability of venture capital
WDH – World Database of Happiness
WDI - World Development Indicators
WEF – World Economic Forum
WRK – a vector of work charachteristics
WVS –World Values Survey

1.Introduction

The primary goal of this paper is to answer the question; does self-employment make us happier? The secondary goal is to identify areas where this potentially positive well-being effect of self-employment can be utilized in public policy. After reviewing the relevant literature and conducting cross-sectional econometric analysis from multi-country data, I find that there is a strong, possibly causal relationship between being self-employed and subjective well-being. I find regulatory and administrative burdens and trade protectionism to be the biggest barriers in the way of entrepreneurship and also make a case for supporting the education of business creation and operations as an effective way to boost self-employment, which can make a society happier.

The paper consists of three main sections: theoretical review of previous research, analysis of the data on self-employment, policy and well-being, and a conclusive section, which also explores some practical policy implications of the findings.

The theory section begins with the review of the literature on well-being research. It presents the most important theories on the effect mechanisms influencing well-being and sets ground for the terminology and conceptual framework I use for analyzing the happiness of individuals in terms of a concept called Subjective Well Being (SWB). I develop a framework, based on the domain satisfaction model of Easterlin & Sawangfa (2009), which I use to present how demographic, personality and societal factors can influence human happiness.

I proceed with the review of the relevant findings of the literature on self-employment and its effects on well-being. The starting point behind the idea for this study was the evidence showing that self-employed people systematically report higher job satisfaction than the organizationally employed (Frey & Benz, 2002), regardless of income or personality (Frey & Benz, 2004), which

suggests self-employment can lead to higher life-satisfaction (Frey et al., 2004). I introduce the theory, which attributes the possible well-being effects of self-employment to procedural utility, the enjoyment they find in their work (Frey, Benz, & Stutzer, 2004). However, I make a point, that this might only be true if they chose self-employment driven by own entrepreneurial ambitions, showing some studies on the disadvantages of necessity entrepreneurship. The section also calls the attention to a large international pool of "latent entrepreneurs", ones, who would prefer self-employment, but cannot start an own businesses because of various reasons, and discuss demographic and psychographic characteristics of the self-employed.

The final subsection of the theory chapter attempts to show how policy can raise national well-being and provide other benefits to the society through supporting entrepreneurship. This part not only reviews the common arguments for such policies, but also gives an overview of cases when such policies were actually implemented, and tries to identify variables that can later be used for analyzing the effectiveness of them. Using well-being data to estimate the income-equivalents and non-financial aspects of policies produces significant results, which suggest the existence of unexploited opportunities to improve the effectiveness of policymaking. There are large samples of well-being data accumulated since the early '70s, which gives grounding for attempts to conduct empirical analysis in order to evaluate the effectiveness of policy practices in terms of their well-being effects and compare them with the standard monetary effectiveness measures. A theory, which calls attention to such alternative measures, is the Easterlin Paradox, which states that growing national income does not necessarily translate into higher life satisfaction (Easterlin R. , 1974).

Based on this theoretical background, in the Analysis chapter I translate the research question into four hypotheses;.

- **H1**: Self-Employment has a positive effect on well-being.
- **H2**: Policy can influence self-employment
- **H3**: Policy, can make us happier
- **H4**: Self-employment policy can make us happier

I present the data and the methodology of the analysis and test these hypotheses, through five models, identifying some unique characteristics of necessity and opportunity entrepreneurs and effective policy areas for influencing self-employment.

The conclusion chapter puts together my findings on the first three hypotheses and closes the paper with the evaluation of the fourth one, making recommendations on self-employment policy based on well-being measures and suggestions on improvements and further research.

2.Theoretical Background

Does self-employment make us happier? The question is built on three crucial components; Self-employment, happiness, and their connection. The three sub-chapters explore each element.

I begin by presenting how the field of happiness economics and well-being based policy research evolved over time, and what are the general directions of thoughts in the literature. I introduce a theoretical framework, which makes distinction between demographical, personality and societal determinants of happiness, and review the relevant findings of the literature on the determinants of well-being according to its typology.

After reviewing the theory of SWB research, I focus on self-employment and highlight the most relevant findings about this special group of people, ranging from their general characteristics to how self-employment contributes to individual well-being.

I close this section by discussing how policies aimed at foster entrepreneurship can influence well-being and present the lessons learned from them so far.

2.1. A concept of happiness: Subjective Well-Being

Most people agree that whatever it means to each of us, happiness is likely to be amongst the most important goals in life and we are on "the pursuit of happiness" through our life. Therefore it is not surprising that according to Rousseau the purpose of the state is to make good life possible for each individual (Rousseau, 1762). It logically follows that for policymakers the happiness of the citizens should serve as a fundamental guiding principle for actions. However, since WW2 achieving economic growth has been in the focus of most macro-economic policies as a general measure of well-being. Various policies were implemented on taxation, the facilitation of free market forces, institutions and redistribution of income; however all of these

were designed to stimulate economic activity; production and consumption. In the '70s there a group of Sociologists and Economists emerged, who believed that GDP is not a good indicator for measuring the well-being of a country and advocated that there is a need for the development of a new branch of Economics, which is based on a more effective way of measuring human happiness than the standard marginal utility based models. Wide scale cross-national social surveys were developed during these years starting from the United States, with the General Social Survey Program (GSSP), the World Value Survey (WVS) and the International Social Survey Program (ISSP). The first publications on economics of happiness followed these surveys, like the works of (Campbell & Brickman, 1971) (Schitovsky, 1976) (Easterlin R. , 1974). In its early days there were two main groups of happiness researchers: economists and psychologists.

The "fathers" of the psychologist view on happiness were (Campbell & Brickman, 1971) who were the first ones to coin the term "hedonic adaptation", putting down the ground for today's adaptation theory in happiness economics, which still serves as the starting point for most of the psychologist's happiness theories. By studying more than 15,000 adult's SWB longitudinally they showed that happiness does not depend on the passage of time, date of birth, or the time of the sample taken and it is fairly constant over time. They argue that our happiness fluctuates around a predetermined level (a Set Point) through all our life. Campbell and Brickman propose that, the only way to somewhat improve our life satisfaction is spending our resources on things we do not get used to: like friendly conversations or beautiful environments instead buying an expensive car or jewelry (Campbell, 1972). .However we get used to positive changes quicker than to negative ones, (Lowenstein & Frederick, 1999). It means that whatever goals we have, once they are reached, they do not yield as much utility as they were expected to: not only what, but also how matters. According to others the procedures itself can give us enjoyment instead of reaching our goals successfully. (Frey, Benz, & Stutzer, 2004). In general, their argument is that

the change in our conditions matters, not the overall level of them (for like being promoted often, or making new friends, etc.) Frey calls this procedural utility and highlights its importance in policymaking.

The forefather of the economic theory was Richard Easterlin, who set forth one of the most influential propositions of the field, the previously mentioned Easterlin Paradox, which emphasizes the irrelevance of income in terms of happiness, disconnecting well-being from the level of consumption, an often identically used terms in economics before. Schitovsky formed these ideas into critiques of the modern consumer society, which he believed overemphasizes physical wealth over the importance of the effort taken to achieve these, which in itself yields happiness. (Schitovsky, 1976). Ever since then, multiple versions "equations of happiness" appeared in the literature, each of them mixing individual, contextual, societal and other factors to capture the most relevant variables influencing our happiness. See (Mingtao, 2010) (Mariano, 2006) (Diener & Oishi, Recent Findings on Subjective Well-Being, 1997) (Campbell A. , The Sense of Well-Being in America,, 1981).

The number of publications on grew rapidly, coming from various fields ranging from management sciences (Balnchflower & Oswald, 2011) to genetics (Lykken & Tellegen, 1996) and the area started becoming mainstream. Psychologists mostly study our positive and negative experiences, economists look at pleasure gained from marginal utility, and sociologists measure self-reported satisfaction and happiness levels (Lengyel & Janky, 1993). Despite the contradicting results and terminologies of the early studies, recently there is growing consensus on most aspects of happiness research, mainly thanks to Professor Ruut Veenhoven of Erasmus University of Rotterdam – one of the first scholars dedicating his career to happiness economics. Veenhoven established the World Database of Happiness (WDH), which collects and coordinates all the publications relevant to the field and aims to establish a common terminology

for all works on Happiness Economics, containing more than 7000 publications at the time of writing this paper. (Veenhoven, 2013)

Today happiness is viewed as multi-dimensional concept that is difficult, if not impossible, to define. However, it is possible to monitor and analyze different aspects of well-being separately and such analyses will provide useful information that can be used in the development of effective policy measures. In my paper I use the concept of Subjective Well-Being (SWB), which refers to a self-reported score trying to capture ones cognitive and affective perception of her life in general (Diener, Oishi, & Lucas, 2002). The measurement of SWB is most commonly done by aggregating one-time self-reported happiness scores. There are various scales used in reporting happiness like the DT-scale (Andrews & Withey, 1976), the Fordyce Happiness Measure (Fordyce, 1988), the Affectometer 2 (Kammann & Flett, 1983), the Positive and Negative Affect Schedule (PANAS), or the Satisfaction Wsith Life Scale (Diener, Emmons, Larsen, & Griffin, 1985). Some scales determine SWB scores from samples taken through a time interval (ESM – Experience Sampling Method), while others generally ask about our happiness or make us recall past experiences (EMA – Ecological Momentary Assessment and DRM - Day Reconstruction Method).

Table 1
Correlation of SWB indicators (Sandvik et al. 1993, p329.)

		1	2	3	4	5	6	7	8	9
1	Fordyce	-								
2	D-T Scale	.62	-							
3	Affectometer 2	.57	.72	-						
4	Bradburn	.46	.54	.69	-					
5	Written Interview	.68	.71	.67	.60	-				
6	Daily Affect	.54	.66	.70	.56	.59	-			
7	Information Reports	.58	.58	.54	.34	.60	.52	-		
8	Event Memory	.33	.41	.41	.20	.47	.45	.34	-	
9	Forced-choice	.27	.50	.50	.35	.47	.37	.36	.18	-

N=110 to 128. For r>.17, p<.05 For r>.22, p<.01

Sandvik et al. (Sandvik, Diener. , & Seidlitz, 1993) conducts comparative analysis, in order to set the most commonly used SWB measures against each other and concludes that most of them suggest similar results. For example individuals who report high SWB score on a D-T scale also tend to smile and laugh more. (Pavot, Diener, Colvin, & Sandvik, 1991). This suggests that different indicators of well-being can be compared, or can even be converted to each other. Van Hoorn analyzes the reliability and validity of these indicators and conclude that SWB measures are meaningful in the sense that they are indeed able to provide valid and reliable information on how well people and societies as a whole are doing and can be used to shape and appraise policy" (van Hoorn, 2007)

2.1.1. A theoretical framework for measuring SWB

An my analysis I rely on the Domain Satisfaction Model; a framework which states that SWB can be seen as construct of ones satisfactions her main life domains, finances, family life, work, and health (Easterlin & Sawangfa, 2009). Furthermore – relying on the previously discussed results of Sandvik et al., I assume that SWB can be expressed as a response of the question "Overall, how satisfied are you with the life you are leading" (as being asked in the WVS survey) (Sandvik, Diener. , & Seidlitz, 1993). In the framework I use SWB is influenced by three groups of factors:

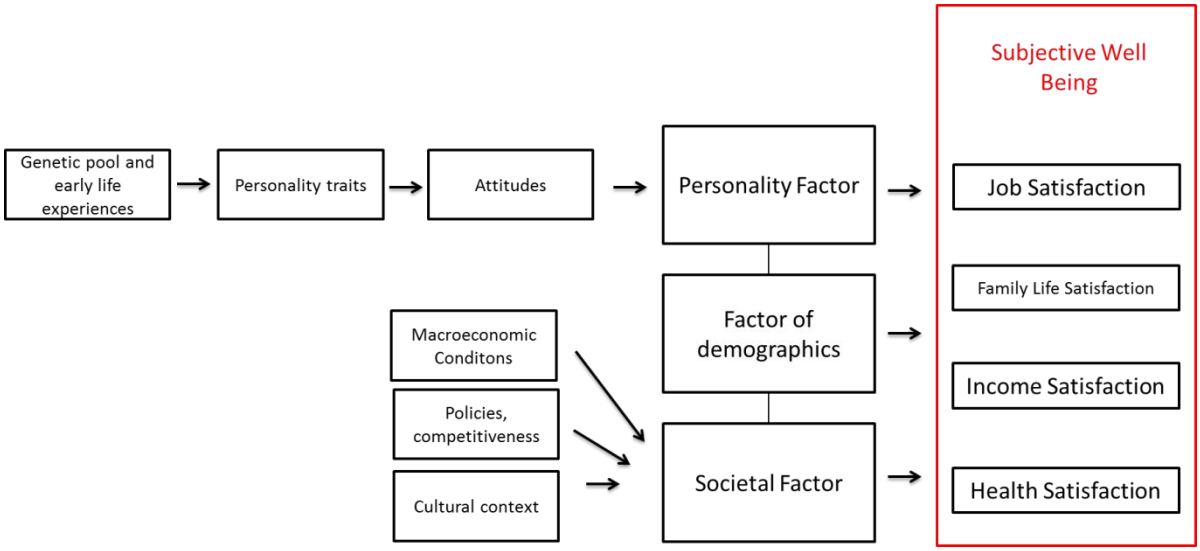
1. Personality variables (p), based on the Set Point Model, which try to capture the individual specific genetical and personality determinants of SWB through attitudes and personality traits.
2. Demographic variables (d), which group is self-explanatory and includes all individual level non-personality parameters, such as employment status, education, income or work characteristics.

3. Societal variables (s) covering the broader context in which the individuals live, such as the macroeconomic conditions of the economy, government policies or the cultural context.

Figure 1 summarizes the effect mechanisms in this framework.

Figure 1

The effect mechanisms of the domain satisfaction framework



However this framework is far from being able to capture all components of well-being, and includes a level of unavoidable interconnectedness of the variables apart from the ones showed on the Figure 1, it covers most areas that are found to be mostly influential to SWB by the recent consensus in SWB research and has the advantage of being easy to model with variables from the available data. The models in section 3 rely on this framework and aim to capture elements of each group of factors, in order analyze the effect of policies and self-employment on SWB, separately from the effects of other factors. I proceed with presenting the findings of the literature on the effects of demographic, personality and societal factors on well-being.

2.1.2. Personality factors (p)

Based on the The Set Point Theory (Campbell & Brickman, 1971) and the Adaptation Theory (Campbell A. , 1972), Costa et al. provides further evidence for the stability of adult-age SWB and point out to the importance of personality traits („temperaments") in determining this level. (Costa, Zonderman, McCrae, Cornoni-Huntley, Locke, & Barbano , 1987) Diener et al. use the Big Five personality trait typology developed by Goldberg in the '80s (openness, conscientiousness, extraversion, agreeableness, and neuroticism; traits that also tend to be stable through our whole life) and show that extroverted people tend to be happier while neurotic one less happy in life (Diener, Sandvik, Pavot, & Fujita, 1992). Extraversion can be described as being talkative, social, energetic, and assertive, while neuroticism refers to being tense, moody, reserved and anxious in general. The stability of personality traits connects to hedonic adaption theory as it explains why our SWB remains generally unchanged with time and why we get used to changes in our life quite fast.

Tellegen and others goes even deeper and argue that our SWB is determined by our genes and early life experiences. (Lykken & Tellegen, 1996); (Tellegen, Lykken, Bouchard, Wilcox, Segal, & Rich, 1988). In their famous study they find that monozygotic twin's SWB tend to be quite similar regardless of being brought up together or in different families, while in the case of dizygotic ones (with different genetic pool) the correlation is insignificant.

The effects of genetics and personality can be captured through asking questions about **a**spirations. (Romero, Gomez-Fraguela, & Villar, 2011). For example studies show that individuals attaching high subjective values to financial success have lower values for subjective well-being, even when their financial aspirations were met. (Kasser & Ryan, 1996)

Relying on these findings I assume that genetics play a significant part in determining our personality, and later try to capture these effects by looking at responses to general attitude questions connected to extroversion and neuroticism.

2.1.3. Demographic factors (d)

In the demographic factor I include the most influential demographic characteristics that influence SWB, which is not directly related to societal factors or personality. Such a factor is age. The effect of age on SWB has been considered to be ambiguous (see Meyers, 1995; Diener et al., 1999), but some recent studies, like by Blanchflower and Oswald (2000) showed using a similar data-set to the one used in this paper that there is U-shaped pattern in SWB with age.

The positive effects of marriage on SWB and the negative ones of becoming separated or widowed was first described by Argyle (Argyle, 1987). However, the adaptation effect is strong, and - although in early years of marriage, than the positive effects are highly significant – people get used to it and it loses some of its power with time. (Helliwell, 2002)

Similarly to marriage, income is shown to lose its positive effect on happiness after reaching a certain level, and have diminishing returns associated with it. An interesting study on lottery winners illustrates these effects, showing that the well-being effects of a great income gains are positive but decline with time to fairly small residual levels (Smith & Razell, 1975) What seems to matter more is ones relative income compared to others around her. It is so, because individuals compare themselves to their peers rather than to an absolute benchmark (Christopher & Gordon, 2013)).

One of the most significant, but also one of the least measurable influencer of SWB is social capital. Putnam (2001) defines social capital as features of social organization such as norms,

networks and trust that facilitate cooperation and coordination for mutual benefit. Social capital is often measured with self-reports of access to support from relatives and friends, participation in any volunteer organizations, clubs and a trusting others in general. Studies show that higher social capital endowment results in higher happiness for all individuals, regardless of personality, but – just like income – it produces diminishing returns. (Putnam, 2000) Rodríguez et al. also shows that growing social capital brings more returns in terms of SWB to generally unhappier people. (Rodríguez-Pose & von Berlepsch, 2012)

The direct effect of education on SWB has been found to relatively small and insignificant ((Helliwell, 2002). One explanation to this is that education primarily affects SWB through helping to achieve better income, health, or greater social capital. People get high social capital through education by participating in student organizations, communities and activities and higher income is associated with better education. Therefore, the well-documented benefits of education appear to flow less through its direct impact on life satisfaction (Putnam, 2000). Another practical difficulty that arises in studies measuring the effects of education on SWB is that the quality of educational institutions varies across countries and it is very hard compare degrees from different institutions empirically. (De la Fuente & Donénech (2000); Barro & Lee (1996).

Regarding work characteristics, it is shown that unemployment has a very high negative correlation with SWB, even controlling for income effects of losing a job. This indicates that employment status yield benefits beyond pure income gains. (Clark & Oswald, 1994; Di Tella et al., 2000). Robust results show that self-employed people are more satisfied with their job (Blanchflower & Oswald, 2000; Taylor, 2004; Benz & Frey, 2004, 2008; Andersson, 2008; Black & Koellinger, 2009; Lange, 2009) and some show that they also tend to be generally happier in life (Blanchflower & Oswald, 1998). Another interesting finding is that industrial workers tend to be less happy than service sector workers. (Blanchflower, Self-Employment:

More may not be better, 2004). Some ambiguous results from the Gallup survey shows that clerical workers, teachers and managerial workers report higher happiness but ones working in manufacturing are less happy on average. (Blanchflower, Self-Employment: More may not be better, 2004). Surveys show that the most important job characteristics for happiness are job security, how interesting your job is, the opportunity for advancement, income and the opportunity to help others. (Frey, Stutzer, & Benz, 2004)

2.1.4. Societal level determinants of subjective well-being (s)

The previous section showed individual level, demographic factors influencing our happiness. However policymakers often have to work with aggregates and influence the society as a whole. Different levels of overall well-being exist across nations, even in those which are experiencing similar economic growth and macroeconomic conditions. This implies that that there are several national level influencers of happiness other than income. (Veenhoven, 2013) For example, the average happiness in the U.S. seems to be stationary, while Italian life average satisfaction looks to be trended upwards, and Belgians are, on the whole, apparently getting more dissatisfied with their live (Blanchflower et al., 2007). This section looks into the influencers of happiness on a societal level and presents the most relevant findings to policy.

For example studies show that there is a spillover effect for individual well-being. They show form national level happiness data that people, who are surrounded by other happy people are more likely to become happier in the future. (Benin & Neinstedt, 1985) This suggests increasing returns to national happiness averages, which makes it a promising policy target.

However influencing happiness is not an easy policy challenge. Bjørnskov et al. (2007) finds that the size of the government does not affect the life-satisfaction of countries, using longitudinal data on 74 nations but Flavin et al. (2011), finds a positive association between state intervention

and happiness in advanced industrial democracies, but only if the level of political freedom is not too high. Veenhoven (2000) found government spending irrelevant to national average subjective well-being, while Hessami (2010) argues for an inverted U-shaped relationship. The noisy results on government spending and the high level of cross-country variation in happiness suggests that - although generalization cannot be made – there is room for policy to influence well-being but it is not the "how much" but rather than the "how" is what matters. Andre´s Rodrı´guez-Posea, and Kristina Maslauskaite (2012) shares this view arguing that macroeconomic and institutional differences are indeed the key factors behind the lack of convergence in life satisfaction between CEE countries and the Western World.

Researchers,, like Frijters et al. (2004), Helliwell and Huang (2008) and Helliwell (2002) study the quality of institutions and specific elements of government policies to get a clearer understanding on the societal level influencers of well-being. They show that the quality of the government does have positive association with national happiness. Frey and Stutzer (2000, 2002) explain differences in subjective well-being among Swiss cantons using both individual level variables and measures of the direct accountability of cantonal administrations, finding in cantons with more accountable government higher average measures of subjective well-being exists. Kaufmann, Kraay, and Zoido-Lobatoni (1999) interpolate data collected by others for more than 150 different indicators of the quality of governance and summarize them in the form of accountability, stability, effectiveness, regulation, rule of law and corruption. They find that there is positive relation between the general qualities of governance - the technical quality in particular - and average economic outcomes, but does not study the well-being effects particularly. Studies on specific policy variables include Di Tella et al. (2003) study the effectiveness of unemployment policies in terms of national well-being. They find that welfare states appear to be happier and higher unemployment benefits are associated with higher national well-being. Frey and Stutzer

(1999) also find similar results when they evaluate political institutions using SWB data and cross-sectional analysis. They argue that direct effects of democracy (via initiatives and referenda) and federal structure (local autonomy) systematically and sizably raise self-reported individual well-being.

Macroeconomic conditions are also important societal factors, which are nevertheless influenced by fiscal and monetary policies. Just like personal income, it is shown that national income has a diminishing return in terms of the happiness of the population (Oswald, 1997). Helliwell (2002) shows that the logarithm of average per capita income takes a positive coefficient, while the square of it takes a negative one, arguing that the Easterlin Paradox only takes place after a certain national income level. His results show that although on average richer countries tend to be happier than poorer ones, beyond a certain threshold the average income in a nation makes little difference to the average self-reported happiness (see also Clark and Oswald, 1994; Frey and Stutzer, 2002; Blanchflower and Oswald, 2011). Furthermore simple cross-country correlations of GDP per capita and measures of subjective well-being show a significant positive effect (Myers & Diener, 1995), but countries with faster-growing GDP per capita have not shown corresponding increases in well-being (Easterlin 1974, 2003, Myers & Diener 1995, Oswald 1997). However income growth might not, but its distribution is what matters more. Alesina et al. (2004) argues that national inequality rates - measured by the Gini coefficient - negatively affect happiness especially in European countries, where inequality in a society seems to have a significantly a negative effect on national SWB. They show that Europeans perceive themselves to live in a less mobile society than the US, which has negative effect on the European average happiness levels as income inequalities are perceived as obstacles in the way of personal advancement and opportunities.

Other macroeconomic conditions such as inflation and unemployment rate also affect well-being. DiTella et al. (2000) provides evidence showing that people's well-being is a decreasing function of the national inflation and unemployment rate, and estimates the size of these effects. Regarding these the two important monetary policy targets it turns out that, that individuals rate the subjective cost of unemployment in terms of well-being far higher than the corresponding loss of money income.

But there are other societal factors influencing Gross National Happiness (GNH) as well, like culture or social capital. Bjørnskov (2003) studies the well-being effects of social capital in Swiss and Scandinavian countries and finds that the overall level of social capital has a positive effect on average well-being in, which finding was generalized later to other nations too by Helliwell (2003, 2006). They also provide evidence against reverse causation. The argument goes that social capital in a country has multiple benefits: it reduces transaction costs, reduces risks and makes people help each other out more. Economic benefits of high social capital societies have been well-documented before, but it seems that well-being benefits are also far reaching. The number of cross-national research studies on happiness is soaring, but the comparability of the well-being across is countries raises concerns about cultural measurement bias. However Veenhoven (2012) tests several possible such biases, like bias arising from language of aspirational differences and concludes that such effect are not significant thus happiness can be compared across nations and used as an indicator of how well people thrive in a society (Veenhoven, 2012).

As presented, demographic, societal and personality differences are likely to be the most important determinants of international differences in subjective well-being, but empirically their measurement can be problematic as in cross-country regressions degrees of freedom are scarce and some of the factors cannot be fully explained by available measures of individual and societal

differences. However the effects presented above are already known and they can serve as a starting point for further research and policy perspectives.

2.2. Self-Employment

After reviewing the literature on well-being I look at the target group for my recommended policy actions: the self-employed. There has been a growing body of empirical work on entrepreneurship and self-employment.[1]

There appear to be some general patterns in demographic characteristics among the self-employed. For example the self-employment rates are generally higher for men and the probability of being self-employed is lower among the highly educated workers in the US, while in Europe the probability of being self-employed is related positively to an individual's schooling. The self-employed tend to have fewer children, and offsprings of self-employed fathers are more likely than others to become also self-employed. It is shown that the average age of the self-employed is higher than for the organizationally employed, and Williams (2003) found that self-employed individuals are significantly less likely than ORG to report poor interpersonal

[1] Blanchflower (2004) identifies the most important ones to be the studies of Fuchs (1982), Borjas and Bronars(1989), Evans and Jovanovic (1989), Evans and Leighton (1989), Fairlie (1999), Fairlie and Meyer (1996, 1998), Reardon (1998), Lofstrom (2002), Bruce and Schuetze (2003) and Black et al (2001) for the United States; Rees and Shah (1986), Pickles and O'Farrell (1987), Blanchflower and Oswald (1990, 1998a), Blanchflower and Freeman (1994), Meager (1992), Taylor (1996), and Robson (1998a, 1998b) for the UK; DeWit and van Winden (1990) for the Netherlands; Alba-Ramirez (1994) and Carrasco (1999) for Spain; Bernhardt (1994), Schuetze (2000), Zhengxi et al (1999, 2000), Arai (1997), Lentz and Laband (1990), and Kuhn and Schuetze (2001) for Canada; Laferrere and McEntee (1995) for France; Vijverberg (1995) for Ghana; Vijverberg (1991) for the Cote d'Ivoire; Blau (1986) for Malaysia; Johnson (1985) for Tanzania; Blanchflower and Meyer (1994) and Kidd (1993) for Australia; Genda and Kambayashi (2002) for Japan; Kontos, M. (2003), Wagner, J. (2003) and Williams (2003) for Germany; Ozcan et al (2003) for Turkey; Lindh, T. and H. Ohlsson (1996, 1998), Hammarstedt (2001) for Sweden and Andersson and Wadensjö (2003) for Sweden and Denmark; Johansson (2000a, 2000b) and Kangasharju and Pekkala (2002) for Finland; Nziramasanga and Lee, (2001) for Zimbabwe; Harhoff, Stahl, and Waywood (1998), Pfeiffer and Pohlmeier (1992), and Georgellis and Wall (1999) on Germany; and Foti and Vivarelli (1994) for Italy. There are also several theoretical papers including Kihlstrom and Laffonte (1979), Kanbur (1982), Croate and Tennyson (1992), and Holmes and Schmitz (1990), plus a few papers that draw comparisons across countries such as Schuetze (1998) for Canada and the U.S., Blanchflower and Meyer (1994) for Australia and the U.S., Alba-Ramirez (1994) for Spain and the United States, and Blanchflower (2000) and Acs and Evans (1994) for many countries.

relationships (10% versus 16%). As it has been discussed previously, the SE individuals generally display higher level of job satisfaction and in certain cases higher level of life satisfaction (Benz & Frey, 2004; Blanchflower & Oswald, 2004) This effect is also well-known and studied in psychology (Katz, 1993) but is less known in economics and public policy (Balnchflower, 2004). Table 2 summarizes the findings of some of the literature about the effects self-employment on job- and life-satisfaction.

Table 1
Findings of the empirical studies on the relationship between self-employment and job/life satisfaction. Source: Harbi & Grolleau, 2012

Authors	Location of survey data	Main findings	
		Job satisfaction	Life satisfaction
Blanchflower and Oswald (1998)	US, UK and Germany	+	+
Blanchflower and Oswald (2004)	Europe and United States	+	Ambiguous
Taylor (2004)	United Kingdom	+	Not explored
Benz and Frey (2004, 2008)	United Kingdom, Germany and Switzerland	+	Not explored
Andersson (2008)	Survey data: Swedish level of living survey	+	Ambiguous
Block and Koellinger (2009)	Survey data: sample of 1.547 nascent entrepreneurs	+	Ambiguous
Lange (2009)	Survey data: European social survey (2006)	+	Not explored

+, Positive and significant.

But what is the source of the higher life satisfaction? It turns out that people like to work independently and at workplaces with high pay and good chances of advancement. They like to be their "own boss", having more flexibility and they also like to 'help people'. (Harbi & Gorleau, 2012). This is known as the "locus of control" hypothesis in psychology, which states that people generally enjoy independence and following their free will. (Argandoña, 2003).

On the other hand the self-employed reportedly work exceptionally longer hours than organizationally employed, feel their job to be more stressful and say they can't spend enough time with their family (Blanchflower, 2004). But it turns out that even when all these job characteristics are controlled for; the SE still reported higher levels of job satisfaction than the organizationally employed (Van der Hurst, 2003). It may be that happier people chose self-employment, but the fixed-effects techniques of Burke et al. (2000, 2002) suggest that this is

unlikely to be the case. Even with controlling for personality the SE seems to have higher job satisfaction and the differences in personality characteristics cannot explain the utility differences between the self-employed and the organizationally employed workers. Therefore the conventional explanation behind their higher job satisfaction appears to be that the higher autonomy, flexibility, and opportunity to work in a small organization eventuate higher satisfaction. Frey & Benz identifies this positive relationship as the effects of procedural utility that the self-employed gain from their work; the enjoyment coming from doing things they like. (Frey & Benz, 2004).

If self-employment seems to come with obvious advantages, why don't the rest of the workers chose to open an own business? There is evidence that many people say they would prefer to be self-employed, but only a few take the steps to become an actual one.

Table 3 shows that in most countries the difference between the population, who would prefer to become an entrepreneur and the actual SE rate is very high. The difference is even higher amongst the younger (Blanchflower, 2004). These statistics are suggestive – leaving it natural to think that in there is a currently unexploited supply of potential entrepreneurs, who cannot chose self-employment because of different barriers in their way. What is preventing them from actually becoming one then? One explanation is the capital constraints. A study by Blanchflower (2000) shows that ones who received substantial resources either through heritage, gifts, or inherit family firms are much likely to change their employment status to self-employment.

Table 3
Latent Entrepreneurship. Source: (Blanchflower, 2004)

Country	% who would prefer to be self-employed	Self-employment as a % of total employment
Canada	57,5	9,6
Czech Republic	36,8	15,6
Denmark	29,7	8,3
East Germany	56,6	10
France	41,8	8,7
Great Britain	45,1	11,5
Hungary	49,8	13,4
Italy	63,3	24,6
Japan	40,9	11,2
Netherlands	36	11,1
New Zeland	64,2	18,7
Norway	26,9	6,8
Poland	79,9	24
Portugal	73,3	25,3
Spain	38,9	17,8
Sweden	38,8	9,5
Switzerland	64,5	9,7
USA	70,8	7,2

However, a large group of the SE, necessity entrepreneurs (NE) has not seemed to share the benefits associated with self-employment. Block & Kloelinger (2009) identifies and this group as ones, who were forced into self-employment due to the lack of other employment opportunities. They show that necessity entrepreneurs are numerous in most countries and mostly work in the service sector, operating small enterprises often without any employees. They cannot get as much satisfaction out of their work as other entrepreneurs because they lack the opportunity to make conscious choices about their work and employment status. While opportunity entrepreneurs are driven by passion and dedicate their work to a business opportunity, necessity entrepreneurs chose self-employment only to avoid unemployment.

If we look at the variation in self-employment rates across countries we see large differences. In OECD countries in 2002 these rates varied from as low as 5.9% in Luxembourg to as high as 37.8% in Greece. Self-employment rates are generally higher in poorer countries such as Greece, Turkey, Mexico, Korea and Portugal, but there is a declining trend all around the world,

especially in the OECD countries. The major exception is the UK which has experienced growth from 7.7% in 1956 to 11.5% in 2002 and the Czech Republic, where self-employment rates sharply increased after the fall of the Berlin wall. (Blanchflower, 2004)

After reviewing the most important findings on self-employment, and its positive effect on well-being, I continue with the discussion of policy implications of the possibilities succeeding from this positive relationship.

2.3. Policy Implications

While it was shown that fostering economic growth have diminishing returns in terms of making people happier, the role of good government remains an important factor explaining international differences in life satisfaction. The aim of this section is to explore the how policies can make a society happier through supporting self-employment and review the experience on such practices that so far.

2.3.1. The case for polies supporting self-employment

As discussed above, individuals derive procedural utility from self-employment because it gives them a higher control and freedom and consequently become more satisfied with their work domain and eventually with their life as a whole. Therefore it is logical to assume that the higher the self-employment rates the happier the society becomes. Policymakers should have an open mindset and find areas in the economy, where they can make direct effects on well-being. Fostering entrepreneurship is such an area. I have presented data showing that entrepreneurial lifestyle is wanted by many people, however there are, regulatory, financial and other barriers in their way of becoming one. There has been no convincing evidence showing that the self-employment rate increases real economic growth (in fact there is some evidence on the opposite

effect[2]), making its effect ambiguous by standard financial measures of economic efficiency. . However, I argue that this very special group of people can give multiple other benefits to the society not only through the well-being effects that their employment status generates, but through multiple other ways.

Small and Medium sized Businesses (SMBs) create innovation (Schumpeter, 1934), lead to the creation of new jobs, a rise in the degree of competition (Kirzner, 1972), and a decrease in inequality (Holtz-Eakin, Rosen, Weathers; 2000). Furthermore; Audretsch and Thurik (2004) identify fourteen dimensions highlighting the positive characteristics of entrepreneurial economies. Also, if self-employment really makes people happier, the spill-over effect can provide further benefits to the society, as people it was shown that the ones, who are surrounded by happy people are more likely to become happier in the future (Fowler & Nicholas, 2008). These results suggests that the benefits of having a high rate of self-employment goes beyond the making them happier and spread to the rest of the society. Making easier for people to choose self-employment gives them true opportunities of self-accomplishment. Even if people do not take steps to become self-employed, having the choice must be considered as an obvious benefit to them. These findings should encourage policymakers to consider implementing self-employment encouragement policies. Governments should at the least not restrict self-employment opportunities and design a supportive legal and regulatory environment with low bureaucratic barriers in the way of engaging in self-employment.

[2] Hamilton (2000)

2.3.2. Policy Possibilities

There has only been relatively little work on how policy and institutional factors or macroeconomic conditions can influence self-employment, therefore this area remains to be a subject of future research and a good ground for modern policy initiatives. Still, there are related studies, like the one of Thurik et al. (2008) who presents that a decrease of 5 percentage points in the unemployment rate leads to about a 1 percentage point decrease in self-employment or Schuetze (2000), who pools individual level data for the U.S. and Canada from the Current Population Study and the Survey of Consumer Finances and finds that increase in income taxes have positive effects on the self-employment rate. Blanchflower and Olwald (1998) make a case for financial state intervention, as insufficient access to credit seems to be a main reason why many people do not become self-employed. (Blanchflower, 2004)

There is a strong case for supporting entrepreneurship in younger age groups as Blanchflower (2000) shows that this age group often reports willingness to choose self-employment, but only a few can actually start their own business. This implies that that there are many potentially successful entrepreneurs, who cannot enter self-employment due to some barriers.

There are already policies in place as many governments recognize benefits of self-employment. Such are the Enterprise Allowance Scheme and the Loan Guarantee Scheme in the UK, or the programs providing transfer payments to the unemployed in their attempt to start businesses in Australia, Britain and France (Kelly et al (2002). Apart from providing preferential loans to small businesses, some programs exempt them from certain regulations and taxes. In the US seven states participated in the Self-Employment Assistance Program, which showed good results in moving unemployed to self-employment and stay self-employed even in the longer term Kosanovich et al (2001).

All these programs are great and initiatives for fostering self-employment, but they also create costs, which would have to be balanced against their benefits. The scope of previous studies is limited in terms of cost-benefit analysis and even if they include such, they are evaluating the programs only in terms of economic growth or with financial measures. Nevertheless, proving that such programs create benefits through raising national well-being measures can put their use in a whole new perspective and is recommended in the future.

3. Analysis

The previous section closed with recommending the evaluation of government programs aiming to increase self-employment in terms of their effect on national well-being. This section provides evidence for the positive well-being effects of self-employment and gives insights into how policy can lead us to achieve such results.

I begin with operationalizing the research question it in the form of four hypotheses. After the data description, five models will be presented in the methodology sub-section; each testing a given hypothesis. The interpretation sub-section presents the results of my models and sets the ground for the conclusion chapter.

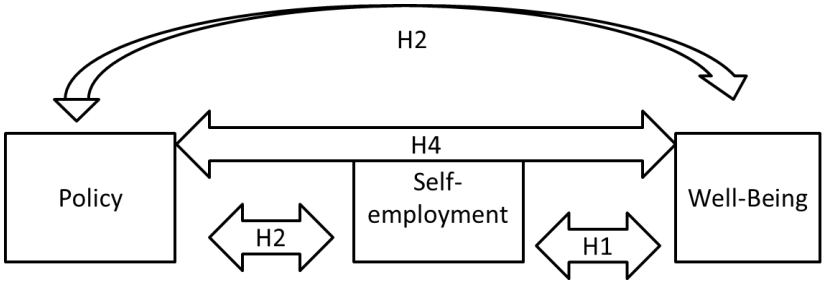
3.1. Hypotheses

The research question of this study asks: Can self-employment make us happier? To help providing answer to the research question with also giving insights into how policies can increase national well-being by supporting self-employment, my hypotheses are stated out as;

- **H1**: Self-Employment has a positive effect on well-being.
- **H2**: Policy can influence self-employment
- **H3**: Policy, can make us happier
- **H4**: Self-employment policy can make us happier

The hypotheses are stated out in a way to identify specific relationships, and H1-H3 will be tested with regression models, described in the methodology sub-chapter. Logically, H4 is conditional on H1-H3, and will be evaluated in the conclusion chapter, based on the results of the models. Figure 2 is an illustration of the logic behind the hypotheses.

Figure 2 - Illustration of the hypotheses



H1 is based on the previous findings of the literature about the job satisfaction of the self-employed, and its discussion touches on the previously presented findings, that necessity entrepreneurship might not carry the positive effects coming from the nature if self-employment: procedural utility. H2 covers topics such as the selection of relevant policy variables and provide insights into the broad effects of policies on self-employment. H3 plays a technical part, by trying to identify the indirect link between self-employment policy and happiness. H4 is evaluated based on what are the policies that can create more, happier entrepreneurs (H1-H2) alos leading to increased well-being in the society (H3)

3.2. Data and variable description

This section gives an overview of the data used for my analysis and Appendix 6-8 contains the descriptive statistics.

For my analysis I use four main data sources. My first 2 models analyze individual level data based on the International Social Survey Program (ISSP) 2005 Work Orientation Module, which contains data on job satisfaction, self-employment, demographics, and personality characteristics. I narrowed down my dataset to working individuals, older than 18, in order to capture the general differences between organizationally employed individuals and the self-employed. WLS weights

had been used to preserve representativeness of the sample. The ISSP data covers 23573 individuals from 32 countries. According to the typology described above, I grouped the variables in three categories: Personality (p), Demographic (d) and Societal (s) variables. Demographics included self-employment, age, gender, marital status, education, income and some work characteristics. The personality variables contain data on the values individuals attribute to the importance of work characteristics, on how they spend their free time and their self-perception of being reserved, trusting and sociable. The societal factors used from the ISSP data only cover country binary variables.

The descriptive statistics in Appendix 6 show that 3349 self-employed are represented in the sample, which is 14% of the total sample size. They are divided into necessity and opportunity entrepreneur subgroups based on the presented findings of Block and Koellinger (2005) who identified that the Necessity Entrepreneurs (NE) tend to operate small businesses, often being the only employee of the given business. According to these findings, NE were identified as those self-employed, who work alone in their firm, whereas the ones with employees are labeled as OE. Unfortunately more precise classification was limited by data constraints and remains an area for possible future improvement. The opportunity and necessity entrepreneurs are represented quite equally among the self-employed according to the sample (1596 and 1753 respectively). The average age in the sample is 38 and for the SE are 51. Necessity entrepreneurs tend to be older than the OE, but with higher variation. The income variable is a standardized z score of the respondent's income in her given country, to capture the previously described finding that it is the relative income that matters more in terms of satisfaction, not its absolute level. For work characteristics I included the perception of job security, income, helping others, interference with family life, stress, and how interesting the respondent finds her job. These questions were rated on a five point scale and the uppermost two answers were converted to

binary variables indicating positive response. A surprisingly high statistic is that almost 70% of the respondents feel that they can help others in their job, or feels their work to be interesting. On the other hand only 5% of all respondents feel their work to interfere with family life.

The personality vector included several questions on a 5 point scale. A question about job satisfaction, the self-perception about being sociable, trusting or reserved and how the individual spends her time (at the workplace, alone, or with friends) and how important the respondents consider the job characteristics described above. The highest difference between finding a job characteristic important and actually having it was in the case of income, with a difference of 57 pct. points.

As for societal factors only country level variables were used from the ISSP data from 32 countries listed in the Appendix.

For model (3), (4) and (5), individual level data was used from the latest available wave of the World Values Survey (WVS), which was carried out over the period 1st April 2005 – 31st December 2006. My sample consists of 48232 respondents from 40 countries. The sample was narrowed down to employed and self-employed individuals (self-reported measure). Age, gender, marital status, education, employment status, and income were used as demographic variables from the WVS data. As this wave of the WVS did not include a question about the number of employees at the workplace of the respondent, necessity entrepreneurs were identified as the self-reported self-employed, who answered positively to the question: "are you supervising someone at your work?"; assuming having employees needs some supervision of the business owner, hence this group is similar to the NE group in the ISSP. In lack of relevant questions identifying the major five personality traits, a basic proxy was added for extroversion in the form of the trust variable. Trusting people more in general might not be the same as extroversion, but captures some of the costiveness and assertively connected to it (Diener, Sandvik, Pavot, & Fujita, 1992).

Data on SWB was used according to the standard survey question about well-being ("Taking all things together, would you say you are not happy at all, not very happy, quite happy or very happy"), which is shown to be a good representation of one's overall SWB (Sandvik, Diener. , & Seidlitz, 1993). Appendix 7 summarizes the descriptive statistics from the WVS.

Data on country-level macroeconomic characteristics (annual inflation, unemployment and the natural logarithm of the GDP per capita) was used from the World Bank database (World Bank, 2013) of the World Development Indicators (WDI). The average GDP per capita (expressed in USD of 2010) was 13900 USD, over-representing richer countries in the sample, as the estimated GDP per capita average was estimated to be 11900 USD (Central Intelligence Agency, 2013).

Policy and competitiveness data was obtained from the Global Competitiveness Report (GCR), prepared annually by the World Economic Forum (World Economic Forum, 2013) GCR reports are aimed to identify and measure the drivers of economic performance of more than 140 economies. The variables that were included as societal factors and were used to identify policy opportunities for influencing self-employment are described below. This list of the variables used is far not detailed enough to describe all policy aspects of economies and policies, but the scope of this study forces me to limit the selection only to a few variables. I chose the variables previous research (eg. Barro & Jong-Wha, 1996; Bjornkshov, 2003; Diener et al., 1992; Djankov et al, 2002; Helliwell & Huang, 2008) indicated to be most relevant for the analysis, adding some others, while keeping in mind that the aim of this studyis more exploratory than explanatory. The ease of access to loans (AccLoans), the quality of education (QualEdu), the level of competition (Comp), the ease of access to venture capital (Venture), the government's procurement of innovative technologies (GovInnov) and the ease of burden of government regulation (GovBurd) were measured on a 7 point scale, 7 being the best value. Government procurement of advanced technology products (GovInnov) measures if gov't procurement

decisions foster technological innovation in the given country. The total tax rate is the a combination of profit tax (% of profits), labor tax and contribution (% of profits), and other taxes (% of profits), and the number of days required to start a business is an indicator for the regulatory barriers in the way of the SE. Trade-weighted average tariff rate is included to indicate the protection against foreign imports and the ratio of exports to GDP for showing how intensive exporter the given country is. Fixed broadband Internet subscriptions per 100 people indicate the technological development of the country and the strength of investor protection is measured on a 10 point scale, 10 being the strongest. Appendix 3 summarizes the range, average and the standard deviation of these variables. The GovBurden variable has to be evaluated with due attention as the direction of the coefficient can be at times misleading (more is not "better")

It is very important to note, that – although efforts were made during the selection to reduce such effects – the variables are highly interconnected and can cause multicollinearity in regression models (see the correlation matrix in Table 4). To highlight some of the most interesting correlations we have to mention the strong (above 0,5), positive correlation of access to loans to GDP, the quality of education, level of competition and the level of government procurement of innovative technologies and to the ease of regulationary burdens. It seems that loans are more broadly available in richer countries, with better education and innovative technologies. Where loans and venture capital is more available, there seems to be also lower regulatory burdens, making them a very favorable environment for innovative start-ups. In poorer countries, capital is less available, and the support for innovation is lower, and business creation seems to take longer, although it does not necessarily mean more burdensome government operations in general. However from these correlations it seems that high regulatory burdens are not likely to be a characteristic of entrepreneurial, developed economies, and also seem to put constraints on innovation.

Table 2
The correlation matrix of the policy variables. Source: WEF data and own calculations

	Inf	Gdp	Unemp_rate	AccLoans	QualEud	Comp	Tax	Days2Bu	Tariffs	Venture	Exp2GDP	Broadband	GovInnov	GovBurden	Invprot
Inf2	1														
IGDP	-,569**	1													
Unemp_rate	,153**	-,107**	1												
AccLoans	-,442**	,624**	-,116**	1											
QualEud	-,324**	**,572****	-,037**	**,816****	1										
Comp	-,351**	,468**	-,109**	**,727****	**,465****	1									
Tax	-,053**	-,135**	-,081**	-,062**	,192**	-,107**	1								
Days2Bus	,328**	**-,477****	,001	**-,431****	-,352**	-,296**	,245**	1							
Tariffs	,289**	-,690**	,031**	**-,608****	**-,471****	-,441**	,322**	,120**	1						
Venture	-,467**	**,666****	-,174**	**,946****	**,807****	**,696****	-,019**	**-,413****	-,583**	1					
Exp2GDP	-,085**	,085**	-,316**	,247**	,160**	,193**	-,309**	-,069**	-,236**	,226**	1				
Broadband	-,536**	**,839****	-,287**	**,559****	**,484****	**,412****	-,148**	**-,472****	-,542**	**,643****	,017**	1			
GovInnov	-,507**	**,438****	-,315**	**,620****	**,483****	**,481****	-,078**	-,118**	**-,446****	**,727****	,389**	**,551****	1		
EaseofGovBurde	-,017**	,170**	-,197**	**,449****	,294**	,313**	**-,444****	-,315**	-,391**	**,439****	**,409****	,327**	**,570****	1	
InvProt	-,257**	,305**	,229**	**,452****	,378**	,356**	-,095**	-,260**	-,392**	**,460****	,101**	,087**	,295**	,259**	1

*. Correlation is significant at the 0.05 level (2-tailed).

There also seems to be a negative relationship between trade protectionism and access to loans; where tariffs are higher, capital is less available, suggesting that foreign capital plays an important role in providing loans to businesses. Tariffs and protectionism also put constraints on the support for innovation, which is an easily understandable connection; if a country stays away from international trade, it falls behind with technological progress.

Ease of access to loans and venture capital, a lower level of burden of government regulation and easier business administration seem to help increase the level of competition significantly. This also provides intuitive evidence that having favorable regulatory conditions for businesses increases their number, which increases competition.

The strong, negative correlation between the level of taxes and the ease of regulatory burdens is understandable. It suggests that where taxes are higher, people feel it more burdensome to comply with governmental administrative requirements (e.g., permits, regulations, reporting). High taxes seem to go together with more administrative burdens; however they do not seem to be connected to loan availability.

Table 3 summarizes the message of the data based on the correlation matrix of policy/competitiveness variables. It is based on pure correlations and has to be treated with

caution; only taking it as a preliminary insight into the hypothetical characteristics of economies supportive to entrepreneurship.

Table 3
Expected characteristics of entrepreneurial economies. Source: own calculations based on WEF data (Appendix 6-7.)

Economies supportive towards entrepreneurship	Economies unsupportive towards entrepreneurship
Richer	Poorer
Good quality of education	Bad quality of education
Lower regulatory burdens	High regulationary burdens
Faster business creation procedures	Slower business creation
More government support for innovative technologies	Less gov't support for innovative technologies
Open Economy	Closed Economy
Lower taxes	Higher taxes
Easy access to loans	No access to loans

Table 5 is the startling point of for my analysis of policy effects on self-employment and the correlation of the variables is taken into account in the methodology and during the interpretation.

After selecting and grouping the demographic, personality and societal variables, the next section presents the methodology and the models used to answer the research question.

3.3. Methodology

This sub-chapter develops five models. Model (1) – (2) serves to check if my data provides similar results on job satisfaction to previous research and sets the stage for the extension of procedural utility benefits to life-satisfaction. They also serve to make the distinction between necessity entrepreneurs and opportunity entrepreneurs and put some lights on the charachteristics of each group. Model (3), (4) and (4) corresponds to H1-H3 accordingly.

In the analysis, I use OLS cross-sectional regression models and linear probability models to answer H1 and H2 and analyze their policy consequences. The shortcomings of these methods

include the danger of finding reverse causality, spurious correlations, and other general pitfalls of cross-sectional linear regression models. However, the exploratory nature of the study, data availability and the ease of interpretation of them serve to justify the usage of these models in this paper. Furthermore, other studies, with similar purpose also used such models and methodology (Hamilton, 2000). The outputs of the regression models are included in the appendix (Appendix 4-7), including the coefficients, the degrees of freedom, the weights, the sample sizes, and the significances. „White" standard errors were used to take hetheroskedasticity into account, and the data has been weighted according to the WLS weights provided by the sources.

My first model is a linear probability model with the following form.

$$EMP_i^j = c^j + \beta_1^j DEM_i + \beta_2^j \mathrm{WRK}_i + \gamma_1^j \mathrm{TIME}_i + \gamma_2^j \mathrm{VAL}_i + \gamma_3^j \mathrm{PERS}_i + \gamma_4^j JOBSAT_i + \varepsilon_i^j \quad (1)$$

Where j represents three proxies for self-employment: self-reported self-employment (SE), necessity entrepreneurship (NE) and opportunity entrepreneurship (OE). represents the coefficients for all demographic variables. The DEM is a vector of basic demographic characteristics (age, gender, marital status, highest education and income) and WRK stands for work characteristics including the perception of income level, job security, how interesting a job is, having a useful job and the ability to help others. The variables in the personality group " " try to capture the effect of personality on becoming SE in the form of four vectors. VAL includes binary variables indication if the respondent finds the factors in WRK important in life (eg. the importance attributed to job security). It is useful to understand what aspects of self-employment can attract people, or at least what parts of their job they find important. TIME represents how the individuals spend their free time (at the workplace, with family, alone or with friends), giving

insights into different behavioral characteristics of the SE. PERS aims to capture personality traits of extroversion and neuroticism with variables indicating sociability, general trust and being reserved. JOBSAT (job satisfaction) is also added to measure if the sample indicates similar findings in previous research with regard to the higher job satisfaction across the SE.

Model (2) is an extension of model (1) with additional country level binary variables aiming to control for country-level macroeconomic, cultural and policy characteristics. Formally, model (2) is stated as

$$EMP_i^j = c^j + \beta_1^j DEM_i + \beta_2^j \mathrm{WRK}_i + \gamma_1^j \mathrm{TIME}_i + \gamma_2^j \mathrm{VAL}_i + \gamma_3^j \mathrm{PERS}_i + \gamma_4^j JOBSAT + \mu_1^j \mathrm{COUNTRY}_i + \varepsilon_i \quad (2)$$

The country variables are present in the COUNTRY vector. Due to missing values and data availability only China, the Czech Republic, Germany, Holland, the Dominican Republic, France, Ireland, Lithuania, Japan, Korea, Latvia, Mexico, Taiwan, New-Zeland, the Philippines and Russia were included in the sample, the US being the reference group. I assume if I can find significant cross-country variation there is room for country level characteristics to influence self-employment and there is room for policy possibilities to be exploited. In (**2d**) the dependent variable becomes JOBSAT and employment status enters as a vector of explanatory variable to test some assumptions discussed later.

Model (1) and (2) examine if the SE are more satisfied with their job, holding other factors constant. Model (3) is proceeds with the analysis of the relationship between self-employment and SWB. For this, I use data from the WVS 2005-2006 wave, as the ISSP database used previously did not include data on well-being. Model (3) has the following form

$$SWB_i = c + \beta_1 DEM_i + \beta_2 \mathrm{EMP}_i + \gamma_1 \mathrm{TRUST}_i + \mu_1 COUNTRY_i + \varepsilon_i \qquad (3)$$

SWB is measured on a 4 point scale as described previously. In the demographic variable group, DEM includes age and age squared, gender, income of the respondent on a 10 step scale, marital status and education. Similar to the standardized values of income in (1) and (2), the scale of incomes in this case tries to capture the relative income of the respondent on a 10 point scale. For education, the reference group constitutes people with primary or no education. EMP refers to employment status, categorizing the SE as opportunity entrepreneurs (OE) and necessity entrepreneurs (NE), while the reference group remains the organizationally employed (ORG). For personality variables ( ), only the level of trust is included due to data availability, and the societal variables remain country binary variables including 40 countries, leaving out the US as reference group.

Having answered H1 with the help of models (1), (2), and (3), model (4) turns to the question of H2 and aims to deconstruct the country level variables influencing self-employment into macroeconomic and policy/competitiveness variables with the following form;

$$EMP_i^j = c^j + \beta_1^j DEM_i + \gamma_1^j \mathrm{TRUST}_i + \mu_1^j MAC + \mu_2^j POL + \varepsilon_i \qquad (4a,b)$$

The group of demographic and the personality variables are the same as in model (3), except for removing the EMP from the RHS and using is as dependent variable. The group of societal factors includes macroeconomic conditions (MAC) and policy relevant variables (POL). MAC

includes GDP per capita, inflation and unemployment rate in order to both identify the general effect of these conditions on self-employment and also to filter out their effect when policy variables are analyzed. POL includes the 15 policy variables obtained from the GCR. Due to the interconnectedness of the policy/macroeconomic variables, a high level of multicollinearity is present. It is very difficult, if not impossible to filter out these effects; therefore model (4c) and (4d) uses a somewhat different approach. In these models, the policy variables were entered one-at a time, holding societal and personality factors constant with the following form;

$$EMP_{ik}^{j} = c^{j} + \beta_{1k}^{j} DEM_{i} + \gamma_{1k}^{j} \mathrm{TRUST}_{i} + \mu_{1k}^{j} MAC + \mu_{2k}^{j} POL_{k} + \varepsilon_{ik} \qquad (4c,d)$$

In this formula, "k" is an indicator for the given policy variables entered one at a time. The policy factor coefficients in (4c) are capturing the direct and also the indirect effects of the given variable, while the ones in (4ab) are likely to be direct effects only.[3] The interpretation of the coefficients will be done taking their value in all forms of (4) into account, and the effects of them will be considered clearer, when both of them are significantly have the same direction.

[3] The uncertainty about the bias of the policy variables is due to their high interconnectedness. For example easier access to loans has an insignificant coefficient on OE in (4b), but has a positive one, when entered individually in (4c). Accessability of loans therefore might not have effect on OE rate directly, but as AccLoans has a very strong correlation with the quality of education, it is likely that it makes positive effect on OE rates through making it easier for more people to finance their education and become more skilled and succesful OE. However the number, the magnitude and the direction of the correlations is various, which makes such interpretations confusing. When the direction of a coefficient is the same in all forms of (4), there is more evidence for its true direction.

Models (1) to (4) serve to provide answers to H1 and H2. Model (5)takes a broader approach and aims to test the hypothetical well-being effects of policy on SWB through fostering self-employment. I argue, that where an effective self-employment policy is in place, the higher SWB scores of the SE should increase national well-being too. This indirect effect of policy on SWB is tested in the following form:

$$SWB_i = c + \beta_1 DEM_i + \gamma_1 \text{TRUST}_i + \mu_1 MAC_i + \mu_1 POL_i + \varepsilon_i \qquad (5)$$

In (5b), assuming that good policies can create general trust, I allow for the variation of this variable, by leaving out TRUST, check how the coefficients of the policy variables change.. To take into account the similar multicollinearity described in model (4), in (5c), the policy variables were also entered one at a time. MAC remains as control in the equation, as I am not interested in the effectiveness of the policies through influencing macroeconomic conditions, but rather their possible benefits through fostering self-employment and possibly providing other well-being benefits.

For models (4) and (5) the usage of clustered standard errors was considered, as the simple White standard error estimates correct for heteroskedasticity but not within-country clustering and may be biased downwards. However, the clustered errors may be biased, too, because of the small number of countries in the analysis. The true standard errors are therefore likely to be in-between the two estimates.

I proceed with presenting the main findings of the models in the next section.

3.4. Interpretation

This section presents the "hidden message" behind the coefficients of the regressions and the other statistics obtained from the data. Three remarks need to be made before I begin the

interpretation of these. The first concerns the mere number of variables and the prevalent use of many abbreviations. The inflexion of these abbreviations should be used with flexibility for the purpose of better understanding[4]. Also, I encourage the reader to use the list of abbreviations presented at the beginning of the thesis, if necessary.

The second area concerns the interpretation of linear probability models. Technically, when employment status is used as the dependent variable in these models, the interpretation estimates the probability of belonging to a certain status, holding other factors constant. Although not the same, I will generalize this to its indirect consequence, , namely the prevalent increase in the country rate of that employment status. I have chosen to allow for these technical inaccuracies as they do not harm the content technically as much as they help the interpretation.

Thirdly, I would like to re-emphasize the exploratory nature of the study. Directions and effect mechanisms are aimed to be discovered here, and their excistence should be tested by other research.

Please take these remarks into account and, also keeping in mind, that the next four sections interpret only the results on the three hypotheses individually, and a general conclusion will only be made in the last chapter.

3.4.1. Setting the stage

After running the regressions based on models (1) and (2), I have found supporting evidence for previous research showing that the self-employed on average tend to be older, male and have lower education than the organizationally employed; assuring that my data represents the most important demographic characteristics of this group (See Table 4 for selected results).

[4] Eg. NE stands for neccessity entrepreneur, although in the sentence „The rate of NE increased rapidly" it should be read as „The rate of necessity entrepreneurship increased rapidly".

My previous assumption with regard to necessity entrepreneurs seems to be justified too. The Opportunity Entrepreneurs category attempts to capture a group which is driven by entrepreneurial ambitions and choses self-employment consciously, whereas necessity entrepreneurs are believed to be the ones who were driven into self-employment only to avoid unemployment. The data reveals, that OE think that their job is not just a way of earning money and more of them would keep working even if they wouldn't earn money. This justifies that differentiating categories according to the number of employees has been an appropriate method for defining these two groups.

Table 4
Selected results from the results of Model 1-2. Reference group: sample averages. Source: Own calculations from ISSP data

	Opportunity Entrepreneurs		**Necessity entrepreneurs**	
	Importance	Actual	Importance	Actual
Income	0	+	+/0	-
Job security	-	0/-	0	-
Job is just for earning money	-		+	
Would keep working without pay	++		+	
Stress	+		-	
Time at job	+		+	
Personality traits	0		0	
Job satisfaction	+		0/+	
Interesting job	+		+	

*Table 6 corresponds to Appendix 1. and 2. Please see those for more detailed description

Regarding the values of given job characteristics, it seems that only necessity entrepreneurs consider income to be exceptionally important. Entrepreneurs do not find income that important, still, they earn more relatively to the ORG or the NE. However an interesting finding is that they do not perceive this higher income to be high. Explanation to this phenomenon can be that once they reach an income-level above that of society on average, their financial aspirations become satisfied, and thus they will not be motivated to raise it further. The other likely scenario could be in line with the previously introduced finding that they are doing work

more for passion and put less emphasis on the importance of monetary aspects (would keep working without income). This passion for their work however, can make them more successful even in financial terms. The true reason remains a topic for further research. Whichever it is, the SE in general have to take more risk, which seem to make the job of both groups less secure as shown in model (2). However they show some willingness to live with such risk, as there is evidence that they think job security to be less important than ORG do. It is indeed reflected in their job satisfaction scores, as both groups of the SE have higher job satisfaction scores than the ORG, which is in line with the previously introduced results of the literature in this domain. If this higher utility can be generalized to life-satisfaction it can be taken as evidence for accepting H1. It is important to notice that after controlling for country effects, the significance of job satisfaction disappears in 2c, making the higher job satisfaction of NE questionable. However, for OE, higher job satisfaction remains even after controlling for country effects. But it can be also seen from models (1) – (2) that their work interferes with their family life and they spend less time with friends. The SE in general seem to spend their free time at the workplace, but why? The coefficient for IntJob in model (2) indicates that they find their job to be more interesting than the ORG, which can be taken as evidence for attributing their higher job satisfaction to the procedural utility gained from their work. Both group of the SE seem to find their job more interesting, but only the OE seem to be clearly more satisfied with it, which is why I argue that only the OE really enjoy procedural utility from their employment status.

The data does not provide consistent personality trait patterns correlating with self-employment as the coefficients of personality traits change, or lose significance with introducing country variables. The only evidence on personality is showing that OE are somewhat more sociable on average; however they do not seem to spend more time with family or friends, only at work. Taking ociability as a proxy for extroversion, a characteristic of happier people (Diener, Sandvik,

Pavot, & Fujita, 1992), provides some reverse causality possibilities; evidence against H1. However the results in (2d) show a significant coefficient for OE on job satisfaction, even with holding personality characteristics constant, which indicates there are other aspects of being an opportunity entrepreneur that contribute to higher job satisfaction, not only their personality traits. Regarding societal factors; it can be seen from model (2) that most country variables show significance (11 out of 17), which gives suggestive evidence for country level determinants influencing the likelihood of becoming self-employed. This variant does not give information on what societal factors determine the likelihood of becoming OE or NE, but reflect that there might be policy possibilities for influencing self-employment, issues analyzed in chapter.

The main findings of model (1) and (2) provide evidence for the higher job satisfaction of the SE, but only for the opportunity entrepreneurs, which makes them the recommended target group for policies trying to influence well-being through supporting self-employment. This sub-group of the SE seems to find interest in what they do, and they are willing to spend more time working, mainly not for the financial benefits, but because of the procedural utility they gain from their work. Also, the fact that personality characteristics do not play a significant role in becoming self-employed shows that there is ground for assuming causality. It is not the genetically determined positive personality of the self-employed that matters, but self-employment makes people more satisfied with their job. However the question remains if this higher level of job satisfaction can be generalized to life-satisfaction? Model (**3**) suggests this is indeed so.

3.4.2. Can self-employment make us happier?

Model (3) uses SWB scores as a dependent variable, and studies its effect on SE. As a new dataset is used in this model, before discussing this relationship, I present some evidence regarding the representativeness of the data (see Table 5 for the summary of the results). The

effect of demographic variables support former research, which finds a U-shaped pattern of SWB with age (negative age coefficients and positive age squared coefficients), positive income, marriage, and education effects (see Blanchflower, 2004). Also as expected; the effect of trust, as a proxy for happy personality, is positive and unchanged with introducing country dummies, as assumed after Diener et al. (1992). Finding the coefficients of the control variables consistent with previous research encourages taking the coefficients on the employment status variables also being suggestive.

Table 5
Are the self-employed happier? (3) Source: WVS and own calculations*

		3a SWB		3b SWB		3c SWB	
Vector	**Variable**	**Beta**	**Sig**	**Beta**	**Sig**	**Beta**	**Sig**
	SE	**,015**	,040				
EMP	**OE**			**,055**	,000	**,034**	,002
	NE			**-,022**	,014	-,013	,171
DEM		YES		YES		YES	
PERS		YES		YES		YES	
COUNTRY		NO		NO		YES	

*Table 7 corresponds to Appendix 3. EMP – employment status SE – Self-employed, OE – Opportunity Entrepreneur, NE – Necessity Entrepreneur. DEM – Demographics, PERS - Personality

Self-employment alone has an ambiguously positive effect on SWB, although with only 4% significance. However, dividing the SE into the discussed sub-groups shows that opportunity entrepreneurs report higher SWB scores, very significantly in contrast with the NE, who seem to be unhappier, taking demographics and personality constant. Introducing country effects dissolves the significance of the negative NE coefficient; however the positive one of the OE stays significant. This is conditional evidence (on being OE) for accepting H1. Being OE raises SWB scores by 0,034 on a four point scale on average, regardless of demographic and social effects, which seems to be a small value in magnitude, but its relative size is quite significant; higher than the effect of having secondary, or university level highest education, or almost the same as advancing one income bracket. Taking into account how much money governments

spend on funding universities as compared to supporting SE, and the fact that the OE have lower education levels on average, support to entrepreneurship becomes a more considerable policy target, based on this evidence.

The country variables have mostly large and significant effects (32 out of 39), indicating the variability of SWB levels across countries and suggesting that there might be room to influence SWB through differences country level policies.

The main message of Model (3) is that SE can influence SWB positively, but only if the entrepreneur is an intrinsically motivated opportunity entrepreneur. The direction and the significance of being a necessity entrepreneur remain ambiguous on SWB, with some evidence for a negative relationship. Taking the evidence for the irrelevance of personality in becoming SE, model (3) supports H1 conditionally, leaving us to conclude that becoming an opportunity entrepreneur can make one happier. A practical consequence of this finding in the context of this study is that policies aimed to create positive well-being effects through fostering entrepreneurship should focus on increasing the number of opportunity entrepreneurs. But the dilemma remains: how? This is what model (4) tries to answer.

3.4.3. Can policy foster self-employment?

After experiencing positive effects of self-employment on SWB, model (4) is testing if policy can influence the likelihood of one becoming self-employed. (See Table 6 for the summary of the results).

In model (4) the country dummies – the previously used determinants of the effects of societal factors on SE rates - are substituted by the WEF indicators of policy and competitiveness (POL) and macroeconomic characteristics (MAC), while the dependent variable remains employment status. The demographic variables enter as controls, suggesting that OE are more likely to be

older, married, having lower education, being male and earning slightly more than ORG, consistently with previous findings. The NE on the other hand seem to earn less and seem to be slightly younger on average, and also have lower education on average. The trust variable becomes positive and significant for both groups, but stronger for OE, suggesting that the SE generally have a more positive personality, which was the expected result.

Table 6
Can policy influence SE? Source: WVS, WEF, WB and own calculations*

		4a NE		4b OE		4c OE		4d NE	
Vector	Variable	Beta	Sig	Beta	Sig	Beta	Sig	Beta	Sig
DEM	UniEdu	CTRL		CTRL		CTRL		CTRL	
PERS	Trust								
MAC	Inflation	,000	,674	**-,010**	,000	**0,00**	0,03	**-0**	0,00
	logGDP	**-,068**	,000	**-,058**	,000	**-0,02**	0,00	**-0,04**	0,00
	Unemp_rate	**-,001**	,003	**-,007**	,000	**-0,01**	0,00	**0,001**	0,01
POL	Access to loans	**-,058**	,000	-,005	,473	**0,012**	0,00	-0	0,48
	Eudcation quality	**-,012**	,001	,003	,407	**-0,005**	0,005	**-0,01**	0,00
	Level of competition	-,001	,609	**,009**	,000	**0,012**	0,00	**0,006**	0,00
	Tax rate	**,001**	,000	**,001**	,000	**0**	0,00	**0**	0,00
	Days needed to open a business	**-,018**	,000	**-,015**	,000	**-0,006**	0,00	**-0,01**	0,00
	Tariffs (%)	**-,013**	,000	**-,021**	,000	**-0,008**	0,00	**-0**	0,00
	Access to venture capital	**,029**	,000	**-,104**	,000	0	0,817	**-0,01**	0,00
	Exports-to-GDP	,000	,192	**,000**	,000	**0**	0,002	**0**	0,02
	Broadband subscriptions	,000	,071	**-,003**	,000	**-0,004**	0,00	**-0**	0,01
	Gov't procurement of innovative tech'	**,099**	,000	**,093**	,000	0	0,92	**-0,05**	0,00
	Burden of gov't regulation	**-,030**	,000	**,037**	,000	**0,04**	0,00	**-0,04**	0,00
	Investor protection	**-,016**	,000	**,005**	,001	**0,016**	0,00	0,001	0,37

*Table 8 is corresponding to Appendix 4. Some variable names were changed here, for better understandability. d – demographic variables, p – personality variables, s – societal variables.

MAC factors reveal, that GDP per capita has a small, negative effect on the level of self-employment in general: a sign that self-employment rates are generally lower in developed countries. Inflation seems to reduce the likelihood of becoming OE, but does not affect the necessity entrepreneurs, which makes a case for low inflation targeting in order to support the growth of the "happier" group of entrepreneurs. The negative coefficient on the unemployment rate suggest that once the number of available jobs drop, both NEs and OEs start losing their

jobs as well, but such a depression contraction affects OE more severely than it affects the NE. Possibly it is because once people start losing their job, some chose to turn to self-employment, but only because of the lack of options and not because of having a conscious intention. All these coefficients are used as controls, and take the expected value, presented in the literature review.

As already emphasized, the coefficients of the POL vector in model (4) are prone to substantial multicollinearity (see Table 2). The effect mechanisms behind the policy variables are complex, and the explanatory power of the coefficients in the cross sectional model (4) are subject to other several possible downfalls, like reverse causality or spurious correlations. To counter these possible downfalls, I compare coefficients of (4ab) to the ones of (4cd), when they are evaluated[5]. However, the complexity of the effect mechanisms behind the policy factors and self-employment reach beyond the limits of this paper; therefore the scope of the following interpretation is more exploratory than explanatory, providing only basic insights upon their nature. The aim of the following analysis serves to provide useful insights regarding direction of further, deeper research on each of the POL variables in the light their effect on the subgroups of the SE.

The ease of access to loans only takes a strong, negative coefficient for the NE, but it is only significant if entered together with the other policy variables. The significance and the direction are both the opposite for OE. The case is similar with the availability of venture capital, which seems to positively influence the number of NE, but negatively the OE, in contrast to what one would expect. However, when entered individually, it either loses its significance, or turns direction, therefore cannot be interpreted clearly. However, as the overall effect of both coefficients (when entered individually) seem to be close to zero, it seems that capital availability,

[5] For further explanation on how the interpretation should be done, go to the footnotes of sub-chapter 3.3. on p35.

togerher with its side-effects they are not likely to make any difference on the level of SE, but the changing coefficients, leaves me not to be able to conclusive about ithem.

It seems that the degree of investor protection has a positive association with the likelihood of becoming OE, with having a positive coefficient in both versions of the model, which means that the degree of investor protection is associated with more succesful entrepreneurs. A possibility behind these effects that capital availability can only eventuate more, well-functioning businesses, if they are provided with careful consideration; the mere availability of them is not likely help fostering opportunity entrepreneurship. Maybe, if a business idea is good, and the entrepreneur has the right skills and mindset, he or she manages to raise the funding for it any way.

The quality of education however is more informative. Education does not seems to effect the level of OE significantly (there is evidence of a slight negative effect), but does consistently reduce the NE rate. A likely explanation could be that, where the quality of education is higher people who do not want to work as SE tend to find suitable jobs (probably as ORG), therefore they do not have to become NE. Furthermore, the quality of education seems to correlate with many other factors positively influencing OEs, like supporting innovation or venture capital availability, therefore it seems that increasing the quality of education is a good way to influence SE rates towards opportunity entrepreneurship.

The level of competition seems to positively influence OE rates and have an ambiguous effect on necessity entrepreneurship. The relatively strong positive coefficient indicates that in monopolistic markets, there is little opportunity for creating successful SMBs, as there are considerable barriers in the way of startups (eg economies of scale or cartells). Therefore, as expected, abuse of market power and monopoly seems to influence opportunity-entrepreneurship negatively. The coefficient is likely to be insignificant for NE because they are

not driven by exploiting good business opportunities, only try to make a living regardless of the level of competition. As the level of competition is also correlated positively with other supporting policies, such as the innovative procurement projects of government, effective competition policy seems to be another good way for supporting opportunity entrepreneurs.

The effect of the overall tax rate seems to be consistently positive, albeit rather weak. . The precise impact of the tax rates on small business growth is frequently debated and economists have yet to agree on exactly how large the rates of taxation typically loom in the minds of current and potential entrepreneurs. Although studies have shown that tax rates may have some effect on job creation and entrepreneurial decision-making, most entrepreneurs maintain that tax rates are not pressing concerns for those deciding whether to start a business or hire new employees. (Forest, 2013). Most likely the general tax rate is a too general measure to capture effects on entrepreneurship, and more exact taxes should be studied and general conclusion cannot be made from this data.

From these models, one of largest positive effects on SE can be attributed to the days necessary to open up a new business. Although one would assume – just like general taxes – administrative business opening procedures are only small barriers in the way of entrepreneurs, however the case seem to be the exact opposite. Just like GovBurden, the Days2Busi coefficient is also likely to capture the effects of regulatory burdens, but only the ones directly related to entrepreneurship. The correlation between the two variables is significant, but it is relatively low, compared to the others in the correlation matrix (-0,311). This suggests, that even in a generally bureaucratic economic policy environment, it is possible to peruse liberal self-employment policy, but both indicators of regulatory burdens suggests that bureaucratic economies and regulations are well in the way of entrepreneurs, therefore liberalizing regulatory policies seem to be a promising area for fostering OE. The results consistently show that where the regulationary

burdens are low in general, the number of opportunity entrepreneurs is higher, while there are fewer necessity-entrepreneurs, showing that less bureaucracy in general can lead to more successful entrepreneurs. It is likely to be so, because in more liberal economies they can lead their businesses in the direction they want them to go, and don't have to deal with that much administration, enjoying more freedom. However making business creation administratively fast and easy increases both NE and OE rates; implying that lowering the exact administrative burdens around business creation is an efficient way of boosting SE in general, but does not guarantee, that the new entrepreneurs will be successful opportunity entrepreneurs. Maybe it is so, because this way more unemployed would chose self-employment formally, without entrepreneurial ambitions, only running out of other options. As suggested before, the coefficients of Days2Bus imply another important message to policymakers. Common sense would say Days2Bus in its narrow sense seems to be a minor factor in determining if someone – especially opportunity entrepreneurs – enter self-employment or not. (eg. if you have a good business idea and capital for execution, why would an extra day for opening a business should prevent you starting it). However its effect is stronger than expected, which suggests behavioral aspects for regulatory policies. Making the entry itself easy for entrepreneurs can significantly influence their number, maybe because it is only the first step that is the hard to make in the process becoming a successful entrepreneur, and making administration around the first steps of business creation can encourage more people with good business ideas to be entrepreneurs.

Tariffs seem to negatively influence SE, which is likely to be due to the part of the general negative effects of tariffs on the economy known from macroeconomics rather than a specific factor influencing SE. Macroeconomic theory argues that the domestic price increase that follows increasing tariffs reduces consumer disposable income and since consumers are purchasing less, domestic producers will also sell less, causing a decline in the economy. The negative effect of

tariffs on SE provides important evidence against the popular political argument for protecting domestic SBMs against foreign products with imposing high tariffs. It seems that actually, the disadvantages are higher than the advantages even in this respect. However, the data is cross-sectional, thus another possibility is that tariffs are higher in countries, where SE rates are low, and they are partly high specifically for making it easier for domestic SMBs to compete against cheaper foreign products. However, as presented at the interpretation of Table 8, it seems higher tariffs have multiple other negative consequences for SMBs, such as the radical drop of availability of loans (0.946 correlations). Other techniques are needed to test this possibility, the causation and the other effect mechanisms behind these results. Although the effectiveness of raising tariffs to aid OE is ambiguous, another evidence for the advantages of trade openness is the small, but positive effects of Exp2GDP on the OE rates, which seem not to affect NE. This might be because export related business opportunities are mostly exploited by OEs, thus aiding SE in international trade has a case according to model (4).

One of the most surprising finding from the data is the effect of broadband subscriptions. Technological advancement expressed by this indicator seems to have no or negative effect on self-employment, especially on OE rates, but the magnitude is small. Common sense would suggest that the ease of access to internet makes entrepreneurship easier, and that it also has positive correlation with factors believed to be helpful for entrepreneurs. However the findings of model (5) contradict this belief. Examining the level of government procurement of innovative technologies does not make the picture clearer, as the coefficients either change direction or lose significance when entered individually. However, controlling for other factors, GovInnov has far the strongest, positive effect on SE rates. I cannot conclude any clear effects of neither technological advancement nor of government investment in innovation, but suggest that there are huge possibilities in innovation policy to influence self-employment, but their effectiveness is

very contextual. A possible explanation can be that in a economy, where the corruption and the quality of education is low, innovative procurement projects will be won by inefficient firms or MNAs and not by new enterprises with good ideas and power to execute.

This section identified lowering regulatory burdens to be possibly the best area where policy can influence the number of OE, also finding possible opportunities through the quality of education, competition policy, investor protection and trade openness.[6] The next section discusses if these policies can actually be seen creating well-being benefits.

3.4.4. Can policy really increase well-being?

Looking at the results of Model (5) in Table 7 , the first impression is that they are generally very low. The strongest effects can be attributed to the availability of venture capital, low tariffs and to the quality of education. It is shown that improving the rating of education quality on a 7 point scale by one leads to 0,049 points increase on SWB, holding others constant. However, although in absolute terms the effect might be small, in relative terms it can be compared to the effect of income or marriage, which means that they are significantly large thus policy can be seen as a possible tool for influencing happiness. The counterargument is the one of the advocates of the Set Point Theory: well-being is genetically determined, and – just like buying a car or winning the lottery – policy can only influence well-being temporarily.

Omitting trust from the control variables generally increases the coefficients of the variables, which can be interpreted as the power of policy factors to influence general trust within society, making people happier through this channel too. Keeping trust as a control variable is likely to make the policy coefficients somewhat under-estimated. When the elements of the POL vector are entered individually, the coefficient of AccLoans and Comp, gains significance, indicating that these factors are likely to influence well-being through their relation to other policy variables,

[6] The summary of findinds about the relations are presented later in Chapter 3 (See Table 10 on p.54)

making it risky to make assumptions about their well-being effects. The effect of GovBurden is only significant without controlling for trust, which indicates that easing the regulatory burdens can only make positive well-being effects if the trust is high in the society. The individual insertion of the level of investor protection shows its positive effect on happiness, however controlling for other factors it has a negative sign. The rationale behind this remains unclear, but one explanation is that investor protection yields benefits through making venture capital accessible (strong, positive coefficient), but in itself it is seen only as a regulatory burden.

Table 7
The well-being effects of policy (Model 5) Source: WVS, WEF, WB and own calculations

	5a		5b		5c	
Variable	SWB Beta	Sig	SWB Beta	Sig	SWB Beta	Sig
(Constant)	4,165	,000	4,299	,000	Ctrl	
DEM	Ctrl					
Trust	**,084**	,000				
Inf2	**-,030**	,000	**-,030**	,000		
lGDP	-,039	,000	**-,049**	,000		
Unemp_rate	**-,005**	,000	**-,006**	,000		
Access to loans	-,030	,077	-,022	,191	**0,044**	0
Eudcation quality	**,049**	,000	**,046**	,000	**0,013**	0
Level of competition	,009	,072	,009	,071	**0,024**	0,001
Tax rate	**-,001**	,000	**-,001**	,000	**-0,001**	0
Days needed to open a business	,001	,691	-,002	,297	**0,006**	0
Tariffs (%)	**-,030**	,000	**-,032**	,000	**-0,019**	0
Access to venture capital	**,049**	,004	**,050**	,003	**0,037**	0
Exports-to-GDP	**-,002**	,000	**-,002**	,000	**0**	0,004
Broadband subscriptions	**-,010**	,000	**-,009**	,000	**-0,011**	0
Gov't procurement of innovative technologies	**-,030**	,046	-,023	,126	**0,023**	0
Ease of gov't regulationary burdens	-,020	,084	**-,027**	,017	-0,002	0,737
Investor protection	**-,016**	,000	**-,020**	,000	**0,012**	0

*Table 9 is corresponding to Appendix 5. Some variable names were changed here, for better understandability

Apart from these, the other policy factors contribute to SWB in the anticipated way except the broadband access which has a negative coefficient and the export-to-GDP ratio, which was

found to have only a minor effect. The rationale behind the negative effect of broadband subscriptions remains unexplained, however the weak effect of taxes, and that of the export ratio can be explained by the fact that their effect on self-employment rate was also weak, therefore the well-being benefits attributed to them also remains low.

The burden of government regulation and the Days2Busi were identified as one of the most promising areas for fostering self-employment. The regulatory burden coefficient however is somewhat ambiguous. The GovBurd variable covers a wide range of possible regulations, not only the ones, which are directly connected to self-employment. A more specific indicator of administrative and regulatory burdens is the days necessary to start a business, which shows, as expected, a negative coefficient, implying that the right kind of regulatory ease can influence well-being. Again, the devil is in the details. It is not the "how much", but the "how" that matters. I argue that the data is evidence showing that simply reducing the regulatory burdens does not yield happiness benefits, but reducing the burdens on the self-employed is what can make the society better off by creating more, and happier opportunity entrepreneurs.

The fact, that the coefficient on access to loans is ambiguous, but the one on the availability of venture capital remains strong and significant, can be interpreted as evidence showing how a type of loan, which is provided directly to entrepreneurs can influence well-being. However, the results in model (4) left the effect of venture capital availability on well-being unclear, model (5) shows evidence that it can create happiness benefits.

A clearly negative coefficient is the level of tariffs, which consistently gives evidence for the well-being benefits associated with free trade and openness.

The main conclusion of this section is that policy seems to be able to influence well-being (at least as much as other factors rather than genetics can), providing evidence for accepting H3.

From the policy variables used in this study, venture capital availability, the quality of education and trade openness were identified as the areas, where policy can create the biggest impact on subjective well-being. However the, to identify the most effective self-employment policy in therms of well-being, a policy should influence the rate of OE and national well-being in the similar direction. Having presented evidence on H1-H3, the conclusion chapter aims to put the "big picture" together and propose some recommendations based on the results of the analysis.

4. Conclusion and Recommendations

This chapter consists of three parts. The first sub-chapter summmarizes the findings of the analysis chapert and identifies the best areas for self-employment policy in terms of well-being benefits, aiming to answer H4. The second sub-chapter serves as a brief introduction to concrete policy possibilities for using my results in practice. The third sub-chapter gives some reflection on the limitations of this paper and recommends areas for further research.

4.1. Conclusions

The research question of the paper was if self-employment can make us happier, and its secondary goal was to identify areas, where policy can to make use of this relationship.

The analysis was conducted in a modified version of the domain satisfaction framework of Easterlin (2009) and structured around four hypotheses;

- **H1**: Self-Employment has a positive effect on well-being.
- **H2**: Policy can influence self-employment
- **H3**: Policy, can make us happier
- **H4**: Self-employment policy can make us happier

The analysis of H1 identified what makes the self-employed happy, studying H2 has recommended policy tools to influence self-employment and answering H3 has provided answers to the actual effectiveness of these policy tools. This sub-chapter summarizes the results in order to identify the areas that can actually increase national well-being through fostering self-employment. Five models were developed to test the hypotheses.

In Model (1) and (2) I provided evidence for the high job satisfaction of the self-employed and argued that it is the consequence of the procedural utility they gain from their job. I also

identified the group of necessity entrepreneurs by firm size, who seem not to enjoy the procedural utility benefits of self-employment, making the other group; opportunity entrepreneurs to be a better target for efficient self-employment policy in terms of well-being.

Presenting model (3), I argued that the benefits of being an opportunity-entrepreneur reach further than job satisfaction; I provided evidence that it can make people be more satisfied with their life. I also found some evidence against reverse causality, arguing that it is not the "happy people", who become opportunity entrepreneurs, but entrepreneurship is what can make people happier.

In model (4) I argued that if opportunity entrepreneurship can make people happier, entrepreneurship should be supported with policy tools. I identified lowering regulatory burdens connected to business creation and operation to be the best and most effective area for fostering self-employment, also finding possible opportunities through the quality of education, competition policy, investor protection and trade openness.

Finally, in Model (5) I tested the direct effects of such policies on well-being, finding venture capital availability, the quality of education and trade openness to be the areas, where policy could create the biggest well-being benefits to the society.

As nn effective self-emplyoment policy should increase the number of opportunity entrepreneurs and at the same time create well-being benefits to the society, the results of model (3)-(5) have to be looked at simultaniously to make a meaningful conclusion on H4. However it has to be noted that the effect mechanisms are so complex and the multicollinearity of the policy variables are so high that some the coefficients may well be biased from their true value, and their direction sould only be taken as a starting point.

Table 8 - Summary of findings. Source: own calculations

Variable	Opportunity Entrepreneurs	Necessity Entrepreneurs	SWB
Subjective Well-Being	+	?	+
Job Satisfaction	+	0/+	+
Access to loans	?	?	?
Investor protection	+	?	?
Quality of education	?	-	+
Level of competition	+	?	?
Effective tax rate	?	?	-
Days to open up a business	-	-	+
Burden of gov't regulation	-	+	-
Export-to-GDP	+	?	?
Tariffs	-	-	-

Table 8 contains the most important findings of my analysis to this point. It turns out that the most promising area for self-employment policy to exploit the procedural utility coming from their employment status is removing regulatory barriers from the way of the potential entrepreneurs, especially by making business creation easier and faster. This seems increase the number of opportunity entrepreneurs and increase well-being in the society at the same time. However it must not be forgotten, that such policies seem to work only in economies, where general trust is high.

The other effective area is trade policy, where lowering tariffs might increase competition and encourage opportunity entrepreneurship, while having positive overall well-being effects on the society. The third recommended area is improving the quality of education, which – although has ambiguous effect on opportunity-entrepreneurship - reduces the number of necessity entrepreneurs, while yields well-being benefits to the society. There are also other self-employment policy areas, which might create well-being benefits, but the effect mechanisms are less clear and the results are harder to interpret. One of such is increasing investor protection, which can boost the venture capital availability, and boosts the number of opportunity

entrepreneurs, who can make competition more intensive, its side-effects might lead to factors reducing the well-being benefits associated with it. Further research is needed on the evaluation of such programs, with empirical analysis, however, I hope, by identifying these areas my work created useful contribution to well-being research and policy analysis.

The next section is a collection of ideas how the results of this paper could be applied practically in policy.

4.2. Recommendations

As SE rates seem to decline with economic development, developed countries should consider policies encouraging self-employment especially. My analysis showed that bureaucratic barriers stand in the way of many potential opportunity entrepreneurs. Possibly only the initial decision is difficult for this group for starting their enterprise, as simple procedures, even such as making it faster to open a business seems to increase the number of them. Organizing public workshops or training activities, where potential entrepreneurs can learn about the administrative procedures needed to open up a business could help them those and become happier, opportunity entrepreneurs.

Given that the average age of necessity entrepreneurs is low, funding centers for entrepreneurship at universities could make more successful young entrepreneurs. At such centers students can learn about identifying business opportunities effectively, the establishment and operation of SMBs and courses can help them making the first steps on the way of opening their own business. Some universities already have such programs. As an example, at the University of Southern California, students can get credits for their attempt to start a business (USC, 2013).

Entrepreneurship programs in the secondary education have the advantages to educate a wider range of people about businesses operations. For example in Hungary, there are business competitions organized for secondary school students to design, create and even market their own products and – if they are doing well – they receive further support for building a business on it. (Székesfehérvári Vállalkozásfejlesztési Alapítvány, 2013).

The results also suggest that fostering competition is another effective way to influence opportunity entrepreneurship. My findings can be used to support arguments for stronger anti-trust policies, transparent government procurement projects or programs against corruption in the economy. The negative effects of tariffs on opportunity-entrepreneurship suggests a strong case for the abolition of trade barriers and encourages participation in international trade by joing trade unions and international organizations, like the WTO, NAFTA, or the WEF.

My results also imply recommendations on what self-employment policies might not be too effective in term of well-being benefits. Blanchflower and Oswald (1998) showed that insufficient access to credit is an important reason why many people do not become self-employed, my data suggest that state-supported start-up financing programs might not create more successful opportunity entrepreneurs, with higher life satisfaction directly. Raising access to loans seem to create well-being benefits overall, but through other channels, possibly like making it possible for more people to finance better education, thus making them more likely to successfully operate a business later or enjoy the several other benefits of education (eg. social capital, higher income). Other studies also confirm the ineffectiveness of start-up financing programs (see e.g. OECD, 2000; Carling and Gustafson, 1999).

Another suggestion is to reconsider policies forcing the unemployed into self-employment, from a well-being perspective. Such programs are not likely to lead to procedural utility benefits for the

self-employed, as people would lack the choice of choosing entrepreneurship on their own, becoming necessity entrepreneurs.

Emphasis should be put on creating a policy framework that is generally conducive to entrepreneurial activity such as reducing the bureaucracy around SMBs, educating people about entrepreneurship, promoting competition, and raising the level of investor protection in a transparent, stable policy environment.

4.3. Reflection on results and suggestion for future research

One factor limiting the explanatory power of this study is arising from the methodology; it can establish linkages or correlations but not prove the existence or direction of causation between the well-being effects of self-employment and policy. However, this study serves an exploratory purpose therefore the identification of linkages is sufficient for its scope. Still, I hope the connections found in this study serve as a good starting point for others to understand the effects of each policy variable used in this paper better and further research will be conducted on the well-being effect of self-employment policies. Another area to improve is related to the interconnectedness of the policy variables. The multicollinearity is high in the policy regressions, and – although some efforts were made to overcome it – the coefficients are biased. More direct measures of policy should be applied to validate my suggested effect of them.

To test the validity of my recommendations with a more advanced technique, and more explanatory power on causation together and with clear measures for policy effectiveness an exact studies are in my mind. If panel data can be found, following students from universities (with and without entrepreneurship education) by tracking their SWB and employment status, my recommendation on the education of entrepreneurship could be tested empirically. In a similar

manner, tracking well-being of the ones who take part in programs moving the unemployed into self-employment, can test empirically the well-being effects of necessity entrepreneurship

At last, but not least it has to be kept in mind, that my paper evaluated policies merely based on well-being measures. The financial and structural effects can be also very significant, and a comprehensive evaluation is needed for final recommendations. The results of this paper should only be used as inputs on the well-being benefits of self-employment policies, not as comprehensive evaluations of those.

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6. Appendix

Appendix 1 - Characteristics of the SE (Model 1)

			1a SE		1b OE		1c NE	
		Variable[7]	Beta	Sig	Beta	Sig	Beta	Sig
		(Constant)	-,024	,463	-,016	,496	-,018	,491
d	DEM	Age	**,005**	,000	**,002**	,000	**,003**	,000
		Female	**-,057**	,000	**-,030**	,000	**-,034**	,000
		zinc	**,018**	,000	**,042**	,000	**-,022**	,000
		Separated	**-,029**	,035	-,015	,123	,010	,375
		Married	-,004	,711	,011	,103	**,039**	,000
		SecEDU	***-,060***	,000	-,005	,371	**-,022**	,001
		UniEDU	**-,085**	,000	**-,028**	,000	**-,024**	,005
	WRK	HighInc	,008	,328	-,007	,246	,001	,853
		Jobsec	**-,037**	,000	-,010	,065	**-,034**	,000
		Iteresting job	**,026**	,005	,011	,102	8,324E-5	,991
		Helpothers	,011	,231	,007	,271	,005	,434
		Stress	-,006	,459	**,017**	,002	**-,013**	,031
		work interferes with family	**,086**	,000	**,025**	,040	**,072**	,000
p	VAL	ImpHighIncome	**,020**	,046	-,008	,259	**,015**	,050
		ImpJobsec	**-,088**	,000	**-,034**	,001	-,020	,084
		ImpIntjob	-,009	,558	-,001	,891	,005	,639
		ImpHelpothers	**,034**	,002	**,021**	,007	,006	,442
		ImpUseful	-,006	,590	-,003	,698	-,004	,621
	TIME	TimeJob	**,141**	,000	**,047**	,000	**,096**	,000
		TimeFamily	,001	,859	-,006	,325	-,005	,415
		TimeFriend	**-,030**	,000	**-,013**	,022	**-,022**	,001
		TimeAlone	**-,070**	,000	**-,015**	,013	**-,043**	,000
	PERS	Reserved	**,016**	,000	-,002	,331	-2,494E-5	,992
		Trust	,003	,455	,001	,717	**,006**	,042
		Sociable	,004	,273	-,001	,670	**-,006**	,036
	JOBSAT	Jobsat	**,016**	,000	**,015**	,000	**,010**	,001
		R2	0,12		0,07		0,088	
		N	10613		9758		9944	
		Data	ISSP		ISSP		ISSP	
		Weights	Y		Y		Y	

Appendix 2 - Charachteristics of the SE (Model 2)

[7] Some variable might not be self-explanatory. Please see the list of abbreviations for further information.

			2a SE		2b OE		2c NE		2d Jobsat	
		Variable	Beta	Sig	Beta	Sig	Beta	Sig	Beta	Sig
		(Constant)	-,005	,892	-,067	,016	,086	,002	2,030	,000
d	DEM	Age	**,005**	,000	**,002**	,000	**,003**	,000	**,002**	,025
		Female	**-,036**	,000	**-,022**	,000	**-,016**	,004	**,062**	,001
		zinc	**,026**	,000	**,044**	,000	**-,008**	,008	**,063**	,000
		Married	,009	,346	**,013**	,049	,008	,239	**,088**	,000
		Separated	-,005	,690	-,003	,778	,001	,953	**,118**	,001
		SecEDU	**-,076**	,000	**-,017**	,013	**-,052**	,000	-,021	,376
		UniEDU	**-,129**	,000	**-,045**	,000	**-,077**	,000	**-,068**	,021
	EMP	OE							**,208**	,000
		NE							-,010	,787
	WRK	HighInc	-,011	,199	**-,012**	,046	,001	,880	**,276**	,000
		Jobsec	**-,033**	,000	-,010	,062	**-,030**	,000	**,252**	,000
		Iteresting job	**,052**	,000	**,021**	,002	**,031**	,000	**,703**	,000
		Helpothers	,000	,981	,000	,953	-,005	,446	**,061**	,007
		Stress	-,006	,447	**,015**	,006	**-,016**	,003	**-,294**	,000
		WrkInterfFamily	**,050**	,001	,023	,053	,015	,203	-,030	,467
p	VAL	ImpHighIncome	-,013	,173	-,007	,329	-,004	,582	**-,150**	,000
		ImpJobsec	**-,085**	,000	**-,044**	,000	**-,046**	,000	-,015	,684
		ImpIntjob	,021	,133	,002	,823	,008	,440	,008	,836
		ImpHelpothers	,010	,357	,014	,066	-,003	,691	,014	,622
		ImpUseful	**-,030**	,003	-,013	,083	-,011	,148	,027	,315
	TIME	TimeJob	**,047**	,000	**,021**	,001	**,022**	,001	-,040	,071
		TimeFamily	-,013	,097	-,005	,371	-,007	,236	-,023	,277
		TimeFriend	,005	,505	-,003	,649	,007	,212	**-,072**	,000
		TimeAlone	**-,025**	,002	-,011	,080	**-,013**	,029	**-,111**	,000
	PERS	Reserved	-,004	,247	,000	,811	-,003	,164	**,043**	,000
		Trust	,007	,086	,000	,936	,000	,931	**,038**	,000
		Sociable	**,008**	,038	**,010**	,001	,000	,895	**,083**	,000
	JOBSAT	Jobsat	**,010**	,005	**,014**	,000	-6,302E-5	,982		
s	COUNTRY	CH	**-,083**	,000	**,030**	,048	**-,121**	,000	**,200**	,000
		CZ	,010	,641	-,025	,122	**-,066**	,000	**-,154**	,005
		DE	**-,063**	,002	-,023	,136	**-,046**	,003	**,169**	,002
		DK	**-,091**	,000	**-,031**	,023	**-,067**	,000	,102	,038
		DO	**,245**	,000	**,043**	,002	**-,109**	,000	-,071	,151
		FLA	-,015	,477	,004	,778	-,020	,182	**-,268**	,000
		FR	**-,062**	,002	-,021	,137	**-,087**	,000	**-,121**	,022
		IE	,005	,801	**,073**	,000	**-,075**	,000	,063	,204
		IL	,003	,897	-,028	,086	**-,066**	,000	**,311**	,000
		JP	,015	,565	**,054**	,004	**-,044**	,023	-,011	,867
		KR	**,229**	,000	**,111**	,000	**,167**	,000	,002	,961
		LV	**-,143**	,000	**-,046**	,006	**-,132**	,000	**-,148**	,011
		MX	**,184**	,000	,032	,076	**,166**	,000	**,646**	,000

	NZ	,004	,825	**,050**	,001	-,015	,296	**-,105**	,039
	PH	**,408**	,000	**,086**	,000	**,425**	,000	**,398**	,000
	RU	**-,048**	,018	-,015	,304	**-,053**	,000	-,055	,259
	TW	**,107**	,000	**,089**	,000	**,033**	,013	**,172**	,000
	R2	0,05		0,095		0,237		0,283	
	N	10613		9758		9944		10516	
	Data	ISSP		ISSP		ISSP		ISSP	
	Weights	Y		Y		Y		Y	

Appendix 3 - Are the SE happier? (Model 3)

			3a		3b		3c	
		Variable	SWB Beta	Sig	SWB Beta	Sig	SWB Beta	Sig
		(Constant)	3,059	,000	3,070	,000	2,975	,000
	DEM	**Age**	**-,011**	,000	**-,011**	,000	**-,011**	,000
		AgeSQ	**9,737E-5**	,000	**,000**	,000	**9,575E-5**	,000
		Female2	,003	,633	,006	,363	,011	,085
		Income_decile	**,054**	,000	**,053**	,000	**,052**	,000
d		**Married**	**,053**	,000	**,055**	,000	**,113**	,000
		Separated	**-,095**	,000	**-,091**	,000	**-,055**	,000
		SecEdu	**,020**	,002	**,021**	,002	**,032**	,000
		UniEdu	**,023**	,003	**,023**	,004	**,030**	,000
	EMP	**SE**	**,015**	,040				
		OE			**,055**	,000	**,034**	,002
		NE			**-,022**	,014	-,013	,171
p	PERS	**Trust**	**,110**	,000	**,110**	,000	**,084**	,000
	COUNTRY	**Australia**					**,126**	,000
		Brazil					**,287**	,000
		Bulgaria					**-,295**	,000
		Canada					**,273**	,000
		Chile					**,146**	,000
		China					**-,068**	,002
		Cyprus					**,061**	,027
		Egypt					**-,121**	,000
s		**Ethipoia**					-,023	,480
		Finland					**,198**	,000
		Georgia					**-,164**	,000
		Germany					,024	,316
		Guatemala					**,315**	,000
		India					,030	,104
		Indonesia					**,148**	,000
		Italy					**,052**	,048
		Japan					,037	,078
		Malaysia					**,179**	,000

Mali			**,064**	,021
Mexico			**,464**	,000
Morocco			-,006	,725
Norway			**,209**	,000
Peru			,016	,395
Poland			**,139**	,000
Romania			**-,432**	,000
SAfrica			**,220**	,000
Korea			**-,075**	,001
Slovenia			,027	,251
Spain			**,048**	,024
Sweden			**,233**	,000
Switzerland			**,247**	,000
Taiwan			**,036**	,050
Thailand			**,205**	,000
Trinidad			**,332**	,000
Turkey			**,169**	,000
Ukraine			**-,147**	,000
Urugway			**,225**	,000
Vietnam			-,021	,298
Zambia			**-,379**	,000
N	48710	48232	48232	
R2	0,048	0,05	0,112	
Data	WVS	WVS	WVS	
Weights	Y	Y	Y	

Appendix 4 - Can policy influence SE? (Model 4)

			4a		4b		4c		4d	
		Variable	NE Beta	Sig	OE Beta	Sig	OE Beta	Sig	NE Beta	Sig
		(Constant)	,967	,000	,621	,000				
		Age	**-,003**	,001	**,002**	,002				
		AgeSQ	**5,417E-5**	,000	1,340E-7	,988				
		Female2	,001	,857	**-,027**	,000				
d	DEM	Income_decile	**-,008**	,000	**,008**	,000	Ctrl		Ctrl	
		Married	,006	,168	**,024**	,000				
		Separated	-,005	,468	,008	,183				
		SecEdu	**-,052**	,000	**-,021**	,000				
		UniEdu	**-,082**	,000	**-,035**	,000				
p	PERS	Trust	**,006**	,117	**,022**	,000				
		Inf	,000	,674	**-,010**	,000	**0,00**	0,03	**-0,001**	0,00
	MAC	lGdp	**-,068**	,000	**-,058**	,000	**-0,02**	0,00	**-0,038**	0,00
		Unemp_rate	**-,001**	,003	**-,007**	,000	**-0,01**	0,00	**0,001**	0,006
		AccLoans	**-,058**	,000	-,005	,473	**0,012**	0,00	-0,002	0,482
		QualEud	**-,012**	,001	,003	,407	**-0,005**	0,005	**-0,014**	0,00
		Comp	-,001	,609	**,009**	,000	**0,012**	0,00	**0,006**	0,00
		Tax	**,001**	,000	**,001**	,000	**0**	0,00	**0**	0,00
s		Days2Bus	**-,018**	,000	**-,015**	,000	**-0,006**	0,00	**-0,008**	0,00
	POL	Tariffs	**-,013**	,000	**-,021**	,000	**-0,008**	0,00	**-0,004**	0,00
		Venture	**,029**	,000	**-,104**	,000	0	0,817	**-0,01**	0,00
		Exp2GDP	,000	,192	**,000**	,000	**0**	0,002	**0**	0,022
		Broadband	,000	,071	**-,003**	,000	**-0,004**	0,00	**-0,001**	0,008
		GovInnov	**,099**	,000	**,093**	,000	0	0,92	**-0,047**	0,00
		GovBurden	**-,030**	,000	**,037**	,000	**0,04**	0,00	**-0,039**	0,00
		InvProt	**-,016**	,000	**,005**	,001	**0,016**	0,00	0,001	0,37
		R2	34605		34605					
		N	0,088		0,107					
		Data	WVS, WEF, WB		WVS, WEF, WB					
		Weights	Y		Y					

Appendix 5 - Can SE policy make us happier? (Model 5)

	5a		5b		5c	
	SWB Beta	Sig	SWB Beta	Sig	SWB Beta	Sig
(Constant)	4,165	,000	4,299	,000		
18+	-,017	,000	-,017	,000		
AgeSQ	,000	,000	,000	,000		
Female2	,019	,008	,018	,009		
Income 10 steps	,052	,000	,052	,000		
Married	,115	,000	,114	,000		
Separated	-,033	,022	-,039	,006	Ctrl	
SecEdu	,024	,002	,024	,002		
UniEdu	,027	,003	,037	,000		
Trust	,084	,000				
Inf2	-,030	,000	-,030	,000		
lGDP	-,039	,000	-,049	,000		
Unemp_rate2	-,005	,000	-,006	,000		
AccLoans2	-,030	,077	-,022	,191	0,044	0
QualEud2	,049	,000	,046	,000	0,013	0
Comp2	,009	,072	,009	,071	0,024	0,001
Tax2	-,001	,000	-,001	,000	-0,001	0
Days2Bus	-,002	,000	-,001	,000	0,006	0
Tariffs2	-,030	,000	-,032	,000	-0,019	0
Venture2	,049	,004	,050	,003	0,037	0
Exp2GDP2	-,002	,000	-,002	,000	0	0,004
Broadband2	-,010	,000	-,009	,000	-0,011	0
GovInnov2	-,030	,046	-,023	,126	0,023	0
GovBurden2	-,020	,084	-,027	,017	-0,002	0,737
InvProt2	-,016	,000	-,020	,000	0,012	0

Appendix 6 - Descriptive Statistics (ISSP, 2005)

Factor	Variablres	Value	Frequency	Percent
Deomgraphic factors (d)	Self-employment			
		Opportunity	1596	7%
		Neccessity	1753	7%
		Organizationally employed	19341	82%
	Age			
		18-27	3430	15%
		28-35	4725	20%
		36-43	5129	22%
		44-52	5496	23%
		53-61	3710	16%
		62+	1083	5%
	Gender			
		Male	12431	53%
		Female	11139	47%
	Separated			
		No	20594	87%
		Yes	2846	12%
	Married			
		No	8900	38%
		Yes	14540	62%
	Education			
		No Education	2256	10%
		Primary	6833	29%
		Secondary	9607	41%
		University	4714	20%
	Income			
		z-0,5 -	4455	19%
		z-0,5 to 0	7449	32%
		z0 to 0,5	5775	24%
		z0,5 +	5893	25%
	Work Charachterisitcs			
		High income perception	6111	26%
		Job security	14462	61%
		Interesting Job	16407	71%
		Helping others	16518	72%
		Stress	8209	35%
		Interference with family	1294	5%
Personality Factors (p)	Job satisfaction			
		No	1203	5%
		Little	2451	10%
		Average	8868	38%
		Some	6609	28%
		Yes	3243	14%
	Values			
		ImpHighIncome	19596	83%

		ImpJobsec	21900	93%
		ImpIntjob	21787	92%
		ImpHelpothers	18089	77%
		ImpUseful	17842	76%
		RichWrk	8486	36%
		JobisMoney	11550	49%
	Freetime			
		TimeJob	5473	23%
		TimeFamily	16199	69%
		TimeFriend	12952	55%
		TimeAlone	15196	64%
	Personality			
		Reserved	7828	33%
		Trust	10008	42%
		Sociable	17776	75%
Societal Factors (s)	Country			
		AU-Australia	1144	5%
		DE-W-Germany-West	535	2%
		DE-E-Germany-East	282	1%
		GB-Great Britain	474	2%
		US-United States	986	4%
		HU-Hungary	439	2%
		IE-Ireland	545	2%
		NO-Norway	854	4%
		SE-Sweden	875	4%
		CZ-Czech Republic	671	3%
		SI-Slovenia	509	2%
		BG-Bulgaria	471	2%
		RU-Russia	943	4%
		NZ-New Zealand	834	4%
		CA-Canada	531	2%
		PH-Philippines	623	3%
		IL-Israel	574	2%
		JP-Japan	465	2%
		ES-Spain	560	2%
		LV-Latvia	617	3%
		FR-France	1086	5%
		CY-Cyprus	614	3%
		PT-Portugal	1055	5%
		DK-Denmark	1100	5%
		CH-Switzerland	674	3%
		FLA-Flanders	780	3%
		FI-Finland	716	3%
		MX-Mexico	671	3%
		TW-Taiwan	1234	5%
		ZA-South Africa	903	4%
		KR-South Korea	848	4%

	DO- Dominican republic	960	4%
Sample size:	23573		
Source:	ISSP international, 2006		

Appendix 7 - Descriptive Statistics (WVS 2006)

Factor	Variablres	Value	Frequency	Percent
Demographic factors	Age			
		18-29	11110	21%
		28-35	7100	16%
		36-43	8942	14%
		44-52	8888	11%
		53-61	7316	10%
		62+	10839	16%
	Gender			
		Male	29945	55%
		Female	24235	45%
	Income (10 steps)			
		1	3717	7%
		2	4483	9%
		3	6272	12%
		4	6884	14%
		5	9625	19%
		6	7103	14%
		7	5678	11%
		8	3567	7%
		9	1523	3%
		10	1643	3%
	Marital Status			
		Married	30969	56%
		Separated	4743	9%
		Single	19103	35%
	Highest Education			
		No education	5743	10%
		Primary Education	10159	18%
		Secondary Education	27637	48%
		University Education	14016	24%
	Employment Status			
		Self-employed	13699	25%
		Organizationally Employed	41116	75%
		Opportunity Entrepreneur	5092	9%
		Neccessity Entrepreneur	7989	15%
Personality factors	Trust			
		Trust	15189	26%
	Subjective Well-Being			
		Not happy	1174	2%

		Not very happy	7154	13%
		Quite Happy	29653	55%
		Very Happy	15670	29%
	Country			
		Germany	881	2%
		Italy	1090	2%
		Spain	1216	2%
		USA	1420	3%
		Canada	1155	2%
		Japan	1380	3%
		Mexico	1676	3%
		S Africa	2564	5%
		Australia	862	2%
		Norway	1434	3%
		Sweden	1338	2%
		Argentina	562	1%
		Finland	515	1%
		S Korea	1144	2%
		Poland	882	2%
		Switzerland	1518	3%
		Brazil	778	1%
Societal factors		Chile	491	1%
		India	1786	3%
		Slovenia	1010	2%
		Bulgaria	441	1%
		Romania	1438	3%
		China	1439	3%
		Taiwan	1652	3%
		Turkey	1052	2%
		Ukraine	1110	2%
		Peru	1778	3%
		Uruguay	992	2%
		Ghana	893	2%
		Moldova	532	1%
		Georgia	508	1%
		Thailand	2388	4%
		Indonesia	2388	4%
		Vietnam	1328	2%
		Serbia	643	1%
		Egypt	1056	2%
		Morocco	2080	4%
		Cyprus	606	1%
		Guatemala	1232	2%
		Trinidad and Tobago	1048	2%
		Andorra	907	2%
		Malaysia	1416	3%

	Burkina Faso	534	1%
	Ethiopia	697	1%
	Mali	1096	2%
	Rwanda	885	2%
	Zambia	974	2%
Sample size:	54815		
Source:	WVS international, 2006		

Appendix 8 - Descriptive Statistics of other societal factors

Variable	Value	Frequency	Percent
Inflation			
	2,3% -	17628	35%
	2,5% to 5%	17038	34%
	5% to 9,5%	10770	21%
	9,5%+	5318	10%
GDP			
	5000-	21546	42%
	5000 to 15000	10646	21%
	15000 to 25000	3247	6%
	25000 to 35000	5447	11%
	35000+	10703	21%
Unemployment rate			
	5% -	16753	32%
	5% to 10%	19597	37%
	10% +	16780	32%
Access to loans			
	Minimum	1,00	
	Maximum	7,00	
	Average	0,98	
	Std.Deviation	3,47	
Quality of education			
	Minimum	1,00	
	Maximum	7,00	
	Average	1,40	
	Std.Deviation	4,59	
Level of competition			
	Minimum	1,00	
	Maximum	7,00	
	Average	0,76	
	Std.Deviation	4,98	
Total tax rate			
	Minimum	44,40	
	Maximum	233,60	
	Average	40,06	
	Std.Deviation	96,20	
Days to open a new business			
	Minimum	2,00	

	Maximum	17,00
	Average	4,12
	Std.Deviation	8,63
Tariff rate		
	Minimum	2,40
	Maximum	18,90
	Average	4,33
	Std.Deviation	7,22
Access to venture capital		
	Minimum	1,00
	Maximum	7,00
	Average	1,00
	Std.Deviation	3,50
Exports to GDP		
	Minimum	10,42
	Maximum	123,20
	Average	21,05
	Std.Deviation	37,62
Broadband subscriptions per 100 people		
	Minimum	0,00
	Maximum	25,20
	Average	8,49
	Std.Deviation	6,89
Gov't procurement of advanced technologies		
	Minimum	1,00
	Maximum	7,00
	Average	0,63
	Std.Deviation	3,91
Burden of government regulation		
	Minimum	1,00
	Maximum	7,00
	Average	0,64
	Std.Deviation	3,20
Strenght of investor protection		
	Minimum	1,00
	Maximum	10,00
	Average	1,40
	Std.Deviation	5,39