Copenhagen Business School

May 15th, 2019

The Effect of Structural Welfare Policies on the Individual Perception of Personal Risk in Entrepreneurship

What is the Role of Welfare States in Mitigating Personal Risks and Promoting Entrepreneurship?

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Master's Thesis

International Business and Politics

STUs: 188.314 STUs
Pages: 83 pages

ACKNOWLEDGMENTS

We would like to take this opportunity to express our appreciation to the following people for making this thesis possible. First and foremost, thank you to our supervisor, Professor Susana Borrás for her incredible support and guidance throughout the entire thesis process. Secondly, we would like to thank Professor Mogens Kamp Justesen for his quantitative stewardship. We would like to give our thanks to Djanour Issilam, Rie Mariko Bækkel Madsen, and Michael J. Coleman for providing support and feedback. Last but not least, we send our warmest thoughts to our friends and families who have encouraged us and kept us sane throughout the process.

ABSTRACT

This thesis studies the effect welfare policy has on the individual perception of personal risks regarding entrepreneurship. It is hypothesized that the more governments spend on the welfare of citizens, and hence on covering their basic needs, the more personal risks are mitigated. In effect, governments encourage more entrepreneurship by ensuring social security and protection against basic risks. We outline the problematic lack of a holistic understanding of entrepreneurship. A gap in the literature, which has been identified delimits this thesis' approach to entrepreneurship. We approach the gap, by conducting a quantitative analysis of OECD and EU data. Multilevel logistic models will be used to discern a relationship between social expenditure (OECD) and individual attitudes towards personal perceptions of risks. Our Analysis suggests, that some evidence towards the mitigation of risks does in fact exist. While we are unable to determine the strength of this relationship, we show that welfare spending increases an individual's perceived feasibility of entrepreneurship, which in turn suggests a mitigation of personal risks. We then discuss our results and other interesting findings: one's membership of distinct social groups seems to be of importance. We further discuss the potential inefficiency of welfare spending and psychological and heuristic decision theory. We conclude with explanations of our findings, and how to possibly improve on the research in the future.

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INTRODUCTION

Graduate Business Conference, 2019 in Paris, France:

Victor:

Any last advice for aspiring entrepreneurs? Daniel, maybe?

Daniel:

Yes, I actually have two pieces of advice I had to learn along the way: So, believe it or not - It is okay to fail! [...] Then, the other advice, have some personal integrity. Of course, it is important to make money and to be excited about your new start-up, but don't sacrifice yourself along the way. Live your life, take care of your relationships and support system. Consider going to the doctor once in a while and stay healthy!"

Victor:

Good thing if you live in a country that offers free health care! [laughs]"

Recently, we attended the Graduate Business Conference in Paris, France. One of the events at this conference was an entrepreneurship panel, where 5 different entrepreneurs discussed their stories in becoming successful entrepreneurs. The dialog above took place during the closing remarks of the panel. The moderator, an entrepreneur himself, asked the panel: Any final remarks? One of the panelists suggested, that as an aspiring entrepreneur it is important to preserve one's personal integrity and health as an individual. Jokingly, the moderator stated that it was good that they lived in France, a country that offered 'free healthcare'.

This last comment about 'free healthcare' supported our interest in the subject since it begs the questions: Should governments promote entrepreneurship in the first place - and what is the role of governments in promoting entrepreneurship?

As early as Joseph Schumpeter, we have known that entrepreneurs are the innovators of change and catalysts of economic growth. By discovering a niche in the market, entrepreneurs satisfy previously unknown needs of society by developing new processes or new use of existing technologies. These innovations ripple out into the market and cause periods of growth, benefiting the greater society (Schumpeter, 1942, p. 82). If governments do desire the benefits that entrepreneurship brings, how can they best support that process? Many governments offer financial funds to individuals. However,

it has been shown by Kushida (2018) that this might not be the most efficient use of resources. Instead, this role can perhaps best be performed by the private sector such as venture capitalists and angel investors. Inspired by the conference, we looked at how governments were already affecting the perception of personal risk that accompanies any individual's decision to start a new business venture. As Zutavern and Kohli (2010) point out, welfare states are supposed to fulfill the needs of their constituents. These needs include protection against the risks that are experienced by everyone in society. These include potential hardships such as disease, crime, unemployment and old age, as well as more quality of life risks such as the trade-off between spending time on a career or family and support for personal fulfillment. States can remedy these risks by providing free health care and unemployment benefits, by having state-regulated pensions, and by offering child care and education. This is a process of mutual benefits. Recipients have their personal risks mitigated, while the state receives a healthy, well-educated and productive population. Welfare states are able to mitigate individual risks by spreading them across a wider population - they essentially democratize risk.

As a starting point, we assume the following statements are true: (1) entrepreneurship is a worthwhile policy consideration, (2) states are not good at funding entrepreneurship and should leave it to the private market, (3) welfare states meet the needs of their constituents by protecting against common risks, and naturally (4) entrepreneurship is a risky endeavor. Consequently, one might wonder, whether government resources would be better invested in the mitigation of personal risks of potential entrepreneurs, rather than wasting them on entrepreneurship funds. As Victor pointed out in the above conversation: "Good thing if you live in a country that offers free health care!"

Broadly speaking, we can split the research on the topic of entrepreneurship into two approaches: individual and structural. The individual approach is concerned with entrepreneurship as an individual level phenomenon, which looks at the characteristics and cognitive capacities of the entrepreneur to see whether they are unique in some way. Structural approaches consider entrepreneurship as a way to achieve innovation and in its role to promote economic growth. Yet, very little research has been done on the combination of structural and individual aspects of entrepreneurship. One research work that did venture into this unknown territory is that of Acs, Autio, and Szerb (2013). They suggest the combination of the two approaches into a holistic framework of entrepreneurship research by proposing an index that would highlight issues such as 'bottleneck factors'. This would in turn, be used by policymakers to alleviate bottlenecks and in effect provide the necessary framework and conditions for entrepreneurship to thrive. This text and much of the thesis is inspired by their work on developing a *'National System of Entrepreneurship'* approach.

However, even within this novel work, we notice that the personal context of the individual is being neglected.

In order to delimit the scope of this thesis, we narrowed our research focus. As this thesis is interested in the effect that governments can have on entrepreneurship, we chose to not consider the venture capital or angel investor industry, and any role they might have in mitigating personal risks. We also decided not to look into distinct regulatory or legislative boundaries that different countries might have in place. Even though some countries have better regulatory systems for promoting entrepreneurship, we focused our attention to those regulatory affairs related to welfare policies. While bankruptcy regulations and other legislative settings are certainly interesting and important, it was beyond this thesis to study 31 distinct legislative frameworks. We also decided to not consider aspects of cultural differences or personality of the entrepreneur. Instead, all individuals are considered equal and thus equally able to become entrepreneurs. We also decided not to consider corporate risks, but to focus on personal risks. Lastly, instead of looking at objective risks related to the personal context of the individual, we consider the perception of these risks instead. For one, this has been a methodological consideration due to the available data. For another, we are interested in how welfare states could encourage individuals to become entrepreneurs. Personal risks are rather emotional and may not be considered rational. While we are interested exactly in the subjectivity of personal risks, we realize the difficulty in studying a subjective concept. Therefore, we decided to further include a measure of the perceived feasibility of entrepreneurship. It has been shown in the literature, that the concepts of personal risk and feasibility are conceptually linked (Martinez, Crespo and Fernandez-Lavida, 2017). One would not consider entrepreneurship feasible if their personal context, and thus their personal risks, prevented them from becoming an entrepreneur. Martinez et al. (2017) also found that feasibility, in connection to desirability has a positive impact on entrepreneurial intentions. The desirability of self-employment is another issue, that has not been considered in this thesis. Since we are interested in how welfare policies might affect personal perceptions of risks, we could not look further into their willingness to become self-employed. We arrived at the following research question:

"To what extent can welfare policies mitigate the perception of personal risk of potential entrepreneurs to encourage entrepreneurship?"

In finding an answer to this research question, this thesis will progress as follows: Firstly, in Chapter 2, we will present the *Literature Review*. Here, we will elaborate on the two distinct approaches to

entrepreneurship research, individual and structural. We will show which aspects of each approach we incorporate into our thesis. As already mentioned, we will discuss the combination of approaches as advocated by Acs et al. and show how this thesis fits into their work. Further, we will elaborate on the gap we found in the literature and outline the welfare state and how it can help us to fill this gap. Chapter 3, the *Methodology*, will discuss the specific way in which we intend to fill this gap. Here, we will elaborate on our own perceptions of science and research, and our decision to use quantitative methods to analyze perceptions of personal risk. Further, we discuss the data and the sources that are used to answer the research question. More specifically, we will show how we operationalized the concepts discussed in Chapter 2 and which variables were used to measure the research question. Chapter 4, the *Analysis,* will finally present our findings. In doing so, we will show interesting associations and the main statistical relationships between welfare policies and the perception of personal risk. It is here that we will provide an answer to our research question. Chapter 5, the *Discussion*, will interpret the results of our analysis more closely. By applying theoretical concepts, we intend to put the results in context and show real-world implications of our analysis. The discussion will be presented in three parts, including the welfare state, social groups and the individual - corresponding also to the macro, meso and micro levels. Lastly, we will complete our thesis in the *Conclusion*, Chapter 6. It is here that we will recall the process of the thesis and suggest further research that can build upon our findings.

LITERATURE REVIEW

2.1. Introduction

Economic growth is an essential component of advancing societies and can be defined as sustained increases in national income. It is a primary goal for countries as it represents the improved livelihood of both the state as well as its people. So, what causes economic growth? Especially in today's globalized knowledge economy, one factor has an increasingly large impact – innovation; innovation as represented through new ideas, products or services that create value. Those who generate and capitalize or develop these innovations are entrepreneurs and it's in the process of their success or failure that drives innovation. Therefore, in order to understand economic growth and innovation, one has to understand what causes and/or affects entrepreneurship.

This thesis will explore how government policies can change how individuals perceive risk, and thus change entrepreneurship. In other words, this thesis intends to look at whether efficient welfare systems that ensure social protection and insurance against unemployment and hardships can decrease the perception of personal risk of an entrepreneur and encourage them to start a new venture. The following chapter will build the theoretical background by firstly giving a literature review of entrepreneurship, and secondly, present theories about government policies, specifically welfare policies. To remind the reader, the research question of this thesis is *"To what extent can welfare policies mitigate the perception of personal risk of potential entrepreneurs to encourage entrepreneurship?"* We will quantitatively look at patterns in the data to gain insight into the underlying structures that affect people's personal perception of risk.

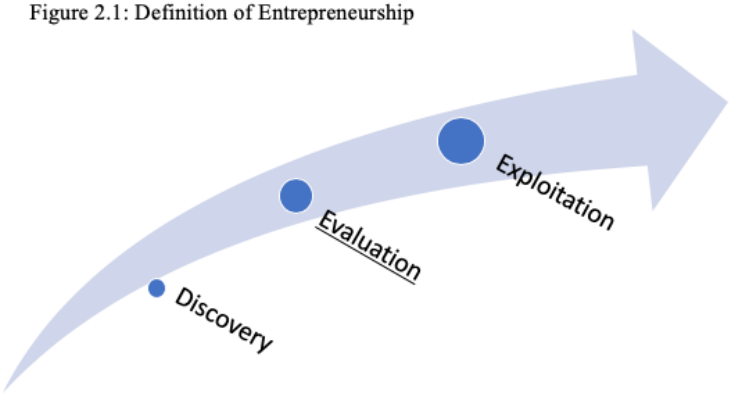
The ensuing chapter will define our use of entrepreneurship and discuss two competing perspectives in entrepreneurship literature: Individual approaches and structural approaches. The individual approach considers the entrepreneur as a 'special' individual, with certain characteristics that make the individual more likely to be an entrepreneur. The structural approach, on the contrary, discusses the effect entrepreneurship has on the wider economic system, where the function of the entrepreneur is to discover and capitalize on new market opportunities for profit. This thesis considers the two approaches in combination. Thus, after having presented both, we will discuss the work of Ács, Autio and Szerb (2013), on '*National Systems of Entrepreneurship.'* This article presents a first step in combining the two approaches and heavily inspired the thesis at hand. Even though Acs et al. laid the

foundations for this thesis, we noticed a further gap within their work. Taking departure from their article, this thesis intends to show that adding the effect of a beneficial structural context for entrepreneurship can be informative and fill a research gap in the literature. Following the discussion of this gap in the literature, we will present theories on the welfare state and present a theoretical hypothesis.

2.2. Defining Entrepreneurship

2.2.1. Definition

Figure 2.1: Definition of Entrepreneurship



One of the issues in studying entrepreneurship is the lack of a universal definition. As Shane and Venkataraman (2000) point out, "perhaps the largest obstacle in creating a conceptual framework for the entrepreneurship field has been its definition" (p. 218). The definition of entrepreneurship employed in this thesis is an assembly of definitions put forth in the *Handbook of Entrepreneurship Research* by Acs and Audretsch (2010). We will look at entrepreneurship as "the discovery, evaluation and exploitation of future goods and services" (Venkatamaran, 1997; in Eckhardt and Shane, 2010, p. 47). Two further concepts that will be taken into consideration are *High Impact Entrepreneurship* and *Entrepreneurial Opportunities*, as advanced by Acs (2010) and Eckhardt and Shane (2010), respectively.

In the entrepreneurial process, the first stage is discovery. The basic definition implies a concept of entrepreneurship that is driven by the realization of 'opportunity', rather than starting a business due to lack of alternative - or out of 'necessity'. The focus is on novel ideas that can potentially further economic development, rather than businesses that replicate existing functions. Discovering a potential niche in the market or novelty that has previously not been exploited implies realizing an opportunity.

The second aspect of the basic definition is evaluation – one has to evaluate the potential of the opportunity before embarking on the new venture. Evaluation implies forming an opinion on whether the discovery can generate enough profits for the survival of the individual entrepreneur and potential dependents. Factors such as opportunity costs, the institutional framework, including legislative impediments and a thorough risk assessment, must be considered. The evaluation stage of the entrepreneurship process is especially of interest in this thesis, as it is here that the entrepreneur decides whether to move forward with their idea. Especially the risk assessment is of interest. It is here, that the individual decides whether the external risk factors weigh too heavily. Such risk factors are of course the economic risk of the new venture - but also, the personal risks that the individual is met with.

The third aspect of the definition is the exploitation phase, which is related to the actual realization of profits from opportunities. While this phase is surely interesting, it has also been explored thoroughly in the literature. Since this thesis is concerned with the appraisal of personal risk in the entrepreneurship process, the focus is on the evaluation that has to be made before the opportunity can be exploited.

2.2.2. Which kind of entrepreneurship?

Having discussed the process and definition of entrepreneurship, we will now turn to specify the type of entrepreneurship. As already indicated, a distinction should be made between realizing an opportunity and being compelled by necessity. The former can be characterized as High Impact Entrepreneurship (HIE), a concept where "actions of individuals responding to market opportunities by bringing inventions to market [...] create wealth and growth" (Acs, 2010, p. 165). This is in turn prosperous for the economy, and thus society, as a whole. This thesis intends to look at this type of opportunistic entrepreneurship where opportunities are "favorable junctures of circumstances" (Merriam-Webster Dictionary, 2018), and as such, present an individual with a potentially favorable outcome when realized. Eckhardt and Shane (2010) define entrepreneurial opportunities "as situations in which new goods, services, raw materials, markets, and organizing methods can be introduced for profit" (p. 49). Therefore, not all opportunities are simultaneously entrepreneurial opportunities, as a requirement is for them to create profit[1]. Additionally, one can identify different

[1] This thesis will not discuss Social Entrepreneurship, as the motivation is quite different. Although interesting, it does not fit within the current framework and will thus be disregarded.

types of entrepreneurial opportunities by looking at the 'locus of change'. This term, coined by Schumpeter (1934), examines the way new opportunities change the previous ways of things were done.

1. First, there is the obvious creation of new goods and services that can present an entrepreneurial opportunity. This could be any product that has previously been missing from the market and can generate a demand e.g. the invention of the car.
2. Second, discovering new geographical markets can bring on change. One could argue that the Internet presents a new geographical market as it transcends boundaries and offers organizations a new group of consumers in different markets.
3. Third, the discovery of new raw materials can bring about change and thus new entrepreneurial opportunities. The exploitation of Oil is an example.
4. Fourth, a new method of production can open up opportunities. The most prominent example of this is the assembly line as introduced by Ford Motors.
5. Lastly, introducing new ways of organizing can create opportunities. The most prominent example of this is the sharing economy. Companies like Uber and Airbnb have made use of this organizational innovation. Previously capital-intensive industries, such as starting a taxi company, or a hotel could be made more efficient by sharing one's property through apps at a much lower cost. (Eckhardt and Shane, 2010)

To sum up, our definition of entrepreneurship involves the entrepreneurial process of discovering an opportunity, evaluating the opportunity and the exploitation of the opportunity. The type of entrepreneurship is High Impact Entrepreneurship that involves any of the novelties discussed by, Schumpeter.

2.3. Individual Approaches to Entrepreneurship

Many studies have investigated, whether specific character traits of cognitive abilities make an individual more prone to entrepreneurship than others. Since personal risk is rather individualistic, reviewing the literature on individual approaches to entrepreneurship can be beneficial. Additionally, in order to show the gap in the literature that is addressed in the thesis, we firstly need to show what has been researched so far.

2.3.1. The Individual Entrepreneur

Many scholars tend to agree that entrepreneurship plays an important role in any economic system and therefore, much research has been conducted in figuring out what makes entrepreneurs, 'entrepreneurs'. To begin the review of the literature on the image of the entrepreneur as a 'special' individual, Shane (2003) asks an important first question: who is the entrepreneur? While some may suggest that entrepreneurs can be anyone from individuals, to groups of people or organizations (Metcalf, 2004), Shane contends that an entrepreneur can only be one person. Following this view of individuality, it is worth considering what this person does that makes them so special in the first place. Casson and Wadeson (2007) for example reviewed the literature and categorized the definition of entrepreneurs into four different streams:

> "[defining him by] *function, role, personal characteristics, and behavior*. The major *functions* are innovation, risk-taking, and the general improvement of coordination in the economy. Prominent *roles* include the ownership of a firm, management, and the employment of labor, although some labor economists emphasize self-employment instead. *Personal characteristics* associated with entrepreneurship include attitude (e.g., optimism and self-confidence), culture (e.g., Protestant, nonconformist or Jew) and life history (e.g., immigrant, academic dropout). Entrepreneurial *behavior* includes taking the initiative, improvising quick decisions, and demonstrating commitment and leadership" (p. 240).

Further, Casson and Wadeson (2007, p. 240f.) suggest that one of the defining characteristics of the entrepreneur is their ability to make judgments. In truly uncertain situations, there is no rational rule to apply to a problem and different people will decide differently. To make such decisions requires self-confidence. Thus, entrepreneurs are those individuals, "who specialize in making judgmental decisions (Casson, 1982, p. 240)."

The personal characteristics and entrepreneurial behavior streams are especially relevant to reviewing the individual entrepreneur. They take into consideration the first question of who entrepreneurs are (they are individuals with a functional role and special characteristics and behaviors), and also the question of what makes entrepreneurs special. Research has been conducted on the kind of personal characteristics and behavior associated with entrepreneurship. Shaver and Davis (2017, p. 98) suggest, that achievement motivation, risk propensity, locus of control, and self-efficacy are important. See each discussed below.

Achievement motivation relates to the desire of individuals to be successful. Thus, this concept describes an individual's motive for success and the contrary motive to avoid failure. In combination, these latter motives materialize as either of two traits: (1) a trait of drivenness - a high motive for success and moderate motive to avoid failure. (2) A trait of fearlessness - a moderate motive for success but no motive to avoid failure. While these two traits are both classified as achievement motivation, individuals with either may differ in their risk propensity (Shaver & Davis, 2017).

Risk propensity is a much-discussed topic in entrepreneurship literature and one can clearly see why that is: individuals undertaking risky ventures may naturally be more prone to undertake risk than others, i.e. they are less risk averse and have a higher risk propensity. But is this actually the case? The answer is still unclear. As Simon, Houghton and Aquino (2000) point out in the very beginning of their article, "risk propensity is the tendency to take actions that one has judged to be risky [...]. Surprisingly, research found that this trait did not differentiate entrepreneurs from others (e.g., Brockhaus, 1980)" (p. 114). Others, however, suggest that their studies indicate, that less risk averse people are generally more likely to start a new venture. Cramer, Hartog, Jonker and van Praag (2002) for example suggest the latter, however, are not certain of their measure of risk attitudes to make a final judgment. Similarly, Caliendo, Fossen and Kritikos (2009) would also contend the latter, however suggest that "this is true only for people coming out of regular employment, whereas for individuals coming out of unemployment or inactivity, risk attitudes do not seem to play a role in the decision process" (p. 153; see also Gifford 2010; Schiller and Crewson, 1997). Therefore, it is not quite determined whether entrepreneurs are actually less risk averse than non-entrepreneurs.

Locus of Control (LoC) refers to how individuals perceive their life to be determined. An internal LoC suggests that an individual accepts responsibility for their actions and believes they have control over the events that happen to them. Contrarily, individuals with an external LoC are more likely to blame external forces such as other people, governments or Gods for their circumstances in life. Harper (1998, drawing on Gilad, 1982) suggests that entrepreneurs have an internal locus of control, which allows them to be more alert to opportunities. The alertness of individuals was suggested by Kirzner (1973) and will be discussed below.

Self-efficacy refers to a "sense of competence, [a] belief that we can execute a target behavior", which is a "powerful attitude that drives human decision-making" (Krueger & Day, 2010, p. 338). There is a strong logical link to consider entrepreneurs as self-efficacious. Believing in one's own abilities and having faith in one's cognitive abilities can translate into the belief of success of a perceived

opportunity. Thus, the trait of self-efficacy is related to opportunity perception. "As Stevenson pointed out long ago, the 'heart' of entrepreneurship is the seeking of and acting on opportunities" (Krueger & Day, 2010, p. 323)

Who the entrepreneur is has been described and *What* makes them special has been as well; Now we need to determine *How* they realize their 'special-ness'? Some would argue, the answer is by recognizing opportunities in the marketplace. Some scholars under the individual approach to studies of entrepreneurship consider the question of whether opportunities are discovered or created by the entrepreneur. Alvarez and Barney (2007) suggest that discovery theory sees the opportunity, as real and out there, waiting to be perceived by the entrepreneur, who is fundamentally different to the non-entrepreneur. On the other hand, creation theory sees opportunities as not ontologically real, but as a creation of entrepreneurs, who do not necessarily have different character traits than non-entrepreneurs (see also Gartner, 1985; Sarasvathy, 2001).

While all of these considerations are of great value to the study of entrepreneurship, this thesis neither ignores nor makes assumptions about the characteristics of entrepreneurs. It is of course of value and interesting to examine the character traits behind the individual person. Yet, when recalling the definition of entrepreneurship of this thesis, namely that entrepreneurship is the process of discovering, evaluating and exploiting opportunities, then it is the evaluation stage we are interested in. Personality traits that may or may not benefit entrepreneurship would mostly come into play in the discovery and the exploitation phases. As seen, entrepreneurs are hypothesized to have superior cognitive skills that allow them to perceive opportunities more readily, e.g. their internal Locus of Control. Similarly, these abilities may make them more prone to exploit an opportunity, by achievement motivation or self-efficacy traits. However, this thesis is interested in the evaluation phase. It is in this stage that risks are assessed, and an opinion is formed of whether the opportunity is a viable business venture. This is done from both an economic perspective - can the start-up survive - but also a personal perspective - does the entrepreneur have the financial and personal stability to see it through. Although risk propensity is an interesting aspect to consider, as seen above, scholars are not necessarily in agreement about the effect of such a trait. Therefore, the next section will examine some potential factors the individual might experience while evaluating an opportunity, namely the personal risk that is involved in starting a business.

2.3.2. Personal Risk of the Entrepreneur

As stated, this thesis's research question is: *"To what extent can welfare policies mitigate the perception of personal risk of potential entrepreneurs to increase the overall level of entrepreneurship?"* For a government policy to have an effect on the risk assessment of entrepreneurs, they need to work at the level of 'evaluation' as identified in the definition of entrepreneurship in this thesis. An individual that evaluates a new discovery must determine two things that are related: (1) the feasibility and desirability of becoming an entrepreneur and (2) the different kinds of risks experienced by the entrepreneur; both of which are taken into consideration when evaluating a business opportunity. We will discuss each in turn.

There is an ongoing debate in the literature about the distinction between feasibility and desirability of becoming an entrepreneur. Shapero and Sokol (1982; in Martinez, Crespo and Fernandez-Lavida, 2017) define feasibility as the "degree to which a person believes they are capable of starting a business" (p. 220). They further define desirability "as the degree to which a person finds starting their own enterprise attractive, which in essence means this concept impacts entrepreneurship through its influence on entrepreneurial intentions (Shapero & Sokol, 1982; Krueger, 1993)" (ibid.). As Martinez et al. (2017) show, that "in coherence with the perception of risk as an inhibitor to entrepreneurship, it is observed that personal risks have a negative effect on the desirability and feasibility attributed to the creation of a new, self-owned business" (p. 230). In other words, if personal risks weigh too heavily, an opportunity is not found to be feasible. A discovery would not pass the evaluation stage, if a venture would not be perceived as feasible. This in turn, would mean that an opportunity is not exploited in the final stage of entrepreneurship. As Martinez et al. (2017) further find, the "purpose of starting an entrepreneurial project will be determined by the attractiveness that entrepreneurship has for the individual and to the extent that they believe they will be capable of carrying out said process" (ibid.). In other words, feasibility and desirability are determinants of entrepreneurial intentions. Thus, the higher the feasibility and desirability, the more likely an individual will become an entrepreneur. Feasibility speaks to whether entrepreneurship is possible in the first place. Desirability speaks to the personal wishes of the individual. As such, in the context of this thesis, it is the feasibility of entrepreneurship we are interested in. Although considering desirability would be worthwhile, it would be beyond the scope of this thesis.

We will now delimit what is meant by personal risk. Firstly, it is important to distinguish between corporate and personal risks. Corporate risk relates to the potential corporate success or failure of the

new business. Although certainly relevant in the decision-making process, corporate risk may not be the only risk that is being considered in the evaluation stage. Before deciding whether a business might be economically profitable, the entrepreneur has to evaluate whether their individual circumstances allow for such risks to be taken. Secondly, it is important to distinguish between the perception of personal risk and an individual's risk propensity. Risk propensity describes an individual's willingness to accept risk. It does not, however, relate to the kind of risk that is experienced by the individual. While some individuals may be more prone to risk taking than others, they still experience similar risks within their personal contexts. A risk-taking person is just more willing to accept these risks compared to a risk averse person.

The definition of 'personal risk' developed in this thesis is: *'Personal risks are those risks perceived by the individual pertaining to the economic, health, social, time, and internal risk dimensions, that are specific to the situational context of that individual.'* Table 1 as shown in Martinez et al. (2017, p. 221) summarizes the literature by pointing to the five different dimensions of risks, found in the definition.

Table 1. Perceived risk dimensions: definition and support on entrepreneurship literature.

Dimension	Definition	Previous research
Economic risk	Associated with a potential economic or financial loss, directly or indirectly caused by starting a new business	Hisrich and Peters (1998), Vasumathi et al. (2003), Schaper and Volery (2004), Petrakis (2005), and Barbosa, Kickul, and Liao-Troth (2007)
Social risk	Associated with a potential loss of prestige or social recognition in case of failure in starting a new business	Hisrich and Peters (1998); Schaper and Volery (2004)
Time risk	Associated with the potential difficulty to meet other personal and professional responsibilities, given the time required in the process of starting a new business	Vasumathi et al. (2003) and Schaper and Volery (2004)
Health risk	Associated with the potential harm in the physical and psychological health, due to the effort required by starting a new business	Hisrich and Peters (1998), Vasumathi et al. (2003), and Schaper and Volery (2004)
Personal risk	Associated with the potential negative impact on the individual's personal development	Barbosa, Kickul, and Liao-Troth (2007)

In explanation of table 1, please note: (1) Economic risk as used by Martinez is not to be confused with what has previously been referred to as corporate risk. Martinez et al. use economic risk to present the private monetary investment by the entrepreneur and the loss of this investment upon

potential failure. (2) The label personal risk as used by Martinez et al. is not the same as used in this thesis. Rather, what is described as personal risk in the above table will be referred to as internal risk, in order to avoid conceptual confusion.

The above table categorizes different kinds of personal risk that are evaluated by the entrepreneur during the evaluation process. In order to contextualize the proposed dimensions of personal risk, we will apply each of them to the context of this thesis. We can distinguish between two categories of personal risk: (1) Those risks that are hypothetically affected by welfare and speak to the feasibility of entrepreneurship and (2) those risks that are intrinsic to the entrepreneur and are not necessarily affected by welfare. Table 2 shows the different dimensions of risk. The aforementioned categories will label each of the risks as either affected by welfare or not, (1) or (2).

Table 2.1: Risk dimensions and their application in this thesis. Based on Martinez, Crespo and Fernandez-Lavida (2015, p. 221)

Dimension	***Definition***	***Application***
Economic Risk	Associated with a potential economic or financial loss, directly or indirectly caused by starting a new business	(1) Large investments made by the entrepreneur may be lost when becoming self-employed. However, welfare states offer financial relief during hardships, such as unemployment. Economic risk is relevant, as it encompasses insurance against unemployment, health insurance or rent support are policies that are intended to ensure economic stability of the entrepreneur and their potential spouse/children. Welfare policies are able to mitigate concerns related to the financial aspect of the personal risk.
Health Risk	Associated with the potential harm in the physical and psychological health, due to the effort required by starting a new business	(1) Ensuring the well-being of the entrepreneur and of those dependent on the them is an important consideration when moving into the uncertainty of entrepreneurship. Universal health care might minimize the weight of this

		risk. (Although it is important to note, that the risk of burnout for example is still present. It is the fear of having to potentially pay for treatment would be lessened)
Social Risk	Associated with a potential loss of prestige or social recognition in case of failure in starting a new business	(2) Social risk is relevant to this thesis as it defines part of the situational context of the individual. Failure is always a possibility and especially in societies where failure is frowned upon, this might be a considerable risk. This risk however is not so much affected by welfare spending, as it is an intrinsic risk of the entrepreneur and not affected by immediate monetary benefits.
Time Risk	Associated with the potential difficulty to meet other personal and professional responsibilities, given the time required in the process of starting a new business	(2) This is relevant to this thesis as it exemplifies the large time commitment involved in starting a new venture. Individuals must take this risk into consideration, especially if there are other stakes to their time, such as children or spouses. Similar to social risk, however, it is a rather intrinsic risk that cannot necessarily be mitigated by monetary benefits.
Internal Risk (Personal risk in Martinez et al.)	Associated with the potential negative impact on the individual's personal development	(2) When starting a new business, one has to consider the opportunity cost of giving up a stable job for example. The personal development of the individual might be affected, should the venture fail. Again, however, this is an internal decision, which is not heavily influenced by welfare policies.

Martinez et al. (2017) studied the effect these dimensions of risk have on the desirability and feasibility of starting a business. We examine instead how welfare policies affect the perception of these dimensions of personal risks. In order to add robustness to our analysis, we will also test the relationship of welfare policies on the feasibility of entrepreneurship.

2.4. Structural Approaches to Entrepreneurship

So far, we have reviewed the literature in regard to the individuality of the entrepreneur. Many scholars seem to equate the individual with the concept of entrepreneurship and thus fail to see the wider system implications and constraints the individual acts within. Nevertheless, as an economic concept, entrepreneurship also finds application in more structural economic theory. The following section will firstly elaborate on Joseph Schumpeter's view of entrepreneurship and secondly show how the Austrian School integrated the individual entrepreneur into their economic theory and views of entrepreneurship.

2.4.1. Schumpeter

In entrepreneurship literature there is no way around Joseph Schumpeter. He was an early Austrian Economist, who coined the term 'creative destruction'. As already pointed out in the Introduction to this chapter, economic growth is a vital aspect of a healthy economy. Schumpeter developed a theory that is widely accepted today as a model that can help understand the nature of growth.

Schumpeter sees the economy as never being still, with processes internal and specific to the economy. "Capitalism, then, is by nature a form or method of economic change and not only never is but never can be stationary" (Schumpeter, 1942, p. 82). Schumpeter outlines the process of creative destruction as a primary driver of economic growth. "The innovational process incessantly revolutionizes the economic structure from within, incessantly destroying the old one, incessantly creating a new one. This process of creative destruction is the essential fact about capitalism" (Schumpeter, 1942, p. 83). This process is a discontinuous one, that radically changes the current equilibrium. The process has to include innovation and creative destruction, meaning that purely quantitative increases do not constitute development. Schumpeter developed the concept of creative destruction in order to show two things: (1) to characterize the nature of the creative destruction cycle, which his contemporaries attributed purely to money cycles, and (2) to explain how periods of rapid change and economic development occurred. He describes this process by using an example: "Add successively as many mail coaches as you please, you will never get a railway thereby" (Schumpeter, 1942, p. 82). This quote suggests, that merely increasing the amount of production without innovation

will only result in diminishing returns. He outlines the need for innovation to occur and uses this example to show the waning effects of growth without innovation.

Creative destruction is key for economic growth. According to Schumpeter, creative destruction is a result of innovation and entrepreneurship. Entrepreneurship can take shape in many forms such as starting a new company or an NGO or it can happen within large organizations. Entrepreneurs are merely individuals who exploit opportunities in the market through innovation.

Entrepreneurs play a specific role in capitalism, as they are able to redirect resources and extract economic profit from their innovations. "For Schumpeter, the 'differentia specifica' of a capitalist economy is the provision of credit by banker capitalists to entrepreneurs to finance innovative investment. This enables entrepreneurs to bid resources away from other uses to new, innovative activities. By incorporating new technologies, sources of supply, etc., innovations create surpluses of revenues over costs. Competition tends to eliminate these surplus values, but innovation recreates them" (Elliot, 1983, p. 48). Through this process of entrepreneurship and creative destruction growth happens. Economic growth in turn produces positive externalities or unintended benefits, which affect outsiders and spread throughout the economy, thus creating a net positive for society.

2.4.2. Austrian School

While Schumpeter can be considered an Austrian economist and shared many of their basic assumptions, he differed in some ways. The Austrian school is most well known for their contribution to the concept of business cycles (which have received renewed attention after the 2009 financial crisis). Schumpeter explained business cycles through his aforementioned concept of creative destruction. Most Austrian scholars on the other hand take the endogenous phenomenon of money as a cause for various up and down turns in the economy. Additionally, as it relates to this thesis, a more interesting distinction lies in how they perceive entrepreneurs. Schumpeter considered them as radical innovators that bring about change. Kirzner (1973), a notable Austrian scholar, on the other hand sees entrepreneurs as reactive to market opportunities, bringing the market back to equilibrium (Quaas, 2016). The latter will be explained below.

Two central tenets of Austrian economics are their individualistic approach and their focus on the entrepreneur and his role of change. One might now wonder why Austrian economists are then classified under the structural approach. While they may have more individualistic tendencies than

other economists, they are still economists by trade. Therefore, they consider the economy as a whole, and how the role of the entrepreneur can affect the overall equilibrium. The first proposition mentioned above suggests that individuals have agency and therefore only choices made by individuals should be considered versus those of corporations. In turn, it is these choices and their consequences that are of interest for economic analysis. The second proposition of interest is the one actually related to entrepreneurship. Competition is a vital aspect of economic theory, yet often mistreated as a 'state of affairs' instead of the activity it actually is. It is then up to entrepreneurs to realize unexploited opportunities and turn them into profit maximizing activities. Entrepreneurs are often characterized as 'agents of change' due to their formative role of the free market. The alert individual discovers new opportunities and stands to gain a profit. However, these new opportunities are not only beneficial to the individual entrepreneur, but also to the market as a whole. New ways of allocating resources make the market a more efficient system. This process is a cycle of positive reinforcement, as the entrepreneur is encouraged to introduce new innovations and the market moves towards the most efficient allocation of resources - towards equilibrium. (Boettke, 2008)

Kirzner (1973) has suggested that the notion of alertness drives the entrepreneur to bring about an equilibrium in the economy by recognizing opportunities and selling them for profits. Kirzner's theory of the alert individual helps to explain both what entrepreneurship is and what it does: "First, entrepreneurship is the "alertness" to new opportunities. Entrepreneurs are alert; this is what they are like. Second, entrepreneurship is seizing an opportunity by taking innovative actions. Entrepreneurs innovate; this is what they do" (Koppl & Minniti, 2010, p. 225)

Nevertheless, Kirzner does not specify how this trait is realized in humans or whether it can be learned or not (Phelan, 2016). Instead, entrepreneurship is considered a function of the economic system, in which market opportunities become known to the alert individual. These individuals then allocate resources to the exploitation of profits, which "drives markets towards equilibrium" (ibid., p. 278). Kirzner does specify, that "to be a successful entrepreneur [one] requires vision, boldness, determination, and creativity." Further, "there can be no doubt that in the concrete fulfillment of the entrepreneurial function these psychological and personal qualities are of paramount importance. It is in this sense that so many writers are undoubtedly correct in linking entrepreneurship with the courage and vision necessary to create the future in an uncertain world" (Kirzner, 1982, p. 155 in Koppl & Minniti, 2010, p. 229).

Similarly, Acs, Autio and Szerb (2013) suggest that to Kirzner "entrepreneurs drive market learning and price discovery by initiating and reacting to competitive actions" and that "entrepreneurship [is a] market discovery process" (p. 479). This meant, that the role of the entrepreneur in the economic system was to recognize real opportunities, that existed independently of the entrepreneur and that this process of "'opportunity discovery' referred to an instantaneous event when an entrepreneur stumbled upon a price inefficiency in the marketplace" (ibid.). Although the Austrian school considers the individual as having agency and although they are interested in structural effects of entrepreneurship, they do not consider the individual as a person making decisions based on their personal context.

This thesis appreciates the Austrian school's notion regarding the effect of entrepreneurship on the economic system. It is especially relevant to see that entrepreneurship is in fact a desirable process. However, in this approach to entrepreneurship, the actual effect of the economic system on the entrepreneur themselves is neglected. The personal risks the entrepreneur perceives must be considered during the decision-making process of the individual. As a rational decision maker, an opportunity has to be realized, no matter what. However, in the real world, individuals do not often act rationally. Bounded rationality and heuristics may be applied to decisions, but the most profitable outcome is not always realized. In order to understand the effects of the personal risks involved, one has to consider the structural and individual Approaches in collaboration. This is something that Acs, Autio and Szerb (2013) realized.

2.5. National System of Entrepreneurship

So far, we have elaborated on the distinction between the structural aspects of entrepreneurship and the individual aspects of the entrepreneur. While neither approach completely ignored the other, assumptions are often made that allow the focus to be more on either the individual or the structural approach. On the one hand, individual focused scholars ignore the consequences of entrepreneurship on the economic system and how structural factors affect the individual. On the other hand, structural scholars often ignore the personal context of the individuals, whom they consider rational actors. As mentioned in the introduction to this chapter, much of this thesis was inspired by the work of Acs, Autio and Szerb (2013). They have been one of the first that attempted to understand entrepreneurship as the multi-level phenomenon it is; one that can be observed on both the macro level of the economy and the micro level of the individual context.

Innovation and entrepreneurship are two distinct, yet interrelated concepts. As per the introduction, innovation is inspired and emerges from a useful novelty, while entrepreneurship action should produce a profitable outcome by capitalizing on this novelty. Entrepreneurship, being closely tied to Schumpeterian notions and often considered as a micro level activity, is thus contrasted with the school of National Systems of Innovation (NSI). The NSI is looked at through a macro lens, where "knowledge is a fundamental resource in the economy, [where] knowledge is produced and accumulate[d] through an interactive and cumulative process of innovation that is embedded in a national institutional context, and that the context therefore matters for innovation outcomes" (Lundvall, 1999 in Acs et al., 2013, p. 477). Acs et al. take issue with the notable absence of the entrepreneur in NSI literature, arguing that the "omission of agency, in combination with the dominant focus on (inherited) structure, has given the NSI literature quite a static flavor" (ibid., p. 478). The focus on knowledge and its spread throughout the economy and society elevates the NSI school to a macro level. While this literature has drawn heavily on Schumpeter and is informed by his notion of entrepreneurship. Acs et al. are not satisfied with the development of entrepreneurship literature in relation to elevating it to the structural, macro level. Specifically, Acs et al. note that the "other side of the coin has been the failure of the entrepreneurship literature to systematically consider the wider, system-level constraints and outcomes of entrepreneurial action" (ibid.).

Therefore, Acs et al. suggest a combination of the two schools, by advancing a National Systems of Entrepreneurship (NSE) approach. In NSE, the wider system level implications are considered, while at the same time accounting for character traits of the entrepreneur that may be vital in recognizing opportunities and bringing an idea to fruition. Instead of merely considering the impact the entrepreneur has on the market, and how opportunities are realized, this approach also highlights the output of entrepreneurs as "regulators of the outcomes of entrepreneurship" (ibid., p. 479). By using resources available in the market, even the failure of new ventures re-allocates resources and frees them for future use. This is relevant on a system level, as the most efficient allocation of scarce resources is a central theme in economics. As such, it presents a first step in combining the literatures on the issue of innovation and entrepreneurship. Acs et al. define the NSE as "the dynamic, institutionally embedded interaction between entrepreneurial attitudes, ability, and aspirations, by individuals, which drives the allocation of resources through the creation and operation of new ventures" (ibid.). The focus is shifted from mere character traits, to examining these as institutionally embedded individuals that are influenced by system constraints. The combination of the two

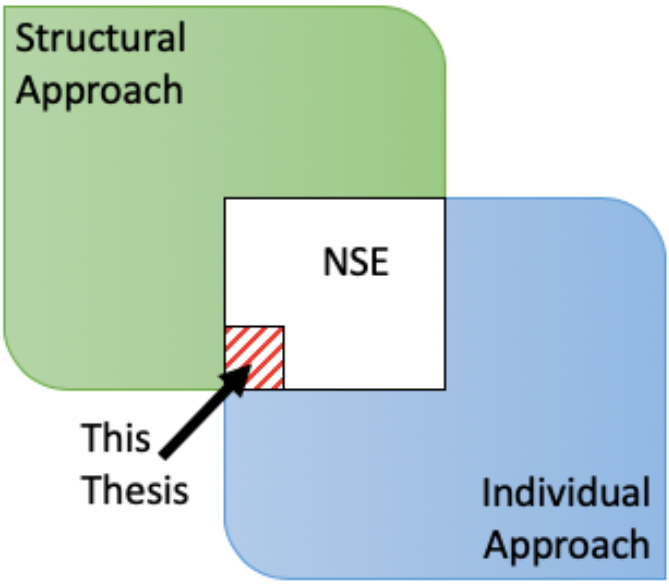
literatures is “helpful when designing policies to nurture and leverage entrepreneurship for sustainable economic development” (ibid., 477).

Methodologically, Acs et al. propose the Global Entrepreneurship Development Index (GEDI), which combines individual level entrepreneurial characteristics and system level factors. It ranks countries according to the respective contextual and situational constraints facing an aspiring entrepreneur. Individual level characteristics included are, e.g. risk acceptance, opportunity recognition and skill perception. Further, institutional characteristics on the system level are added as interaction terms and consist of factors such as the level of corruption, gender equality or tertiary education. The idea is to be able to rank countries according to their specific contextual factors, and to give policy makers a tool to identify bottlenecks hindering the development of entrepreneurship in their country. What Acs et al. found was that for the most part, Anglo-Saxon and Nordic countries scored highly and that developed nations were placed higher than developing countries. Considering the ranking is based on a ‘Penalty for Bottleneck’ factor and that in low income countries bottlenecks create bigger penalties, it is intuitive that countries with inefficient institutions have bigger bottlenecks. Corruption, for example, is harder to overcome as a bottleneck factor and more institutionally engrained than something such as Gross Domestic Expenditure on R&D (GERD), as the latter can more easily be increased.

As Acs et al. (2013) suggest, ”The most important benefit of the Penalty of Bottleneck method is that it draws attention to bottleneck factors that hold back system-level performance. In addition, the normalization process helps illustrate how much a given country could stand to improve its performance, if the bottleneck factor is alleviated” (p. 488). However, in order to be able to determine all of the bottleneck factors correctly, one has to ensure that all potential factors are included in the index in the first place. This lone work of combining system and individual level factors pertaining to entrepreneurship is a good addition to the literature and finally highlights a gap in the literature that has previously not been paid much attention. However, we believe that Acs et al., although putting forward a thorough analysis, are missing an aspect on the individual level that has not been included in their GEDI index. This factor is personal risk perception of the entrepreneur. Similarly, a structural level factor has been left out: welfare policies. In the next section, we will show the gap in the literature as discussed in this thesis.

2.6. Gap in the Literature

Figure 2.2: The Gap



Acs et al. (2013) include 'risk acceptance' as an individual level variable and describe it as the "Percentage of the 18–64-year-old population stating that fear of failure would not prevent them from starting a business" (p. 482). Risk acceptance is discussed in terms of corporate risk, as previously presented and relates to the risk propensity of individuals. However, the personal risk of the entrepreneur is disregarded. Especially when analyzing structural variables, one would expect to find a measure for the personal context of the individual within the structure. Additionally, and perhaps resulting from the focus on corporate risk, one notices the absence of the corresponding variable of welfare policies on the institutional level. Not only is the personal context disregarded, but the structural policies that would affect this personal context are also not accounted for. While we of course realize that any academic work has to delimit their field of research, we believe that this represents a gap in the literature. Acs et al. have delivered groundbreaking work, which we intend to expand by examining whether a relationship between social welfare policies on the institutional level and perception of personal risk on the individual level exists. If such a relationship exists, it might be worth considering including it into the GEDI to identify whether ineffective or non-existent welfare policies could present a bottleneck factor in some countries.

One of the findings in Acs et al.'s work is that the US and Australia are leading the list of countries that are most favorable to entrepreneurs - yet right after these are Nordic countries. How can it be that such small countries in comparison to the US have such well situated positions in the ranking? Acs et al. suggest that "it is noteworthy that the top of the list is populated by high-income economies" (ibid., p. 486). This, however, does not explain why other high-income economies such as Germany or Japan are much further down the list. One potential factor for this could be the high level of universal welfare prevalent in Nordic countries. This thesis intends to look further into a potential

relationship between welfare and personal risk perception. In order to analyze this relationship, we will now provide the theoretical background pertaining to welfare policies and states.

2.7. The Welfare State

Before welfare states were introduced, governments had two main tasks: (1) protection against foreign intruders and domestic criminals and (2) the provision of infrastructure in order to promote economic development (Arts & Gelissen, 2010). In the late 19th century, German chancellor Bismarck introduced policies that would protect certain social groups against unemployment and sickness. The function of the welfare state had been redefined. As Arts and Gelissen (2010) point out, a key dimension of the welfare state was now "the degree to which a social service or social security benefit is rendered as a matter of right, enabling a person or family to maintain a livelihood without reliance on the market" (p. 570). From Bismarck's example, other countries quickly followed suit. As welfare models developed, they started to diverge in how benefits were distributed and at whom they were targeted. The Scandinavian monarchies went a step further expanding a wide range of benefits to the whole populace, while the Anglo-Saxon liberal democracies focused helping out the poorest. This resulted in three distinct models. Even though all three models have developed since their introduction to encompass more and more areas, the basic distinction are still visible.

2.7.1 Typologies of Welfare States

Esping-Andersen (1990) was at the forefront of researching welfare states and introduced in his book '*Three Worlds of Welfare Capitalism'* a first classification of welfare states. This thesis will however utilize the distinction made by Goul Andersen (2013). The basic tenets are the same, however Goul Andersen focuses attention away from the political forces behind the distinct models. Even though there is much debate about whether the narrow distinction into three ideal types is outdated, we will use this model as it is the most encompassing. The welfare state as it exists in its current form covers three main areas and objectives, mitigating poverty, providing security and providing services (Goul Andersen 2013, p. 110). The three distinct regimes shown in Goul Andersen's (2013, p. 110) work are the *Residual, Universal* and *Corporatist* ideal types of welfare regimes.

- In *the Corporatist Model* the employee and the employer pay into a 'social insurance' for the employee, which is then administered by the employee, the employer and the state. This model was not intended to have an equalizing effect between different social classes. It has

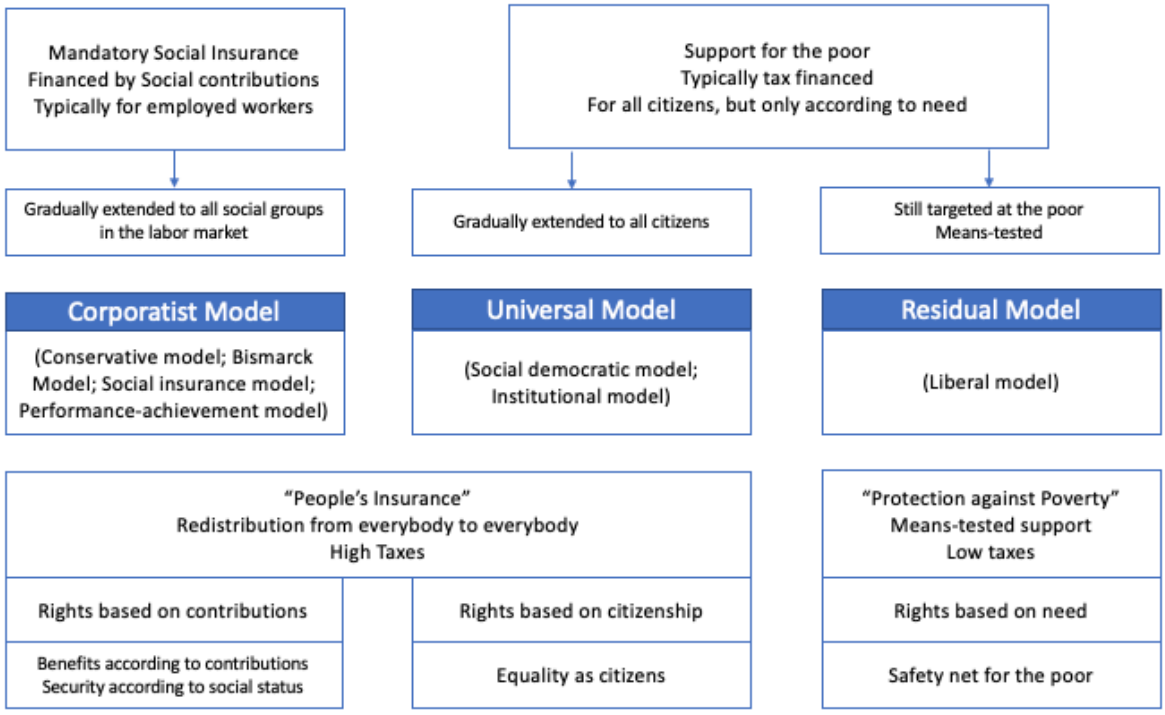
since its introduction by Bismarck been extended to encompass all social groups. However, to this day, it favors employees strongly. Most of continental Europe follows this model.

- *The Residual Model* is aimed at reducing poverty. It maintains that people should care for their welfare needs themselves and that the role of the state is providing a safety net for the poor. This model is funded through taxes and has the least equalizing effect. Eligible are those who are poorest and compared to the other two models, entitlements are usually the smallest in this model. Most of the Anglo-Saxon states follow this model.

- *The Universal Welfare Model* differs from the other two models in so far as it applies to every citizen regardless of employment record or gender. This is by far the most comprehensive of the three models. It not only targets the poor but also most of the population with healthcare, childcare, tertiary education etc. This model is primarily funded through taxes and has the most equalizing effect. Nordic countries follow this model.

In comparison, the universal model is by far the most comprehensive and has the highest redistributive effect, while at the same time not being particularly expensive (Goul Andersen, 2013). You can see further distinctions between the models in this figure, as presented by Goul Andersen

Figure 2.3 (6.1) in Goul Andersen (2013, p. 113): Three Welfare models: Corporatist, Universal, and Residual



2.7.2 Needs and Risks in Welfare States

We have shown that different types of welfare states exist and that their equalizing effect among citizens is rather different. "Social policy variations are due [in large part] to the institutionalization of different forms of need satisfaction and risk protection" (Zutavern & Kohli, 2010, p. 175). The different institutional frameworks are structured rather differently, and thus do not necessarily fulfil the same needs. It is exactly the needs of the citizens, which define a welfare state. Fulfilling the needs of citizens is the raison d'être of welfare states and give it legitimacy. If needs are what give a welfare state its purpose, then two questions need to be answered: Which needs have to be addressed, and How are they addressed? We will take each in turn.

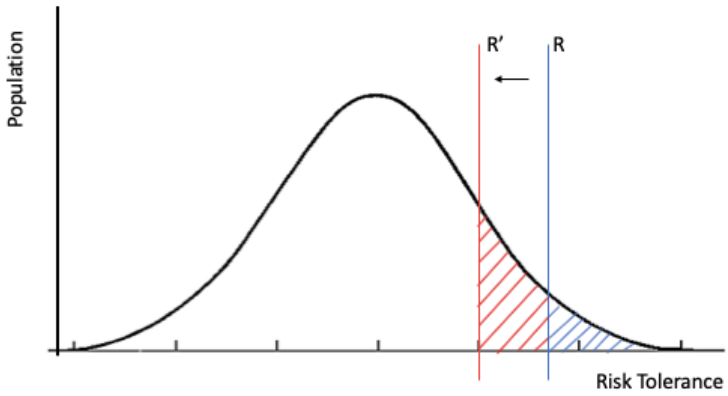
Needs are not always straightforward. What an individual might feel they need is not always what is objectively needed by the population as a whole. Further, in order to satisfy needs, these have to be operationalized and turned into tangible policy objectives. Maslow's hierarchy of needs outlines how priorities are changed as certain prerequisite needs are met. This hierarchy starts at physiological needs (food, water, warmth, rest, shelter etc.), safety needs (personal safety, employment, health etc.), to love and belonging (friendship, intimacy, family, sense of connection), esteem (respect, status, self-esteem, recognition, strength, freedom), and ends with self-actualization (to be the most you can be) (McLeod 2007). This model allows us to understand the different needs, and in which relative order they are to be fulfilled. Welfare states target the lower two stages, so that individuals are free to 'worry' about the latter three. The second question is answered by Zutavern and Kohli (2010, p. 169): "compulsory protection from typical risks is one of the major means through which welfare states have addressed needs." Needs can be turned around into protection against risks. These risks would otherwise exclude individuals from effective participation in society.

Again, we see a distinction being made between economic risks of businesses and personal risks of individuals. Basic needs, such as health and adequate nutrition are met by ensuring health insurance and having an unemployment insurance in place that substitutes or subsidizes income. Even though the remedy of the risk might be monetary in nature (and thus economic), the risk is on the personal spectrum as it affects the individual's ability to participate in society. Further, originally minor policies, might have effects that generate positive externalities. As Art and Gelissen (2010, p. 583) describe, "Welfare states not only have intended results, but also generate unintended consequences." As it relates to entrepreneurship, mitigating the risk of potential entrepreneurs might entail the

positive externality of more entrepreneurship. The next section, Hypotheses will elaborate on this idea.

2.8. Hypotheses

Figure 2.4: Personal Risk Threshold as shifted by Welfare Spending



We have previously outlined that personal perception of risk can be affected by the structures created by the welfare system. We argue that these structures will modify the risk perception of individuals and how this context is taken into consideration when evaluating a business opportunity. When an entrepreneur is evaluating an idea and decides upon whether or not to pursue it, they take into account what the costs/benefits and the risks/potential rewards would be. As indicated in our definition of entrepreneurship, should a business opportunity pass the evaluation phase of the entrepreneurial process, it most likely reaches the exploitation phase. When the personal risk is reduced through welfare, hypothetically, more people would reach the exploitation phase. The more people reach the exploitation phase, the higher the chances that one of these ventures creates a novel innovation that benefits society as a whole and can generate economic growth. In other words, an objectively great opportunity might not be perceived by the alert individual because their personal context does not allow for them to take on the inherent risk. This is where the welfare state can mitigate risks. Graph (xx) illustrates this process. By shifting the risk threshold (R) through welfare policies, more individuals would find the new level of risk (R') acceptable.

At the end of this literature review, we will summarize some of the trends we have identified in the literature: (1) Innovation is necessary for economic growth, which is necessary for societies to develop as proposed by Schumpeter. (2) Innovation is often produced by individuals in the process of entrepreneurship. (3) Since economic growth and innovation are desirable, by extension so is entrepreneurship. (4) Individual entrepreneurs consider their personal context in assessing risk factors when determining feasibility of entrepreneurship. (5) Welfare states are supposed to meet the needs

of individual. (6) Meeting needs is done through compulsory protection against risks via social policies.

If all six of these conclusions are correct, then a natural next step would be to investigate how welfare states can mitigate the personal risks of individuals in order to encourage entrepreneurship. As we have shown above, we have identified a gap in the literature. In order to extend Acs et al.'s analysis and to fill this gap, we will aim to answer the research question *"To what extent can welfare policies mitigate the perception of personal risk of potential entrepreneurs to encourage entrepreneurship?"* This leads us to propose the following two hypotheses:

- *H1: Higher social expenditure mitigates the personal perception of those risks, that can be influenced by welfare policies.*
- *H2: Higher social expenditure increases the perceived feasibility of self-employment*

Social expenditure is a proxy for welfare policies in order to research the relationship to personal risk quantitatively. This, together with an operationalization of the concepts, will be presented in the next chapter under Methodology.

METHODOLOGY

3.1 Introduction

The previous chapter provided the context of the existing literature and laid out the theoretical framework of this thesis. This chapter will show how this theoretical background is used to answer the research question by operationalizing the theory and presenting the data that is used for analysis.

In order to answer the research question, *"To what extent can welfare policies mitigate the perception of personal risk of potential entrepreneurs to encourage entrepreneurship?"*, the Methodology chapter will proceed as follows. Firstly, we outline the chosen research design and strategy - namely a quantitative, cross-sectional survey approach. Secondly, the Flash Eurobarometer survey 354 "Entrepreneurship in the EU and beyond" and the OECD Social Expenditure (SOCX) database will be discussed, as they form the source for the data used to study the research question. Thereafter, a third section will go into more depth, presenting the relevant variables that have been chosen for dependent, independent and control variables. Here, we show how the theoretical framework has been operationalized to ensure validity and reliability of measured concepts. Lastly, the statistical multilevel logistic model will be presented.

3.2 Research Design & Strategy

Before embarking on a study, researchers have to choose a design that guides their research. This "general plan of how you will go about answering your research question" (Saunders, Lewis & Thornhill, 2007, p. 131) will be detailed in this section. An intrinsic part of designing a study is reflecting upon one's philosophy of science. As such, we will firstly outline the critical realist worldview. After the metatheoretical approach has been elaborated, we will continue to show our research approach by discussing the applied quantitative research strategy.

3.2.1 Critical Realism

In this section we will describe the philosophy of science that underpins this thesis. We will apply the critical realist lens throughout this section to the relevant aspects of our thesis. Our thesis is

influenced by critical realism. Critical realism was developed out of the positivist epistemology, which follows the scientific method to the development of knowledge. A scientific approach to knowledge is characterized by a truth that can be studied and generalized. We follow this approach, in order to be able to generalize our findings (Saunders, Lewis & Thornhill, 2012, p. 136).

In following a critical realist perspective, we aim to study the structures that define and lie underneath the observable. This thesis looks at how societal structures affect the individual's perceived ability to become an entrepreneur, specifically in regard to their perception of personal risks. We suppose that there are structures that constrain and affect actors; these structures are invisible and are not empirically observable. Since these structures are not visible, we must look at the effects they cause in the empirical world. "The aim is to reveal something general about [how] structures define people and their actions" (Egholm, 2014, p. 116). These structures limit individuals in their actions. Nevertheless, since individuals act within the structural context, individuals can affect them through their interpretation of the context. These structures exist independently of us as researchers and we use a quantitative analysis to gather enough data in order to draw conclusions of the structures and how their effects play out. "The truth of the proposition of structures can only be verified by interpreting the repeated patterns in the data as a representation and reflection of the structural conditions" (ibid.).

In this thesis, we observe how the structures are shaped by public policy and how they subsequently affect the individuals within it. More specifically we are studying how the policy adjusts people's perception and interpretation in regard to how they perceive risk. By looking at the effects of the policy on the individual we are better able to understand the underlying structure around them.

Epistemologically, we aim to understand and reveal something general about how these structures define people and their actions. Using deduction, we start by formulating a hypothesis based on the theoretical foundation of this thesis. This thesis looks at how government policy affects the underlying structure, which changes how people perceive the personal risk associated with entrepreneurship. Our hypothesis suggests that higher social expenditure will mitigate the perception of personal risk of entrepreneurs. We will test whether we can see the relationship between social expenditure and perception of personal risk in order to understand if these structures are in fact discernable.

3.2.2 Research Strategy

Above we have shown our reflections on science and research. Our research question follows a critical realist perspective and so does our research strategy. Critical realism "recognize[s] the importance of multilevel study (e.g. at the level of the individual [and] group)" (Saunders et al., 2012, 136f.). In order to study phenomena on a group (country) level, we need data on the individuals who are nested within these groups. In order to achieve valid and reliable results, our data sample needs to be sufficiently large. A quantitative research approach has been chosen in order to be able to gather enough data and thus be able to generalize results to a wider group of people (i.e. the population of a country). Quantitative strategies exist in many varieties. We can further define our strategy to include a cross-sectional survey design. This "examines a cross-section of social reality, focusing on variation between individual spatial units [...] and explaining the variation in the dependent variable across them" (Kellstedt & Whitten, 2018, p. 91). The data set, which we elaborate below, examines multiple countries in the EU and beyond. The main data from the EU was collected through a single survey. Since collecting our own data was outside the scope of this thesis, we have chosen to utilize publicly available datasets by the EU and OECD (more on this in section 3.3.1 and 3.3.2). This further ensures reliability. As both the EU and OECD are internationally standardized sources of data, we can confirm that the data collection was conducted in a way, where others could replicate our findings. Since the units of interest in this study are individuals nested within countries, we have chosen to use survey data on individual attitudes, supplemented by statistical data for each country that individuals were nested in. As such we are looking at a 'cross section' of society, instead of doing a longitudinal study over time. Creswell and Creswell (2003) suggests, that surveys are conducted with "the intent of generalizing from a sample to a population" (p. 14). We thus hope to establish a causal relationship between our independent (measurements of personal risk perception) and dependent (social expenditure) variables, which will be elaborated on in sections 3.4.1 and 3.4.2.

3.3 Data

After having laid out the meta theoretical and methodological underpinnings of this thesis, we will now move to present and elaborate on the data chosen to answer the research question. The data this thesis utilizes stems from two sources: the EU Flash Eurobarometer (FEB) survey series on 'Entrepreneurship in the EU and Beyond' (specifically FEB 354) and the OECD SOCX Database.

Before commencing the data collection phase, we set out some criteria that would need to be satisfied by the data in order to answer the research question.

1. The quantitative data had to have a sufficient sample size. The population of the current study is defined by the adult population of developed countries. It was narrowed to only include developed countries due to the greater degree of opportunity entrepreneurship present. Individuals in developing nations often start a business due to necessity (Acs & Virgill, 2010). Secondly, developed countries have fewer bottlenecks, as access to markets and capital is more readily available and protected by stable institutions and infrastructure (Acs et al., 2013).
2. The data had to come from a reliable source that collects data according to an internationally agreed upon standard to ensure comparability between countries.
3. The data had to include variables on both the individual level and the country level pertaining to personal risk perceptions and national social security spending, respectively. Since we did not find a single dataset that contained data for both levels, we chose to combine data from two different sources. However, both the EU FEB 354 and OECD SOCX database satisfy the second criteria in that they are both reliable and internationally standardized sources.

According to these criteria we then proceeded to select relevant data. The sources and samples will be elaborated on below.

3.3.1 Flash Eurobarometer

The main source of data this thesis uses is a survey of individual attitudes towards entrepreneurship collected on behalf of the European Union (EU) Commission. The data set that is employed in this study is the 'Flash Eurobarometer 354: Entrepreneurship in the EU and beyond' (FEB 354), which is part of the Flash Eurobarometer survey series.

> "The Flash Eurobarometer is a small-scale, European cross-national survey research programme on attitudes, values and beliefs regarding a wide range of topics in the socio-cultural and socio-political domain. It is part of the general Eurobarometer, which is a series of surveys regularly performed on behalf of the European Commission (EC). [...] The surveys have been conducted since 1987 in all EU member states, occasionally also reducing or enlarging the range of countries for specific topics." (EC, 2019)

The FEB 354 was conducted in 2012 via telephone interviews and surveyed the adult population (15 and above) in all of the 27 EU member states, Croatia, Turkey, Iceland, Norway, Switzerland, Israel, Russia, China, Japan, South Korea, India, Brazil and the United States. Within each country, roughly 1000 responses have been collected (except for the USA, where 3000 responses have been collected), which resulted in a data set of 42,080 observations. Further, the EC defines in the FEB 354 report (2012), that "the basic sample design applied in all states is multi-stage random (probability)" (p. TS1).

The topic of the FEB 354 survey is 'Entrepreneurship in the EU and Beyond'. This survey's intention was to collect individual attitudes towards entrepreneurship and entrepreneurs. It covers demographic variables of age, education and gender, as well as questions pertaining to the respondent's current employment situation and their opinion of the role of entrepreneurs in society.

While the EC is certainly a reliable source of data, we must acknowledge that there are nevertheless limitations to consider. One such limitation is the fact that the method of collection is mainly conducted via phone interviews which could indicate a sampling bias. This type of bias relates to systematic exclusion of a certain group of the population. We believe however, that this potential bias does not weigh heavily enough to cause false claims as the sample is sufficiently large to account for different opinions.

An additional limitation of the dataset is that it does not include country level variables. Therefore, we decided to include additional variables from the OECD SOCX database. This data will be detailed below. Before moving on, it remains to be said that since not all countries of the original FEB 354 survey are members of the OECD, we had to drop those countries' observations from the FEB 354 dataset. Although this causes us to run into potential issues of sample size on the country level (31 versus previous 40), the countries we decided to drop did not neatly fit into the population definition of 'developed countries' either way. The countries that have been dropped are Bulgaria, Cyprus, Malta, Romania, Croatia, Russia, Brazil, India, China. This results in a data set with 31 remaining countries and a total of 33,055 observations.

3.3.2 OECD SOCX Database

Our individual level, dependent variable of personal risk perception is found within the FEB 354. Since this survey measures individual attitudes towards entrepreneurship, it does not contain variables

measuring the economic situation of the countries in the sample. Therefore, in order to be able to measure the potential effect of social expenditure on personal risk perception, we needed to add data about the countries' welfare expenditure. This data will constitute our main independent and level 2 variables. The source of this data is the OECD Social Expenditure (SOCX) database. This database "includes reliable and internationally comparable statistics on public and (mandatory and voluntary) private social expenditure at programme level as well as net social spending indicators. SOCX provides a unique tool for monitoring trends in aggregate social expenditure and analysing changes in its composition. It covers 36 OECD countries for the period 1980-2015/16" (OECD 2018, p. 5).

We are interested in how the social welfare expenditure of a country influences the personal risk perception of respondents in the FEB 354 survey. Considering the latter has been conducted in 2012, the data that is needed for the social expenditure must predate this collection. Therefore, we have chosen to use OECD data from 2011. Further, the unit of measurement is per capita at constant prices (2010), and constant Purchasing Power Parity (PPP - 2010) in US Dollars, which gives us a internationally comparable statistic that does not skew based on national currencies, inflation or exchange rates. Similarly, we have included data that pertains to more general statistics on the respective country's economic situation, such as GDP and Gini coefficient. GDP is measured in the same unit as social expenditure, per capita at constant prices (2010), and constant Purchasing Power Parity (PPP - 2010) in US Dollars. The Gini coefficient is a defined statistic ranging between 0 and 1 and measures the prevalent income inequality within a country.

3.4 Operationalization of Concepts

The FEB 354 and OECD SOCX data represent our dependent and independent variable respectively, with control variables being taken from both data sources. In order to make sense of the following chapter, the Analysis, we will now operationalize the theoretical framework. We show how and which variables measure the previously presented concepts. This section will continue in three parts: Firstly, the main independent variable, social expenditure, will be elaborated on. Secondly, we will present the dependent variable(s). Lastly, we will show which variables have been chosen as a control in order to discern a relationship between independent and dependent variables.

3.4.1 Independent variable

In order to measure the effect a welfare system might have on the perception of personal risk of individuals, we needed to find a good measure of a welfare indicator on the country level that is continuous (i.e. unconstrained range of possible values). We chose to use data on the countries' social expenditure per capita on specific welfare programs. Social expenditure presents the best, single measure of welfare for such a multi-faceted concept, and utilizing it allows us to run a large N regression. Further, data on social expenditure is publicly available for all 31 countries and stems from a reliable source. Lastly, social expenditure is a good indicator of how much money is invested in social programs and the importance that is paid to social matters.

The OECD SOCX Manual 2019 defines social benefits to "include cash benefits (e.g., pensions, income support during maternity leave and social assistance payments), social services (e.g., childcare, care for the elderly and disabled) and tax breaks with a social purpose (e.g., fiscal support for families with children, or favourable tax treatment of contributions to private health plans)" (OECD, 2018, p. 8). Further, it sorts the expenditure on specific benefits into nine policy areas, namely *old age, survivors, incapacity related benefits, health, family, active labor market policies, unemployment, housing,* and *other areas* that do not fit any of the above. Out of these nine areas, we have chosen to include unemployment benefits, pensions (old age), health care and child care (family) into our data. The reason for including these areas specifically is related to the direct impact they hypothetically have on a person's personal risk perception in regard to entrepreneurship. As stated in the previous chapter, our approach suggests that social security lowers a potential entrepreneurs' perception of personal risk, as it provides for a basic safety net in the event of potential failure of the startup. The specific areas have been chosen for the following reasons:

- **Unemployment**: Creating a new venture requires time and focus and thus it is difficult to combine with conventional employment. Often entrepreneurs will have to quit their regular job in order to work full time on their venture. They might have to do this even though the new venture does not yet provide sufficient income for themselves and their family. During this time, unemployment benefits or low-income support programs may support the entrepreneur and his family. The knowledge of this support might encourage an individual to move forward with their discovery.
- **Health Care**: In many countries, health insurance is provided by the employer or to be paid privately. Taking the step into self-employment is quite risky, as it could mean a lack of health

insurance for the entrepreneur and any dependents. Thus, a welfare state who provides mandatory health care can mitigate some of the personal risk.

- **Child Care**: These days, many employers provide child care facilities to young families. Additionally, maternity and paternity benefits are not provided in all countries equally and thus may potentially be provided by employers. As such, these might be an incentive to stay in employment.
- **Pensions**: Pensions are included even though they can technically be considered as remuneration for past work and are often co-financed by employers. Similarly, in many countries' pensions are not covered by the state, but instead financed through private pensions plans and often through the employer. Regardless, in some countries the eligibility for state funded pension programs depends on previous employment status (i.e. employed vs. self-employed) and with it the contributions paid and thus the decision to start a new venture may be influenced by one's consideration of retirement plans.

We treat social expenditure as a continuous variable, that is measured in US Dollars. We reduced the unit in size to thousands of dollars per person, so that a one unit increase in social expenditure represents an extra $1,000 spent per person on the social welfare programs described above. It should be noted here that we are excluding voluntary private spending; this is spending that individuals can voluntarily choose to spend e.g. health insurance, extra unemployment insurance etc. This is because we are looking at how government programs reduce risk, not the effect that personal insurance programs have.

3.4.2 Dependent variable(s)

Perception of Personal Risk

As stated, this paper intends to investigate whether the social expenditure of a country has an effect on the level of personal risk perception of potential entrepreneurs. To recall from our theory, our definition states that: *'Personal risks are those risks perceived by the individual pertaining to the economic, health, social, time, and internal risk dimensions, that are specific to the situational context of that individual.'* In order to measure this concept with validity, we have chosen to use question 18 from the FEB 354 survey as dependent variable. This question asked: "If you were to set up a business today, which are the two risks you would be most afraid of?" This question directly asks what the individual considers as the most influential personal risks. This question matched our theoretical

definition very closely, as it asks the individual to consider their own risks, and not those that would be related to the business (i.e. corporate risk).

Respondents were not given a predefined list of answer options but were allowed to spontaneously mention their own top two risks. These were then sorted into the following six categories, '*irregular/not guaranteed income', 'lack of job security', 'risk of losing your property/home', 'the need to devote too much energy or time to it', 'the possibility of suffering a personal failure', 'the possibility of going bankrupt*'. The data was coded in a way where a separate variable was created for each category, which was then coded as a dummy variable of 'Not mentioned' and 'Mentioned'. In order to account for all dimensions of risks, we decided to create six distinct models - one model for each risk dimension as the dependent variable.

In order to show how each of these models relates to our conceptual framework of perception of personal risk, we will recall the theoretical background. As shown in the above definition of personal risk, the concept is comprised of the dimensions of economic, health, social, time and internal risks. This thesis suggests that welfare policies mitigate the perception of personal risk. A reduction in one of these risks, leads to an overall reduction as the risk is mitigated. Because of the way these variables are coded in the data, each of these variables is affected differently by social expenditure. Since respondents were allowed to spontaneously mention two risks, we can assert two things: (1) The six categories that were mentioned comprise most of the personal risks, and at least all of the important ones that an individual can perceive. (2) Since the data was captured from the same question, we can put the different variables in relation to one another and establish hypotheses based on the expected relation. It is important to note that although these variables appear distinct in the data, the relation between them is established theoretically.

Some of these variables are hypothetically and theoretically more affected by social expenditure than others. Therefore, we expect individuals, who live in states with high social expenditure to perceive those risks to a lesser degree. Accordingly, we expect those individuals to perceive risks that are not directly influenced by social expenditure to a higher degree. To recall our hypothesis: *H1: Higher social expenditure mitigates the personal perception of those risks, that can be influenced by welfare policies.* Table 3.1 shows how social expenditure affects each of the variables in question 18. It also shows the sub hypotheses established for each variable.

Table 3.1: Operationalization of Personal Risks as affected by Welfare

Variable	*Personal Risk Dimension*	*Expected Effect*
Q18_1: Irregular/Not Guaranteed Income	Economic	Many welfare states have unemployment policies that support the unemployed and/or supplement the income of those who earn below a certain monthly amount. This perceived risk is related to the economic personal risk dimension. Not having guaranteed income is a monetary detriment of entrepreneurs that could potentially be minimized through welfare policies. *H1a: As social expenditure increases, the personal risk of 'irregular/not guaranteed income' is perceived less.*
Q18_2: Lack of Job Security	Internal	Job security is not so much regulated by the government, but rather by the private sector. Whether one's job is secure does not depend on social policies, but rather on one's level of skill, the current economic climate and other factors. This perceived risk relates most closely to the internal personal risk dimension. Not having a secure job might hinder some in their career path and thus personal/professional development. *H1b: As social expenditure increases, the personal risk of 'lack of job security' is more likely to be perceived as a top risk.*
Q18_3: The risk of losing your property/home	Economic/ Intrinsic	Although one could argue that rent support and social housing are welfare policies, they target a different socio-economic group. Those individuals who would start opportunistic entrepreneurial ventures, might not be convinced by social housing as a risk mitigating factor. Further, these services might be too far removed from the current mind in order to consider them as risk mitigating. Lastly, getting into social housing does not compare to losing one's own home. Therefore, although this risk can

		be sorted into the dimension of economic risks, it also touches upon intrinsic risk aspects. *H1c: As social expenditure increases, the personal risk of 'losing property/home' is more likely to be perceived as a top risk.*
Q18_4: *Need to devote too much time and energy*	Time	Starting a business takes a lot of time and energy, regardless of the country one is in. Thus, the amount of social expenditure should not mitigate this risk. One might argue that through child care, time resources are freed up. However, this connection is rather far-fetched and might not be considered by individuals in the snap decision when they evaluate their top risks. This perceived personal risk is clearly related to the time risk dimension. Devoting time and energy to a new business takes away time from other responsibilities. *H1d: As social expenditure increases, the personal risk of 'needing to devote too much time and energy' is more likely to be perceived as a top risk.*
Q18_5: *The possibility of suffering a personal failure*	Internal/ Social	The risk of personal failure is always a possibility, which is why it should not be affected by welfare spending. Again, one might argue that through education, countries might counter the effect of social stigma. However, this again would be a bit far-fetched to warrant an effect by social expenditure. This perceived risk fits into both the social and internal risk dimensions. As it speaks to both, the loss of potential social status and the negative impact it might have on someone's personal development. *H1e: As social expenditure increases, the personal risk of 'suffering a personal failure' is more likely to be perceived as a top risk.*
Q18_6: *The Possibility of going Bankrupt*	Economic	While bankruptcy laws are separate from welfare policies, the consequences of having gone bankrupt in welfare states vs. non welfare states might be different. Going bankrupt

		in a state with unemployment benefits, universal health care, child care etc. might be less of an issue as it is in countries where one has to purchase these services on the free market. This risk is related to the economic risk dimension, as it is related to the potential loss of personal investments made by the individual. *H1f: As social expenditure increases, the personal risk of 'the possibility of going bankrupt' is less likely to be perceived as a top risk.*

Feasibility of Self-employment

In order to increase the validity and robustness of our analysis we decided to run another model with a different dependent variable: feasibility of self-employment. Question 7 of the FEB 354 asks: "Regardless of whether or not you would like to become self-employed, would it be feasible for you to be self-employed within the next 5 years?" The answer options were scaled on a four-point scale *'Very feasible', Fairly feasible', 'Not very feasible', 'Not feasible at all'* and a *'Don't know'* option. In order to use this variable in the regression, we made it into a binary variable with the categories *Not feasible* (merging 'Not very feasible', 'Not feasible at all') and *Feasible* (merging 'Very feasible', Fairly feasible'), dropping the '*Don't Know*' answers. Although one could argue that we lose too much differentiation between the different categories, a four-point scale is not large enough to treat the variable as continuous. Therefore, we had to reduce it to a dichotomous variable in order to satisfy statistical demands, which will be elaborated on in section 3.5.2.

As we have shown in the Literature Review, perception of personal risk and feasibility are two concepts directly related (Martinez et al. 2017). Seeing the effect of social expenditure on an individual's perception of feasibility gives an indication of whether or not the structural context is favorable. As such, it might not tell us the specific reasons for why it might/might not be feasible, but it gives us a general sentiment about the contextual preconditions. Before moving on, there are two noteworthy considerations: (1) Question 7 asks generally about self-employment and not specifically about entrepreneurship. While our definition of entrepreneurship differs significantly from mere self-employment, this question can still serve as a general measure of the framework conditions as it questions the general context. (2) Although respondents were asked to disregard their desirability of self-employment, it seems to have factored in regardless. Response bias is difficult to avoid in this

regard. Question 9 of the FEB 354 asked "Personally, how desirable is it for you to become self-employed within the next 5 years?" Controlling for question 9, we are able to hold this potential response bias constant. More on this later on. Our hypothesis pertaining to feasibility is *H2: Higher social expenditure increases the perceived feasibility of self-employment.*

3.4.3 Control Variables

Survey research does not include natural control, as samples are selected randomly. We will introduce the controls "at the data analysis stage rather than at the data collection stage [...]. This control is achieved by statistically controlling or removing the influence of specified other variables" (De Vaus, 2002, p. 298). Thus, we have chosen various variables that might have an impact on the relationship between social expenditure and the different dependent variables of risk perception and feasibility. These control variables have been split into three groups: demographic factors, non-demographic factors and country level factors.

Demographic

- *Age*: Age is treated as a continuous variable (in years). Age is a common variable to control for as it can have a large impact on numerous factors. Such could be the likelihood to have stable income, on having children, having certain generational opinions, income, etc. For example, with age, one can expect a higher level of skill in a specific field, which can be beneficial for an entrepreneurial venture. As Azoulay (2019) suggests, older individuals are more likely to not only start but also succeed in entrepreneurial ventures. Sometimes it was beneficial to include age as groups in order to see generational differences. This will be made clear.
- *Gender*: Gender is a binary variable where men are coded as 0 and women as 1. In many countries, gender inequality is still a prominent issue. While much has happened since the early 20th century, many women still feel the responsibility to stay at home and take care of children. Further, a pay gap exists in many societies, that disadvantages women over their male colleagues in the workplace (Malach Pines, 2010). It will be interesting to see whether welfare policies have an effect. Many welfare policies are aimed at equalizing individuals within society.
- *Education*: Education is coded as the age, when the respondent finished full time education. We are treating it as a continuous variable, where a 1-unit change corresponds to an extra year of education. Level of education is a good measure for the skills and knowledge needed to run an entrepreneurial venture. The educated individual could also be more likely to assess their situation more accurately as they are better qualified to start a business.

- *Retired:* Retirees are coded as a binary variable, where students are coded as 1 (and all others as 0) These individuals are, hypothetically, no longer a part of the labor market and are therefore not as interested in self-employment. They are also in a situation of living on savings and pensions.
- *Student:* Students are coded as a binary variable, where students are coded as 1 (and all others as 0). Students are often times young and not very experienced in the labor market. They have fewer responsibilities and do not have a lot of disposable income. They do not normally have the capital, spare time, or know how to become self-employed.
- *Job Seeking:* Unemployed individual who are currently looking for a job are coded as 1 (all others are coded as 0). A job seeking individual does not have to consider the opportunity cost of giving up their current job for a risky venture. Thus, they might consider different risk factors. We also considered the variable unemployed, when the distinction between student, retired and job seeking was of no relevance. This variable was coded as binary, distinguishing between all of those who are currently not working (1) and others (0).
- *Income level:* Income level is scaled as an ordinal categorical variable. It is transformed into a factor variable that generates four dummy variables. The reference category is '*Find it very difficult to manage on current income'* and coded as 0. Against this category, the other three will be compared. The other three are '*Find it difficult to manage on current income*' coded as 1, '*Get by on current income*' coded as 2 and '*Live comfortably on current income*' coded as 3. One's current income level might affect one's perception of personal risk greatly. On the one hand, high earning individuals have more to lose in giving up their well-paying job. On the other hand, they have the necessary funds to start a business without taking out loans or mortgages.

Non-demographic

- *Desirability*: Desirability is scaled as an ordinal categorical variable. It is transformed into a factor variable that generates four dummy variables. The reference category is '*Not at all desirable*' and coded as 0. Against this category, the other three will be compared. The other three are '*Not very desirable*' coded as 1, '*Fairly desirable'* coded as 2 and '*Very desirable*' coded as 3. In order to assess an individual's personal risk perception, it is important to control for the desirability of starting a business. Should an individual not be interested in starting a business in the first place, they will not have seriously considered their risks related to this task, and vice versa.
- *Entrepreneurship Opinion:* Opinion of entrepreneurship is scaled as an ordinal categorical variable. It is transformed into a factor variable that generates three dummy variables. The reference category is '*Broadly unfavorable'* and coded as 0. Against this category, the other two will be compared. The other two are *'Neutral'* coded as 1 and '*Broadly favorable*' coded as 2.

Cultural factors have an immense impact on the view of entrepreneurs and entrepreneurship within a society. Looking at how people view entrepreneurs might be correlated with which kinds of risks individuals perceive most strongly. For example, cultural norms may dictate how a society perceives failure, which is often inevitable in entrepreneurship.

- *Fixed Hours:* Question 2 asked why individuals preferred to be employed. This variable indicates those, who replied that they valued fixed working hours. It is coded as a binary variable and those who selected this option are coded as 1, all others as 0. The reason for including this variable is that some might have a preference for traditional employment due to the fact that time off is important to these individuals.
- *Lack of Capital:* The variable showing individuals who find self-employment not feasible due to a lack of capital, was only asked to those who said self-employment would not be feasible. Out of this segment, those who mentioned this reason are coded as 1, all others as 0. This shows us the Locus of Control of individuals. Thus, it might be interesting to look into whether people believe that it is not their personal situation that makes becoming self-employed not feasible but is instead due to outside market factors.
- *Entrepreneurship Course:* Having taken an entrepreneurship course is a binary variable, with a no (0) and yes (1) option. This might affect the knowledge, skills and perception of those who have taken the course about becoming self-employed.
- *Risk Aversion:* Question 21 of the FEB 354 asked individuals to state their agreement to the statement, that "One should not start a business if there is a risk it might fail." We took this question as an indicator of an individual's risk propensity. It is scaled as an ordinal categorical variable and transformed into a factor variable that generates four dummy variables. The reference category is '*Totally agree*' and coded as 0. Against this category, the other three will be compared. The other three are '*Tend to agree*' coded as 1, '*Tend to disagree*' coded as 2 and 'T*otally disagree*' coded as 3. This is a proxy for risk aversion as entrepreneurship is an inherently risky endeavor; those who completely agree will accept very little risk even though social expenditure may have been able to reduce it.

Level 2 controls

- *Gross Domestic Product (GDP)*: GDP is being used to control for the general level of wealth that the nation and the government enjoy. While it is likely that GDP and social expenditure are tied, we primarily look at how welfare expenditure affects risk perception. A generally wealthy nation might have better education, better infrastructure and better incubators that could foster entrepreneurship.

- *Gini (Gini)*: The Gini coefficient is a measure of income inequality among nations. The coefficient is a number between 0 and 1, with higher numbers meaning a higher gap between the rich and the poor. Not only will it help account for inequality, it could have an added benefit of helping control for the efficiency of welfare distribution, as a goal in welfare is often to reduce inequality.

3.5 Model: Multilevel - Logistic model

So far, we have explored the metatheoretical and methodological underpinnings of this study, as well as the data sources and type of variables used. We will now move to assemble it all in explaining the kind of models used to answer the research question. To do this, we will first go through the general form of the model and then elaborate on the different components in each of them separately.

3.5.1 Why Multilevel?

A multilevel model allows us to estimate both the individual and country level variables while taking unobserved group level heterogeneity into consideration. A multilevel model was chosen for both theoretical and statistical reasons. Theoretically, we are interested in the effect a level 2 variable has on a level 1 variable. As Mehmetoglu and Jakobsen (2017) point out, "observations that are close in space are likely to be more similar than observations that are far apart. Thus, respondents from the same country may be more similar than respondents from different countries due to shared history, experiences, environments etc." (p. 195). In this case, the shared factor of respondents from the same country is the social expenditure that might affect personal perception of risk. "By including level-2 factors in the regression equation one allows for the context surrounding the individuals to be accounted for" (ibid.). Secondly, statistically a multilevel model is necessary as the data structure violates the assumption of independence of observations. Thus, running a model without accounting for the nested structure would give us biased regression results.

3.5.2 Why Logistic?

Further, since all of the dependent variables chosen are dichotomous, we have to perform a logistic regression. "The level of measurement for each variable determines the types of statistical analysis [that] may be used" (Sproull, 1995, p. 67). Since linear regression is performed with continuous data,

it shows a linear association between the dependent and independent variable that can be estimated beyond the current interval of present values. However, since we are interested in whether one event is more likely than another (i.e. whether a specific risk has been chosen or not, or whether self-employment is feasible within the next 5 years or not), performing a linear regression would estimate values beyond the 0-1 interval, which is not possible. A "logit regression [...] estimates how much the natural logarithm of the odds for Y=1 changes for each one-unit change in X" (Mehmetoglu & Jakobsen, 2017, p. 163). In other words, we are not estimating least squares (linear regression) but the maximum likelihood or estimating "the parameters as those which would make our data most likely" (ibid., p. 162). The regression output is thus interpreted using Odds Ratio (OR) instead of coefficients. The OR shows us how a one unit change in X affects the odds of Y=1. In other words, the OR tells us how much more likely it is that the risk is perceived or that self-employment is feasible when social expenditure increases by one unit.

3.5.3 How to build a Multilevel Logistic Model?

Our research question will therefore be answered through a Multilevel Logistic Model. In order to build such a model, one first starts with an empty model, where the Intraclass Correlation Coefficient (ICC) is estimated. This number tells us how much our data is nested. In order to warrant a multilevel model statistically, this number should be at around 5%. Thereafter, the model is expanded with the independent variable, social expenditure. It is important to note here, that while our sample size at the individual level-1 is 33,055 observations, our country level-2 sample size is only 31. In order to get significant results, both sample sizes need to be sufficiently large. 31 is an acceptable number, however it does constrain us to maximum two level-2 independent variables (Justesen, 2015, p. 95). Further, since the sample size on the second level is rather small, we will have to accept higher standard errors and larger p values. As Mehmetoglu and Jakobsen (2017) point out, "it is more difficult to produce significant results (since a small N leads to a large standard error), but it is the correct way of doing it" and further that "the researcher might consider also discussing results that are significant at the 0.10 level (in addition to the 0.05 and 0.01 levels)" (p. 207). This second step in the process corresponds to building a Random Intercept Model. Once the main independent variable has been added, we proceed to introduce statistical control. In order to check the fit and strength of the model, we check the Wald statistic, which should increase once relevant variables are added. Similarly, the linktest shows us how well our model explains the dependent variable and whether there are misspecifications or omission of important variables. The linktest estimates two new variables - hat and hatsq (hat squared). The former shows us how well our model estimates the

variance in the dependent variable, while the latter shows us whether the variables in the model are correctly specified or whether some influential component is missing. This allowed us to pass the two assumptions, that (1) the model is specified properly and that (2) the model has no important variables left out and no unnecessary variables added (Mehmetoglu & Jakobsen, 2017, p. 167). Lastly, we tested for (3) the absence of multicollinearity in all of our models (ibid., p. 168) and can confidently assert that no multicollinearity is present. Our models to the best of our knowledge do not violate any of the assumptions for a logistic regression in our statistical models.

3.5.4 Model Specification

We are using individuals as level-1 units and countries as level-2 units. Now that we have elaborated on the type of model, the table below will show how each of the seven models has been configured and which variables have been added as control variables. The process of adding control variables was done one by one. As explained above, we started with an empty model and the independent variable. Thereafter we added the control variables. It is important to note here that we not only considered statistical reasons for adding variables (whether they improved the model) but also theoretical justifications. Variables were only added if it was important to control for the potential effect they might have on the relationship between social expenditure and risk perception/feasibility. Table 3.2 shows the final model specification for each model.

Table 3.2: Multilevel Model, Control Variables.

Model	*Dependent Variable*	*Level 1*	*Level 2*
Model 1	q18_1: Irregular/not guaranteed income	Age, Gender, Student, Retiree, Job Seeking, Education Age Desirability of entrepreneurship	Social expenditure (pmptotal), GDP (gdp2)
Model 2	q18_2: Lack of job security	Age, Employment Preference, due to Job Security (q2_2)	Social expenditure (pmptotal), GDP (gdp2)

Model 3	q18_3: Risk of losing property/ home	Age, Gender, Student, Income Level, Lack of financial Support (q21_1), Complex administrative procedures (q21_2), Risk aversion (q21_4)	Social expenditure (pmptotal), GDP (gdp2)
Model 4	q18_4: The need to devote too much energy or time	Age, Gender, Job Seeking Age when completing education (eduage), Employment because of fixed working hours (q2_3), Not feasible due to lack of capital (q8_2), Income Level, Entrepreneurship Education (q10a),	Social expenditure (pmptotal), GDP (gdp2)
Model 5	q18_5: The possibility of suffering a personal failure	Age, Gender, Age when completing education (eduage), Student, Retired, Job Seeking, Income Level, Desirability of Self-employment (q92)	Social expenditure (pmptotal) GDP (gdp2)
Model 6	q18_6: The possibility of going bankrupt	Age, Gender Age when completing education (eduage),	Social expenditure (pmptotal),

		Student, Retiree, Income Level, Feasibility of Self-employment (q72), Entrepreneurship Education (q10a), Risk aversion (q21_4)	GDP (gdp2)
Model 7	q7a: Feasibility of Self-employment within 5 years	Age, Gender, Age when completing education (eduage), Income Level, Students, Retirees, Entrepreneurship Education (q10a), Desirability Income Level Risk Aversion (q21_4)	Social expenditure (pmptotal) GDP (gdp2)

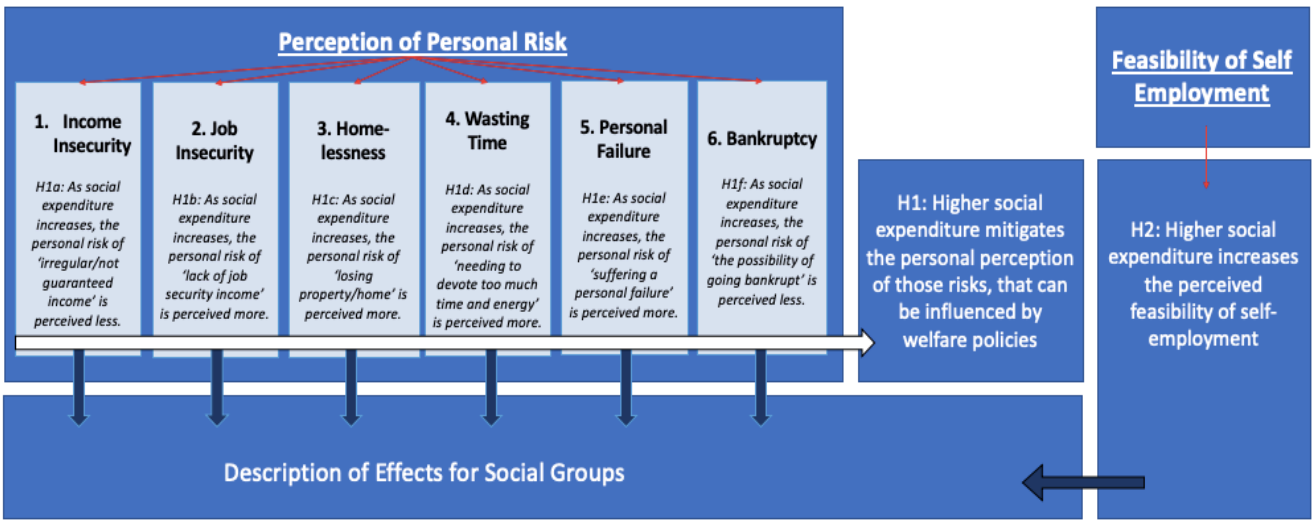
This Methodology chapter has elaborated on the devised plan to study the research problem at hand. We demonstrated our own preconceptions about research and how we planned on answering our research question. Thereafter, we presented the data sources, from which we draw the data that is utilized to answer the research question. We discussed aspects of validity/reliability and limitations. Following the data presentation, we operationalized our theoretical concepts for both dependent and independent variables and considered factors that might have a spurious effect on this relationship. We have presented our control variables and the theoretical justifications for including them. Lastly, we have shown what type of model would be assembled in order to answer the research question. The process of specifying these models was described and relevant statistical tests to check for robustness were discussed. The previous table presented the final models, including control variables. We have shown how this thesis intends to use this theoretical background to answer the research question and will now move on to present the findings in the Analysis.

ANALYSIS

4.1 Introduction

This next chapter presents the results of the data analysis. In order to introduce the reader to the Analysis section, we will give a short overview of our main findings first. Thereafter, we will discuss each of the seven models in turn, where we will show specific and applicable findings. This will progress in two parts: Firstly, models 1 through 6 cover the perception of personal risk as its focus. We will show how social expenditure affects an individual's perception of their personal risk in regard to six specific factors, namely *income insecurity, job insecurity, homelessness, wasting time and energy, personal failure* and *bankruptcy.* These factors show what an individual's greatest fears are when considering starting a business. Secondly, model 7 shows the effect of social expenditure on an individual's understanding of the feasibility of becoming self-employed within the next 5 years. These two parts are distinct in their approach in order to help us answer the research question. While the first part (model 1-6) directly investigates the type of risk an individual perceives, the second part (model 7) studies the understanding of feasibility as a whole, considering all factors.

Figure 4.1: Description of Analysis Structure



In order to make this distinction clearer, Figure 4.1 shows an overview of the hypotheses. As outlined in the previous Methodology chapter, the above six factors are affected differently by social expenditure. Some factors should hypothetically increase with higher social expenditure, while others should decrease. High social expenditure should mitigate the perception of *income insecurity* and

bankruptcy. Therefore, we expect to see a negative relationship for model 1 and model 6. Consequently, we expect a positive relationship, or an increase in the OR for models 2, 3, 4, and 5. Across all 6 factors, we examine our first Hypothesis. We expect our second Hypothesis to be answered by model 7, i.e. feasibility of self-employment. Our hypotheses were formulated to examine the relationship between a country level and an individual level variable. However, many interesting findings crystalized around the individual level and we will therefore also describe how different social groups perceive personal risk and the feasibility of self-employment differently. The last part of the Analysis chapter gives a more thorough and overarching summary of the findings. At the end, we will answer our research question again:

"To what extent can welfare policies mitigate the perception of personal risk of potential entrepreneurs to encourage entrepreneurship?"

4.2 Summary of Findings

Perception of Personal Risks regarding Self-Employment

We will first summarize the results from models 1 through 6. As seen in the previous Methodology chapter, the respective dependent variables were taken from question 18: *"If you were to set up a business today, which are the two risks you would be most afraid of?"*

Social Expenditure: Our overall Hypothesis for these models was '*H1: Higher social expenditure mitigates the personal perception of those risks, that can be influenced by social expenditure.*' More specifically, as social expenditure increases, the risks of *insecure income,* and *bankruptcy* will decrease. Accordingly, the risks of *job insecurity, homelessness, wasting time and energy,* and *personal failure* would increase. We could find a statistically significant relationship for models 1 and 4. Our overall Hypothesis can neither be confirmed nor denied, as the relation for the other 4 models was not found as significant. Thus, the relationship between the different risks could not be determined. For models 1 and 4 the relationship was positive. Thus, Hypothesis 1a cannot be confirmed either. However, Hypothesis 1d can be confirmed. For every $1,000 of social expenditure spent more per person there is a 3.9% increase in the likelihood that individuals perceive *insecure income* as a top risk. Similarly, there is a 5.4% increase in the likelihood that individuals perceive *wasting time and energy* as a top risk.

Social Groups: While examining the relationship between social expenditure and risk factors, we controlled for other potentially influential factors. Here, we could find some interesting relationships. We found some patterns that suggest belonging to distinct social and demographic groups makes one more or less prone to become an entrepreneur. Most notably are an individual's *income level*, their status as *student, retired* or *unemployed* and their *gender*. *Income level* decreased an individual's perception of the personal risk of *bankruptcy and* increased the relationship of the perceived risk of *personal failure.* In other words, wealthier individuals perceived bankruptcy to be less of a factor, and instead found personal failure a bigger factor.

Feasibility of Becoming Self Employed in the Next Five Years

Model 7, as shown in the Methodology chapter, takes *feasibility* as its dependent variable. Individuals answered the question: *"Regardless of whether or not you would like to become self-employed, would it be feasible for you to be self-employed within the next 5 years?"* Although it does not examine the perception of specific personal risks, this model allows us to get an overall understanding of an individual's personal context. We can see how an individual judges their current situation and thus how they consider their overall personal context.

Social Expenditure: Our theoretical Hypothesis '*H2: Higher social expenditure has a positive effect on the perceived feasibility of self-employment'* suggested that individuals in countries with high social expenditure would find self-employment more feasible. As social expenditure increases by $1000 per person, the likelihood that individuals find self-employment feasible within 5 years increases by 5.8%. This result is statistically significant and allows us to confirm our Hypothesis as shown above.

Social Groups: Similar to model 1-6, we controlled for other factors. Here, we found interesting relationships between an individual's membership of social groups and their perception of feasibility of self-employment. Most notably are one's *income level* and the *desirability of self-employment*. In both of these factors we can see a large increase in likelihood that a respondent will perceive becoming self-employed as feasible. Other indicators will be discussed in the specific model (Section 4.4).

Answer to the Research Question

Our research question asked: *"To what extent can welfare policies mitigate the perception of personal risk of potential entrepreneurs to encourage entrepreneurship?"* There is evidence to suggest that there is a relationship between social spending and personal risk perception; however, a clearly defined relationship cannot be determined. Through the concept of feasibility, we can see that individuals who live in states with higher social expenditure, find entrepreneurship more feasible. This suggests, that although the specific personal risks did not yield the desired insights, the overall level of personal risk is mitigated. As stated in our theoretical framework, we hypothesized that welfare states mitigate the individual's risk.

4.3 Perception of Personal Risk

Model 1: Effect of Social Expenditure on Perception on Personal Risk of Insecure Income

The dependent variable of model 1 measures an individual's perception of *insecure income* as one of two top risks when considering self-employment. To recall, this risk is affected by welfare policies, specifically unemployment benefits. Our Hypothesis was therefore that the perception of this risk would decrease with higher social expenditure. The overall model is statistically significant and well fitted (see note beneath table 4 for test statistics).

Social Expenditure

Our main independent variable of *social expenditure* is statistically significant at the $p > .01$ level[2]. This lets us reject the Null-Hypothesis (H0) of no relationship and accept the alternative Hypothesis that a relationship exists. We found that for every $1000 increase of *social expenditure* per person, individuals are 3.9% more likely to perceive *insecure income* as a top risk. Statistically, we can say that a relationship exists. However, as seen in Table 4.1, it is not the relationship we expected to see. Recalling that insecure income is a risk that should be mitigated by social policies (i.e. an increase in social expenditure), we expected to see a negative relationship. Hypothesis 1a stated, that "*As social expenditure increases, the personal risk of 'irregular/not guaranteed income' is perceived less."* This

[2] This is an indicator of a strong model, as level 2 variables must often be examined with lower confidence. The small sample size at the country level leads to larger standard errors, and thus higher p-values.

seems not to be the case. We will discuss potential explanations for this in the next chapter, the Discussion (Chapter 5).

Table 4.1: Regression Output Model 1

VARIABLES	(1) Empty Model	(2) Demographic	(3) Full Model
Income Insecurity			
Age		0.986***	0.987***
		(0.00102)	(0.00103)
Gender - Women		1.154***	1.158***
		(0.0278)	(0.0282)
Student		0.784***	0.786***
		(0.0467)	(0.0474)
Retiree		0.703***	0.704***
		(0.0272)	(0.0275)
Job Seeking		0.819***	0.832***
		(0.0441)	(0.0458)
Education Age		1.013***	1.012***
		(0.00166)	(0.00170)
Income Level			
Difficult to manage on current income			1.063
			(0.0537)
Get by on current income			1.082*
			(0.0493)
Live comfortably on current income			0.973
			(0.0481)
Entrepreneurship course			1.085***
			(0.0305)
Social Expenditure		**1.038*** **	**1.039*** **
		(0.0135)	**(0.0147)**
GDP			1.000
			(0.00292)
var(cons[Country])	1.057***	1.039***	1.041***
	(0.0162)	(0.0115)	(0.0118)
Constant	0.522***	0.634***	0.590***
	(0.0229)	(0.0689)	(0.0796)
Observations	33,055	32,634	32,117
Number of groups	31	31	31
ICC	1.66%	1.16%	1.194%
Waldchi2	-	751.48	747.86
hat	-	0.000	0.000
hatsq	-	0.740	0.802

seEform in parentheses: *** p<0.01, ** p<0.05, * p<0.1

The table shows the Odds Ratios from the multilevel logistic model (standard error in parentheses). Obtained using melogit in Stata 15. (1) shows the relationship before controls, (2) shows the standard demographic

factors, for (3) shown the addition of non-demographic controls and finally, the (4) is our complete finished model with second level controls. The WaldChi2 shows the improvement in the log likelihood (LL) and improves as we add our demographics, non-demographics and second level controls. The hat is significant and the hatsq is not significant allowing us to assume the right variables are present.

Demographic Factors

Factors that influence an individual's perception of *insecure income* as a top risk seem to be mainly demographic in nature. In Table 4 we can see that the most influential factor is one's current employment/life status. *Students* (-21.4%), *Retirees* (-29.6%) and *Unemployed people who are currently seeking a job* (-16.8%) seem to decrease the likelihood that a respondent perceives *insecure income* as a top risk. An explanation for this finding could be that very few students and/or job seeking individuals have very stable income to begin with. Additionally, once the retirement age is reached, many people have retirement plans that pay out a monthly sum regardless. Further, *Women* perceive *insecure income* as a top risk with a (15.4%) higher likelihood than men. This could be due to the still dominant image of women in today's societies around the world. Lastly, *higher educated individuals* are (12.7%) more likely to perceive this risk as a top fear. An explanation could be that individuals with more education might have higher paying jobs and therefore are used to a stable income that they are not willing to give up. We will discuss this finding in more detail in section 5.2 of the Discussion.

Model 2: Effect of Social Expenditure on Perception on Personal Risk of Job Security

Job insecurity is the dependent variable in model 2. To recall, *job insecurity* is not a risk that is affected by welfare policies, and therefore we expected that this risk would be perceived more by individuals who live in a country with high *social expenditure*. This model unfortunately did not yield any insights. Although our ICC is at nearly 4% and we have a significant hat and constant, the Wald statistic is quite low, and no variables were found that improved the model. Social expenditure and GDP are both insignificant, even with a generous 90% confidence interval. Therefore, we were unable to reject our H0 of no relationship. We did however find a significant variable in age, which has a very small effect - as individuals get older, they are 0,7% less likely to perceive Job Insecurity as a main fear. Similarly, we found that respondents who prefer to be employed because of the inherent job security are 2.9% more likely to choose this risk. Since both effects are so small and most test statistics indicate a bad model, we will disregard this model altogether. The regression outputs can be found in Appendix 1.2.

Model 3: Effect of Social Expenditure on Perception on Personal Risk of Homelessness

Model 3 looks at the effect of *social expenditure* on the perception of the personal risk of *homelessness*. As previously stated, this risk is not affected by welfare policies. Therefore, we expected the perception of this risk to be higher in welfare states. Unfortunately, however, we were not able to specify the model in a way for it to be meaningful. Social expenditure was not significant, and we could therefore not reject the H0 of no relationship between the dependent and independent variables. Similar to model 2, since the overall model does not seem to give any useful insights, we are not able to draw any meaningful conclusions from it. The regression output can be found in Appendix 1.3.

Model 4: Effect of Social Expenditure on Perception on Personal Risk of Wasting Time and Energy

This model is aimed at understanding the time constraints individuals perceive when starting a business. Model 4 looks at how much *social expenditure* affects the perception of *wasting time and energy* as a top risk. Our Hypothesis H1d states, that *'As social expenditure increases, the personal risk of 'needing to devote too much time and energy' is perceived more.'* Starting a business takes a lot of time and energy regardless of which country you are in and should not be affected by *social expenditure*. Therefore, this risk should be perceived more, as other risks are not felt as strongly. If an individual's basic needs are covered (financially) as they are in a welfare state, this risk might be perceived more. We found that our Hypothesis can be confirmed for this model. We will further look into whether specific social groups are more or less likely to perceive this risk.

Social Expenditure

Our main independent variable, *social expenditure* has a statistically significant effect on the perceived risk of wasting time and energy. We were able to reject the H0 and accept the alternative Hypothesis that a relationship exists. Further, since the relationship is positive, it follows our theoretical Hypothesis. For every $1000 increase in *social expenditure* per person, individuals are

(5.4%) more likely to perceive wasting time and energy as a top risk. However, considering that some of the other models were inconclusive, we were unable to see whether the confirmation of the Hypothesis translates to a more overarching trend or simply means that as social expenditure increases, so does one's valuation of time and energy as an important risk factor to consider.

Table 4.2: Regression output Model 4

VARIABLES	(1) Empty Model	(2) Demographic	(3) Non-Demographic	(4) Full Model
Wasting Time and Energy				
Age		0.989***	0.989***	0.990***
		(0.00157)	(0.00157)	(0.00127)
Gender - Women		0.921	0.921	0.985
		(0.0478)	(0.0477)	(0.0407)
Education Age		1.016***	1.016***	1.015***
		(0.00301)	(0.00301)	(0.00242)
Job Seeking		0.628***	0.626***	0.698***
		(0.0833)	(0.0831)	(0.0734)
Preference for employment due to fixed working hours		1.595***	1.596***	1.531***
		(0.116)	(0.117)	(0.0885)
Entrepreneurship not feasible, due to lack of capital		0.728***	0.727***	
		(0.0537)	(0.0536)	
Entrepreneurship course		1.282***	1.282***	1.248***
		(0.0773)	(0.0772)	(0.0576)
Income Level				
Difficult to manage on current income				1.430***
				(0.155)
Get by on current income				1.686***
				(0.167)
Live comfortably on current income				2.032***
				(0.208)
Social Expenditure		**1.060****	**1.071*****	**1.054****
		(0.0256)	**(0.0249)**	**(0.0266)**
GDP		1006		1005
		(0.00494)		(0.00518)
var(_cons[country])	1.192***	1.109***	1.114***	1.133***
	(0.0556)	(0.0358)	(0.0378)	(0.0401)
Constant	0.175***	0.119***	0.139***	0.0702***
	(0.0135)	(0.0273)	(0.0272)	(0.0171)
Observations	33,055	12,679	12,679	18,226
Number of groups	31	31	31	31

ICC	5.068%	3.046%	3.188%	3.651%
Waldchi2	-	162.96	160.99	279.73
hat	-	0.000	0.005	0.000
hatsq	-	0.176	0.540	0.003

seEform in parentheses: *** p<0.01, ** p<0.05, * p<0.1

The table shows the Odds Ratios from the multilevel logistic model (standard error in parentheses). Obtained using melogit in Stata 15. (1) shows the relationship before controls, (2) shows the standard demographic factors, for (3) shown the addition of non-demographic controls and finally, the (4) is our complete finished model with second level controls. The WaldChi2 shows the improvement in the log likelihood (LL) and improves as we add our demographics, non-demographics and second level controls. The hat is significant. However, as we add GDP, the hatsq becomes insignificant. Although one might consider removing GDP, we decided to keep it, as we found it necessary to control for it.

Personal Context

We found that respondents who *live comfortably on their current income* are 132% more likely to perceive the personal risk of *wasting time and energy* when compared to individuals who find it *very difficult to manage on their current income.* This suggests that people who are in a stable situation seem to worry more about their personal situation than their economic situation. Similarly, we see that individuals who *prefer to be employed because of the fixed working hours* are 53.1% more likely to perceive this risk. On the other hand, we also have individuals with less stable living conditions. Those who are unemployed (*Job seeking*) are 30.2.% less likely to perceive this risk. These individuals might have more pressing fears regarding their personal economic context that take precedence. Thus, it seems that personal context does in fact matter in the decision of becoming self-employed. To recall from our theoretical framework, a dimension of personal risk is time risk, which is defined as "the potential difficulty to meet other personal and professional responsibilities, given the time required in the process of starting a new business" (Martinez et al. 2017, p. 221). This in turn can be evaluated considering different social policies geared towards child care and engaging all members of society in the economic sphere. *Gender* was not a significant indicator, which is why we cannot draw conclusion on whether women were more or less likely to choose this risk.

Model 5: Effect of Social Expenditure on Perception on Personal Risk of Personal Failure

Model 5 shows the effect of *social expenditure* on the perception of *personal failure* as a main risk. It thus lets us understand the cultural and societal fears of individuals and stands in contrast to financial concerns. Similar to model 4, *personal failure* is not something that should not be remedied

by *social expenditure* and therefore, we expected an increase in this type of risk with higher levels of social expenditure. Our Hypothesis H1e states, '*As social expenditure increases, the personal risk of 'suffering a personal failure' is perceived more.'* We did not find a statistically significant relationship for *social expenditure* and could therefore not reject the H0 of no relationship. We can however describe other factors that do impact this fear.

Table 4.3: Regression output for Model 5

VARIABLES	(1) Empty Model	(2) Demographic	(3) Non-Demographic	(4) Full Model
Personal Failure				
Age		0.998*	1.000	0.997*
		(0.00105)	(0.00117)	(0.00153)
Women - Gender		0.949*	0.958	0.963
		(0.0301)	(0.0326)	(0.0329)
Education Age		0.998	0.997	0.997
		(0.00224)	(0.00241)	(0.00241)
Student		1.388***	1.346***	1.310***
		(0.103)	(0.103)	(0.101)
Retired		1.128**	1.148**	1.148**
		(.0574)	(0.063)	(0.0630)
Job Seeking		1.126*	1.084	1.096
		(0.0799)	(0.0783)	(0.0794)
Income Level				
Difficult to manage on current income		1.012	1.010	1.008
		(0.0671)	(0.0708)	(0.0707)
Get by on current income		1.071	1.066	1.065
		(0.0640)	(0.0678)	(0.0677)
Live comfortably on current income		1.176**	1.192**	1.191**
		(0.0759)	(0.0821)	(0.0821)
Desirability				
Not very desirable			1.132***	1.141***
			(0.0520)	(0.0525)
Fairly desirable			1.231***	1.238***
			(0.0580)	(0.0585)
Very desirable			1.378***	1.387***
			(0.0782)	(0.0788)
Social Expenditure		0.982	0.985	0.988
		(0.0260)	(0.0256)	(0.0275)
GDP				0.999
				(0.00576)

var(_cons[country])	1.201***	1.189***	1.179***	1.179***
	(0.0582)	(0.0546)	(0.0520)	(0.0521)
Constant	0.170***	0.203***	0.171***	0.187***
	(0.0134)	(0.0429)	(0.0365)	(0.0478)
Observations	33,055	32,329	28,246	28,246
Number of groups	31	31	31	31
ICC	5.273%	5.023%	4.772%	4.767%
Waldchi2	-	87.87	122.21	122.26
hat	-	0.000	0.000	0.009
hatsq	-	0.000	0.009	0.000

seEform in parentheses: *** p<0.01, ** p<0.05, * p<0.1

The table shows the Odds Ratios from the multilevel logistic model (standard error in parentheses). Obtained using melogit in Stata 15. (1) shows the relationship before controls, (2) shows the standard demographic factors, for (3) shown the addition of non-demographic controls and finally, the (4) is our complete finished model with second level controls. The WaldChi2 shows the improvement in the log likelihood (LL) and improves as we add our demographics, non-demographics and second level controls. The hat is significant, which means the model is correctly specified. However, the hatsq is also significant, which suggests some missing variables. Since we have tested for all theoretically relevant variables, we could not improve the model overall.

Income Level

Most notably, we found that individuals who *live comfortably*, perceive *personal failure* as a top risk with 19.1% more likelihood than those who *find it very difficult to manage on their current income*. One potential explanation is that wealthier people are used to succeeding, have fewer financial troubles and thus a more stable life to begin with. Another could be that in high social classes, failure is frowned upon more.

Student

Students are 31% more likely to perceive *personal failure* as a top risk. A reason could be that students may not yet have much experience and have not been able to prove their worth to themselves and others. A failure in the beginning of their career might be a negative experience that can be avoided.

Unemployed

The *unemployed* are 9.6% more likely to have this as a top fear. This is interesting as we would assume that the *unemployed* would be more concerned with financial stability than suffering a *personal failure*. One reason could be that many may blame their current unemployment on external

factors, while attempting to start a business and then failing might be perceived in a more personally negative way, than not having attempted at all.

Desirability of Self-Employment

When comparing groups of people on their *desirability of self-employment*, going from *not at all desirable* to *not very desirable*, the latter are 14.1% more likely to choose this as a top risk. Compared to those who answered *fairly desirable*, the likelihood rises to 23.8%. Lastly, those individuals who find self-employment *very desirable* are 38.7% more likely to perceive personal failure as a top risk compared to those who do not find it desirable at all. This is either an interesting finding, or an obvious one. On the one hand, one could argue that individuals who do not find self-employment desirable probably have not spent much thought on the issue of becoming self-employed and thus have not mentally considered *personal failure* an issue. On the other hand, it might give an indication as to how failure is talked about in schools (recall, students perceive this with 31% more likelihood) and workplaces. This finding shows that even though some individuals would be interested in becoming an entrepreneur, they might be held back by their peers' judgments.

Model 6: Effect of social expenditure on Perception on Personal Risk of Bankruptcy

Model 6 shows the effect of *social expenditure* on the perceived risk of *bankruptcy*. When starting a business, failure and thus potential bankruptcy is always a possibility. Although bankruptcy legislation varies between countries, most have regulations for private insolvency. Since bankruptcy is an economic risk as classified by Martinez et al. (2017), it is one that would be affected by *social expenditure*. Our Hypothesis H1f states, that '*As social expenditure increases, the personal risk of 'the possibility of going bankrupt' is perceived less.* Unfortunately, *social expenditure* was not a statistically significant indicator, which is why we were unable to reject the H0 of no relationship. However, we found that other factors have an impact on the perception of bankruptcy as a top risk.

Students & Retirees

Students are 27% more likely to perceive bankruptcy as a top risk. Similarly, *retirees* are 20.4% more likely to perceive *bankruptcy* as a top fear. The fear of bankruptcy seems to be more present if money

is limited. This is in line with other findings for this model, where people who do not have a lot of income, perceive the risk of bankruptcy more strongly, as it is a more present danger in their lives.

Table 4.4: Regression Output Model 6

VARIABLES	(1) Empty Model	(2) Demographic	(3) Non-Demographic	(4) Full Model
Bankruptcy				
Age		0.990***	0.988***	0.989***
		(0.00101)	(0.00116)	(0.00104)
Education Age		0.989***	0.990***	0.991***
		(0.00167)	(0.00184)	(0.00171)
Gender - Women		1.126***	1.076***	1.105***
		(0.0265)	(0.0279)	(0.0266)
Student		1.235***	1.218***	1.270***
		(0.0729)	(0.0757)	(0.0760)
Retiree		1.216***	1.145***	1.204***
		(0.0450)	(0.0465)	(0.0455)
Job Seeking		1.225***	1.218***	1.221***
Income Level		(0.0644)	(0.0665)	(0.0654)
Difficult to manage on current income		0.894**	0.914*	0.892**
		(0.0424)	(0.0470)	(0.0432)
Get by on current income		0.849***	0.862***	0.847***
		(0.0363)	(0.0401)	(0.0370)
Live comfortably on current income		0.755***	0.806***	0.765***
		(0.0353)	(0.0412)	(0.0365)
Entrepreneurship course			0.842***	0.837***
			(0.0258)	(0.0238)
Risk Aversion				
Somewhat risk averse			0.882***	0.880***
			(0.0315)	(0.0298)
Somewhat risk taking			0.852***	0.838***
			(0.0298)	(0.0275)
Risk taking			0.770***	0.751***
			(0.0288)	(0.0260)
Social Expenditure		**0.993**	**0.995**	**0.987**
		(0.0180)	**(0.0181)**	**(0.0188)**
GDP				1.005
				(0.00395)
var(_cons[country])	1.095***	1.084***	1.083***	1.079***
	(0.0266)	(0.0236)	(0.0237)	(0.0224)
Constant	0.659***	1.471***	1.980***	1.576***
	(0.0365)	(0.217)	(0.303)	(0.273)

Observations	33,055	32,329	27,367	31,25
Number of groups	31	31	31	31
ICC	2.689%	2.2392%	2.402%	2.272%
Waldchi2	-	447.3	540.73	542.53
hat	-	0.000	0.000	0.000
hatsq	-	0.086	0.283	0.429

seEform in parentheses: *** p<0.01, ** p<0.05, * p<0.1

The table shows the Odds Ratios from the multilevel logistic model (standard error in parentheses). Obtained using melogit in Stata 15. (1) shows the relationship before controls, (2) shows the standard demographic factors, for (3) shown the addition of non-demographic controls and finally, the (4) is our complete finished model with second level controls. The WaldChi2 shows the improvement in the log likelihood (LL) and improves as we add our demographics, non-demographics and second level controls. The hat is significant and the hatsq is not significant allowing us to assume the right variables are present.

Income Level

Generally speaking, the wealthier, the less likely that individuals will perceive *bankruptcy* as a top fear. Compared to individuals who *find it very difficult to manage on their current income*, the likelihood of perceiving this fear decreases by 10.8%, 15.3%, and 23.5%, respectively for each of higher income levels. This follows previous trends identified in some of the other models regarding financial stability and resources. Those better off do not necessarily have *bankruptcy* on their radar and thus do not consider it a risk in the future. On the other hand, for individuals who barely get by, *bankruptcy* could be a reality in the near future, even without taking risks.

Entrepreneurship Courses

Whether or not a respondent has taken an *entrepreneurship course* has a statistically significant effect in this model. Those that have taken one are 16.3% less likely to perceive *bankruptcy* as a top fear. Thus, as the level of education increases, people seem to be surer of their abilities, and knowledge of how to avoid *bankruptcy*.

One should not start a business if there is a risk it might fail

This question ranges from completely agree to completely disagree. As already stated, we are using this question as a gauge on the risk perception of the individual. Individuals who totally agree are classified as more risk averse since they would only move forward if there was no risk. Considering that entrepreneurship is always an uncertain undertaking, these individuals would theoretically be less likely to become entrepreneurs. Our model confirms this. *Somewhat risk averse* individuals are 12% less likely than *risk averse* individuals to perceive bankruptcy a top fear. Similarly, *somewhat risk taking,* and *risk-taking* individuals are 16.2% and 24.9% less likely to perceive bankruptcy as a

top risk, respectively. This question directly asks about the risk of failure, which many might connect with the risk of *bankruptcy*.

Overall in the model, even though we cannot reject the H0 for our independent variable of *social expenditure*, we are able to gain a bit more insight into what could drive fears of *bankruptcy*. We see that even though wealthier people have more to lose in the case of bankruptcy, it is not them who perceive this risk most strongly. Instead, it is people who may already be a lot closer to bankruptcy.

4.4 Feasibility of Self-Employment

Model 7: Effect of Social Expenditure on Feasibility of Self-Employment

So far, we have looked at the effect of *social expenditure* on the perception of personal risk. Model 7 will look at how *social expenditure* affects an individual's perception of the overall *feasibility of self-employment*. It is a proxy for risk assessment and perception, as individuals have to evaluate their personal context when answering this question. Our theory claims that as *social expenditure* goes up, personal risk goes down. Therefore, *feasibility* will increase. In other words, feasibility is positively correlated with social expenditure through the reduction in personal risk. Our theoretical Hypothesis (H2) states, that *"Higher social expenditure increases the perceived feasibility of self-employment."*

Social Expenditure

The effect of *social expenditure* is statistically significant, which is why we can reject the H0 and accept our alternative, theoretical Hypothesis. For every $1000 spent per person, individuals are 5.8% more likely to judge self-employment as a feasible undertaking within the next 5 years. Since the relationship is positive, we can confirm the above Hypothesis that social expenditure increases feasibility. Even though the effect is rather small, it aligns with our theory. Having the government spend more on its citizens' welfare creates an environment where people perceive less risk and therefore perceive self-employment as more feasible,

Table 4.5: Regression Output Model 7

VARIABLES	(1) Empty Model	(2) Demographic	(3) Non-Demographic	(4) Full Model
Feasibility of Self-Employment				
Age		0.966***	0.982***	0.982***

		(0.00119)	(0.00141)	(0.00141)
Gender - Women		0.668***	0.804***	0.804***
		(0.0186)	(0.0258)	(0.0258)
Education Age		1.020***	1.015***	1.015***
		(0.00196)	(0.00226)	(0.00226)
Income Level				
Difficult to manage on current income		1.158**	1.356***	1.356***
		(0.0694)	(0.0932)	(0.0932)
Get by on current income		1.283***	1.756***	1.755***
		(0.0691)	(0.109)	(0.109)
Live comfortably on current income		1.647***	2.493***	2.487***
		(0.0947)	(0.167)	(0.167)
Student		0.840***	0.727***	0.727***
		(0.0529)	(0.0518)	(0.0518)
Retired		0.584***	0.634***	0.634***
		(0.0280)	(0.0350)	(0.0350)
Desirability				
Not very desirable			3.794***	3.796***
			(0.169)	(0.169)
Fairly desirable			13.61***	13.61***
			(0.631)	(0.631)
Very desirable			18.55***	18.56***
			-1.039	-1.039
Entrepreneurship Course			1.596***	1.597***
			(0.0570)	(0.0570)
Risk Aversion				
Somewhat risk averse			1.045	1.045
			(0.0493)	(0.0492)
Somewhat risk taking			1.229***	1.228***
			(0.0550)	(0.0550)
Risk taking			1.577***	1.576***
			(0.0742)	(0.0742)
Social Expenditure		1.018	1.073**	1.058*
		(0.0242)	(0.0296)	(0.0306)
var(_cons[country])	1.117***	1.149***	1.207***	1.195***
	(0.0330)	(0.0426)	(0.0603)	(0.0566)
GDP				1.008
				(0.00600)
Constant	0.436***	1.458**	0.0650***	0.0540***
	(0.0267)	(0.275)	(0.0147)	(0.0142)
Observations	28,900	28,280	26,928	26,928
Number of groups	31	31	31	31
ICC	3.253%	4.063%	5.406%	5.1273%
Waldchi2	-	2631.73	5613.27	5614.56
hat	-	0.000	0.000	0.000
hatsq	-	0.000	0.000	0.000

seEform in parentheses: *** p<0.01, ** p<0.05, * p<0.1

The table shows the Odds Ratios from the multilevel logistic model (standard error in parentheses). Obtained using melogit in Stata 15. (1) shows the relationship before controls, (2) shows the standard demographic factors, for (3) shown the addition of non-demographic controls and finally, the (4) is our complete finished model with second level controls. The WaldChi2 shows the improvement in the log likelihood (LL) and improves as we add our demographics, non-demographics and second level controls. The hat remains insignificant and the hatsq id also insignificant leading us to believe that we are missing some controls.

Income level

We find that the percent chance of perceived feasibility goes up pretty dramatically as living standard increases in an individual country. Those who are *living comfortably on current income* are 148% more likely to find becoming self-employed feasible. That means that everything else being held equal, living standards can make someone almost 2.5 times more likely to think they could feasibly become self-employed. While it is not a surprising finding, it does allow us to discuss how much current level of wealth matters in people's perceptions of feasibility and therefore risk. We can see that this effect carries through all levels of income and actually gets stronger the wealthier the respondents are. It is possible to see the increasing effect that *income level* has as upon perception of feasibility as the respondents get wealthier. With *very difficult to manage* as the reference category, respondents who found it *difficult to manage on current Income*, find self-employment 35.6% more feasible. Similarly, those who *get by on current income* increase by 75.5%. As we can see there seems to be a pretty steep increase in percent chance of someone finding self-employment feasible as income level rises.

Student, Retiree & Gender

Students are 27.3% less likely to perceive self-employment as feasible. *Retirees* find self-employment 36.6% less feasible. And *women* are 19.6% less likely to perceive self-employment as feasible. There is a wealth of entrepreneurship literature we can draw on, which speaks to the challenges experienced by women in entrepreneurship. We will elaborate on this in section 5.3 of the Discussion.

Desirability of Self-Employment

This variable has an immense impact on the perceived *feasibility of becoming self-employed* within the next 5 years. There is a rather intuitive logic behind it: the more an individual wants to do something, the more feasible they will find it. Similarly, an individual who is not interested in becoming self-employed, will not invest resources and therefore, it will not seem feasible either. The

base group are those respondents who do *not find self-employment desirable at all*. Compared to these individuals, we see an increase of 279% to those who find it *not very desirable*. Further, comparing those who find it *fairly desirable* to the base group, we see an increase of 1,261%. Lastly, those who find it *very desirable* are 1,760% more likely to find self-employment feasible. These results clearly show that the desire to become an entrepreneur is a major factor in believing it to be feasible in the next five years. The simple desire to actually become self-employed, has an almost defining impact on whether or not they would consider it feasible. While this is not surprising, it should be noted that feasibility was asked with the express intent of not taking desirability into account. This is clearly showing some degree of response bias.

Entrepreneurship Courses

If you have taken an *entrepreneurship course,* you are 59.7% more likely to find entrepreneurship *feasible*. Studying entrepreneurship denotes interest in the subject matter, which might make some perceive self-employment as more feasible. Individuals who have studied the subject might be more confident in their ability to succeed and their ability to correctly assess the risks involved.

You should not start a business because there is a chance it might fail

To recall from previous models, this variable is used as an assessment of the individual's risk propensity. Those individuals who *totally agree* with the statement, believe one should only engage in entrepreneurial activity if success is almost guaranteed. Consequently, those who disagree believe that entrepreneurship can be pursued, even if risks are involved. It therefore makes sense, that individuals who are less risk averse are 57% more likely to find self-employment feasible.

4.5 Summary - Combination of findings across models

In the beginning of this chapter we presented our main findings. Thereafter we presented specific findings for each model and thus for each dependent variable. Here, we will provide an answer to our research question by expanding on the findings related to our two primary Hypotheses. Some of the more interesting trends that we see are related to an individual's income, their age and whether they are students. Another important factor is an individual's desirability to become self-employed. Wealthier individuals seem to have a more stable life, that allows them to have flexibility and take financial risks. They are however afraid of suffering a personal failure, which points to either social or egotistical concerns. The other pattern we saw was that students in general were not afraid of

insecure income but were less likely to find self-employment feasible. This is contrasted with age where perceived feasibility is likely to drop with age. There seems to be a contradiction here that could lead to some interesting prospects, that we will follow up with in the discussion. Lastly it seems that desire to be an entrepreneur overrides and changes risk perception drastically. We will discuss these aspects and potential psychological reasons behind, in the Discussion.

To recall once again, this thesis intended to test two hypotheses:

H1: Higher social expenditure mitigates the personal perception of those risks, that can be influenced by welfare policies.

H2: Higher social expenditure increases the perceived feasibility of self-employment

We can neither confirm nor reject our first Hypothesis. Since the data for the dependent variables tested in models 1 through 6 was collected through the same question, we considered the different kinds of personal risks in relation to each other. Since only two out of the six models showed a significant relationship, we cannot draw definitive findings from the overall perception of personal risk in countries with high social expenditure. On the face of it, we can summarize that social expenditure does have a positive effect on the perception of insecure income and wasting time and energy as top fears. Thus, the perception of these risks increases as social expenditure increases. On the one hand, we did expect this positive relationship for the personal risk of wasting time and energy, since this is not a risk that would be remedied by increased spending on social matters. On the other hand, we expected the perception of income insecurity to decrease as fears that were not mitigated by welfare increased. This did not prove to be the case. Since the perception of both of these risks increases with higher social expenditure, we can only say that out of these two risks, neither was mitigated by social expenditure. However, without knowing the relative relationships for the other types of personal risks, we cannot currently give a definitive answer to our first Hypothesis.

Considering our second Hypothesis, we suggested that with higher social expenditure the perceived feasibility of entrepreneurship would increase through the net reduction of perceived risk. We were able to reject the null hypothesis and accept the alternative hypothesis, that there is a relationship. To recall, the assessment of feasibility is conceptually linked to that of personal risk perception (as shown by Martinez et al. 2017). Since personal risks negatively impact the perceived feasibility of becoming self-employed, mitigating these risks should theoretically increase the feasibility. Our findings show that this is the case. Although we could not identify the specific risks that were mitigated, showing a significant effect of social expenditure on feasibility lets us assert a positive effect of mitigating personal risks. Therefore, in conclusion we will answer our research question:

"To what extent can welfare policies mitigate the perception of personal risk of potential entrepreneurs to encourage entrepreneurship?"

We cannot claim a specific extent to which welfare policies mitigate personal risks. However, we can say that the overall perception of personal risk is mitigated in countries with higher social expenditure given that feasibility is increased. Considering feasibility in turn is positively correlated with entrepreneurial intentions (in connection with desirability of entrepreneurship), we can further suggest that a mitigated perception of personal risks amongst individuals could encourage entrepreneurship. The effect of social expenditure on the perceived feasibility is rather small (5.8%). Therefore, it remains to be determined whether this effect is large enough to inspire policy suggestions, or whether it can be treated as a positive externality of welfare policies. If the latter is the case, then knowing that increased feasibility, and by extension, increased entrepreneurial potential, is a side effect of welfare policies and can certainly be useful in guiding resources toward the extension of this externality.

DISCUSSION

5.1 Introduction

In the previous chapter we presented the findings of the Analysis. Each of the models gave us different insights into how welfare policy might influence the perception of risk and feasibility of self-employment. This chapter, Discussion, will contextualize the findings and highlight specific aspects for further discussion via a hierarchical level perspective. (1) On the macro level, we will examine the different welfare regimes presented in the Literature Review in light of the findings. We will further consider whether inefficient spending on social policies might cloud the perception of personal risk. If benefits are not allocated or perceived on an individual basis, then their personal risk can hardly be considered or felt as mitigated. (2) On the meso level, we will discuss some of the social and demographic trends we have identified in the last chapter. Specifically, we will examine whether belonging to different social groups might increase an individual's perception of personal risk positively or negatively. (3) Lastly, on the micro level, we will highlight the decision-making process within individuals. Anthropological and psychological considerations of heuristics will be discussed that might explain how individuals arrive at their decisions and consequently, their perception of personal risk.

5.2 Macro: Welfare Regimes

5.2.1 Welfare regimes and their Efficiency

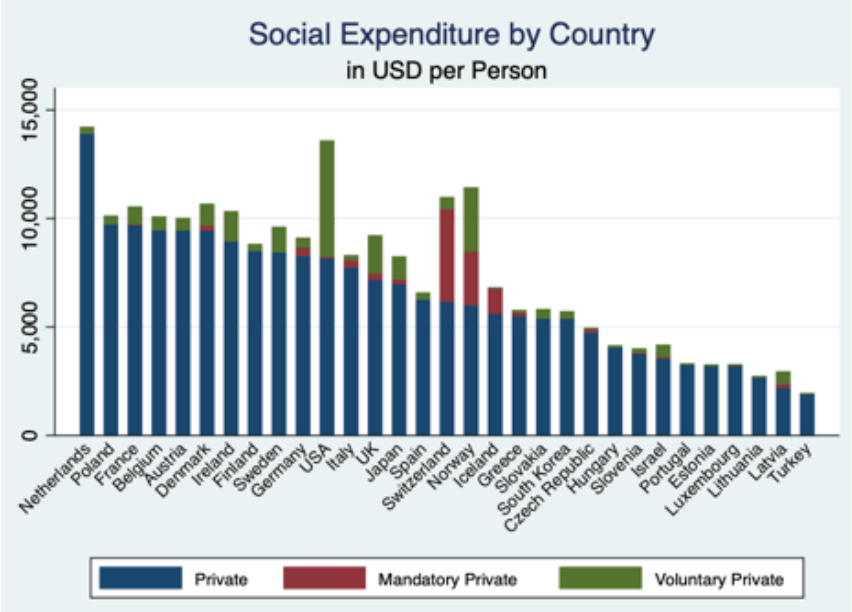
The independent variable in our statistical analysis is social expenditure. As mentioned previously, we use it as a proxy for social welfare policies. Something we have not accounted for is the efficiency of the welfare spending i.e. how much money spent on social programs actually reaches the individual and what aspects does it affect. In order for social expenditure to have an effect on the perception of personal risk, it needs to be noticed by individuals in the first place. There are several things to consider here, such as the bureaucratic difficulty in obtaining the benefits, eligibility criteria or the general knowledge amongst the population about the availability of specific benefits. All of these factors speak to the efficiency of social expenditure. However, social expenditure "offers important insights into the composition of the social budget and the public–private, social policy mix chosen by different countries" (Obinger & Wagschal, 2010, p. 334). It gives us an idea of 'what welfare states

do' and whether welfare states mitigate the perception of personal risks of entrepreneurs. Social expenditure is a good measure for understanding the welfare state and its influence holistically.

Whether the mitigation of the perception of personal risks by social expenditure holds with more stringent variables pertaining to the efficiency, remains to be determined. In order to fully understand the position of the individual entrepreneur within a welfare state, one has to examine the nuanced dimensions of each institutional setting. In a further research, we would thus consider the entrepreneur within their more specific institutional context. For now, we can use welfare regime theory to hypothesize about the efficiency of welfare spending and the effect on personal risk mitigation.

To recall from our theoretical framework, welfare states can be classified (more or less) as one of three ideal types: universal, corporatist or residual. Residual welfare states, such as the US, are intended to merely provide a safety net for the poor. "Need constitutes the basic criterion of eligibility and entitlements: support is targeted at the poor" (Goul Andersen, 2013, p. 114). Even though one might expect this model to have a large redistribution of benefits, it actually has the least redistributive effect. One could argue that the US, for example, has very few social policies in place that are geared towards equality. Instead, the social expenditure is primarily spent on a safety net for the poor. Evidently, however, this money is not well spent.

Figure 5.1: Social Expenditure by Country



One can see in Graph 5.1 that the US actually has one of the highest social expenditures in our sample. One can further see that Germany and the US have about roughly the same amount of public social expenditure. Yet, US citizens seem to have to supplement this by a large share of voluntary private expenditure. The distribution of the expenditure seems inefficient. Germany, a country that offers many more benefits, including health insurance[3],

[3] To recall, this thesis' country level data was taken from 2011. MedicAid and MediCare as introduced by President Obama did not take effect until after 2011 and thus cannot be considered.

affordable education and unemployment benefits, spends less money per person to achieve more than the US. This is an indicator for an inefficient distribution of resources and benefits. Further, comparing the GINI index for the US and Germany, one can see that the US has a much less equal society in terms of income and wealth, than does Germany. As both Goul Andersen (2013) and Arts and Gelissen (2010) separately show: "Institutional differences lead to a paradox of redistribution: The more benefits are targeted at the poor and the more the creation of equality through equal public transfers to all is a matter of priority, the less poverty and equality will be reduced. Thus, institutional arrangements characteristic of certain welfare regimes not only have unintended consequences, but even perverse effects" (p. 583). On the other hand, the universal welfare states, most often represented by Denmark, have a similar levels of public expenditure per person as Germany does. Denmark, however, offers many more benefits in comparison. These benefits include free education, free healthcare for all, unemployment benefits and pensions, none of which are dependent on social or employment status. Their distribution of resources seems to be more efficient, also indicated by Denmark's better ranking in the GINI index. This thesis has shown, that social expenditure has an effect on an individual's perception of personal risks, especially when considering entrepreneurship. However, we believe that it would be highly interesting to consider other factors of different welfare regimes in this analysis. As discussed, the institutional framework might not be ideal in distributing social expenditure to the desired ends. If social expenditure does not reach the individual, it might not have the desired effect on the perception of personal risk either.

5.2.2 Germany - the Incremental Innovator

We have so far in our thesis assumed that it is always beneficial for a country to want high levels of entrepreneurship. Our theoretical basis is grounded in the concept of creative destruction through innovation. Examining the contextual factors of the different welfare regimes further allows us to consider whether this assumption actually holds true for the different regimes. Germany, for example, may have comparatively strong welfare, but their welfare system is also founded on long-term employment. Leaving this long-term employment is penalized by the institutional welfare structures. One might then wonder, whether the German welfare system is primed for entrepreneurship.

Germany is most closely presented by the corporatist welfare regime. In this regime, "risk-sharing across classes was intended to be small" as it was "not aimed at equality, only at security" (Goul Andersen, 2013, p. 112). Established as a social insurance against hardships and old age, it is a system that is based on contributions and the principle of reciprocity. Another defining factor of this regime

is that contributions are shared by the employee, the employer and the state, hence the name 'Corporatist'. Considering that an individual's social insurance is partly financed by their employer, self-employment immediately becomes less desirable. Not only would one enter the uncertain landscape of entrepreneurship, on top of the corporate and personal risks, one has to consider that they will now have to pay their 'social insurance' themselves. As we will show in the section on the Individual (section 5.4), someone who has only had to pay a share of their insurance, might feel less enthusiastic about paying the full part, than someone who has never had insurance in the first place. This is a Status Quo bias.

Germany is also known for having large companies that produce high quality products and innovate internally to become better. Hypothetically then, if Germany is not good at entrepreneurship, but still shows steady economic growth, one might wonder whether Germany is just comparatively better at incremental innovation. Proof of this is not only the high quality that is found in German products, but also the steady growth and high export numbers German companies have experienced. Many attribute the high quality to the importance that is paid to vocational training. Apprenticeships and mastery of a craft or manual labor are respected and the social stigma that is attached in other countries is noticeably absent. Maybe instead, through a solid structure aimed at incremental innovation, a country can be entirely competitive. One might say, Germany could have a competitive advantage at incremental innovation and focus their policy efforts at increasing these. This discussion is of course entirely based on assumptions and remains to be tested. Additional possible avenues for research would be to build a study on entrepreneurship, innovation and welfare policies based on a theoretical framework of Varieties of Capitalism. This allows for a number of possibilities to branch out as there are a number of new types of welfare regimes developing outside of the west. Globalization progresses, and challenges arise for the welfare state and being competitive globally. We will elaborate on this idea with a specific example below.

5.3 Meso: Social Groups

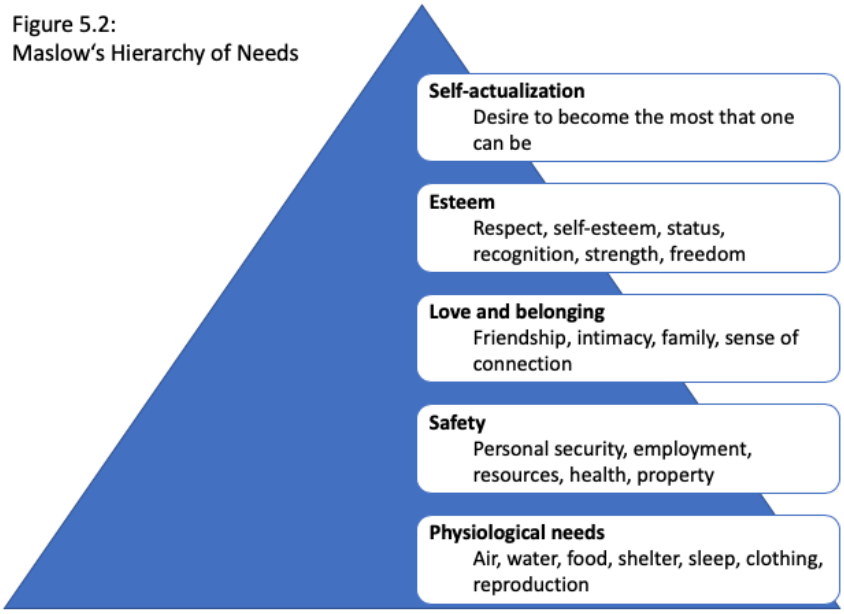
After having discussed macro level considerations of our findings, we will now turn to the meso level. Our main interest was the effect of social expenditure on the mitigation of the perception of personal risks. While investigating this relationship, we controlled for other factors pertaining to personal contextual factors as shown in the Methodology. In doing so, we found interesting and overarching associations for some of our control variables and their effects on the perception of personal risks.

Many of these variables suggested that the membership in different social groups affects an individual's perception of personal risk. We will discuss these below.

Income Level

As previously shown, we use the income level variable as a measure of an individual's wealth and socio-economic class. It showed us a self-assessment of income, distinguishing between those who are struggling and those who live comfortably. The former group, those finding it very difficult to manage on their current income, are those closer to the poverty threshold. The latter, those who live comfortably, are those in the middle to upper classes. We found that greater income increased the chances that a respondent would consider personal failure as a top risk. One might wonder, why wealthier people are not worried about losing their money or job security. An explanation might be found by looking at Maslow's hierarchy of needs. As shown in Figure 5.2, this hierarchy suggests that an individual first has to concern themselves with maintaining their sustenance for life, then securing their safety and shelter. After these physical needs are satisfied, one can begin to consider their psychological needs such as esteem or belonging to a social group. Considering that those individuals who have higher income usually have their physiological needs (food, water, shelter etc.) covered, they might be more concerned about personal failure; it becomes more 'top of mind'. Thus, social or esteem related risks can loom larger. We will elaborate on psychological needs in section 5.4.

Figure 5.2:
Maslow's Hierarchy of Needs



Unemployed/Job Seeking

This is of particular interest, as the unemployed/job seeking do not have a large opportunity cost to consider when becoming self-employed. However, they are also most likely to have had recent experience with welfare state policies. We can see that they seem not to perceive insecure income as a large fear. A reason might be that their current income is not very stable to begin with. When asked what their top fears would be when considering self-employment, the difference to the status quo might not be very large. It is interesting, however, to note that they are afraid of suffering personal

failure. While looking for a job does not necessarily mean that they are not wealthy, we do notice that both unemployed and well-off individuals are more likely to fear this risk.

Gender

Another distinct category we would like to consider is gender. While gender did not play as large of a role as we originally thought, there are some interesting insights to discuss. For one, women seem to be more concerned about financial stability and thus perceive the risks of insecure income and bankruptcy more. At the same time, women are also less likely to find self-employment a feasible undertaking. This could very well be related to the idea that women are still considered caretakers and thus rely more heavily on stability. They may also have faced increased challenges in the business world as there are still prejudices that women would have to overcome. There are a few things to consider, as women are more often than not taking more responsibility for childcare than men. While stay at home mothers may be shrinking as a group, this may provide an ample opportunity to both help increase entrepreneurship, as well as gender equality; programs targeted at mothers such as entrepreneurship courses which we have seen have a positive increase in perceived feasibility.

Generations

When considering different generations, we notice that comparatively, neither the very young nor the older generations find self-employment feasible. It seems to be the 'millennials' that find entrepreneurship most feasible. We can see two potential reasons: (1) this generation has had examples of Uber, Snapchat, Airbnb, Amazon and other prominent start-ups as an example. They saw the success that these start-ups generated and have been made to believe the same could be true for them. This relates back to our introduction: entrepreneurship inspires entrepreneurship. If it truly is a policy incentive to increase entrepreneurship, then having successful examples certainly seems to help. (2) This generation seems to find it more feasible compared to the generations that find it less so, as per the analysis of students and retirees. Further, the 'baby-boomers' of our parent's generation may find it less feasible than the millennials, as they already have most of the things they desire and are instead looking towards possible retirement, rather than starting up new businesses.

Student

Students are a social group who are generally younger, have less work experience, less fixed schedules and less income compared to other social groups. Interestingly, students were more likely to perceive the risks of personal failure and bankruptcy as their top fears. The reasons could be that students generally have less experience to draw on and therefore do not have much market success

or failure on which to base their judgments. Further to students, self-employment seems less feasible. It makes sense that as a group which does not have regular or secure income, and has relatively little experience, that it would seem less feasible to become self-employed. As students are in general less likely to find to find self-employment feasible, but they are in the right age range to find it feasible, we believe that targeting students with programs to help could be an opportunity of the state to intervene with policy that could more effective.

Ultimately, we have found that there are additional social structures in place that need to be taken into account in order to better understand perceived personal risk. While social expenditure is important for further research, social groups are also critically important in gaining further understanding.

5.4 Micro: Individual

This next section will discuss our findings from an individual centric point of view. In doing so we will discuss some of the psychological heuristics behind an individual's decision making. It is important to note that perception is an inherently subjective, and therefore biased, contextual process. Nevertheless, understanding subjectivity and heuristic decision making is important in understanding how social expenditure and the welfare state affect the risk perception of an individual. It further helps us propose explanations of our results. Given that our data was collected through a telephone survey, it suggests that respondents had to make judgments about their perceived risks instantaneously. This judgment is made by utilizing the information that is currently available. Due to the context and time constraints, individuals are not able to conduct a thorough analysis or long-form thinking, and instead, must rely on heuristics. Heuristics are also referred to as a person's 'gut feeling' (Thaler & Sunstein, 2009, p. 22). This feeling uses information that is readily available from the current context and existing thoughts of the topic at hand to arrive at an answer. It should be noted that unlike many other questions that are also personally subjective, entrepreneurship is an important personal decision that would not be taken lightly. We are left to analyze how people make decisions using their context and what mechanisms are at play. Understanding these mechanisms allows us to consider them in our models so that we can gain more insights into our results.

In model 6, for example, we look into an individual's perception of bankruptcy as a top fear. One of our main findings for bankruptcy as a top risk was that wealthier people were less worried about

bankruptcy as a possible outcome of entrepreneurship. This was a puzzling finding, as we would expect those who have more money might also be more worried about losing it. Nevertheless, if we apply the availability heuristic to this finding, we are able to understand this result. The availability heuristic describes a mental shortcut, in which individuals use examples or previous experiences to apply them to a new situation. In relying on previous knowledge, individuals are better able to make fast decisions. In the case of bankruptcy being perceived less strongly by wealthier people, those who are living comfortably have less exposure or experience with bankruptcy. Thus, bankruptcy is not an available instance against which to evaluate the current decision to be made. Contrarily, those who are poorer might have had bankruptcy as a present possibility. Further, they are also probably more likely to know people who have gone bankrupt (Fischer, 2017). Thus, their perception of the risk becomes more available and more present. The risk is perceived more strongly.

Another instance in which psychological theory helps us in explaining our findings is the perceived risk of suffering a personal failure. We assumed, that as social expenditure goes up there would be more equality amongst individuals and thus poverty would be reduced. This is one of the main tenets of social welfare policies - to reduce poverty and create equality. This suggests that fewer people would have to be worried about satisfying their basic needs; i.e. those represented in the bottom of Maslow's hierarchy. In a welfare state, more people would be sorted at the top of the pyramid and would thus be more concerned with the belonging and esteem phases. In these phases, social relations and successes are relatively more important than financial losses. Another heuristic that could be applied in this case is the status quo bias. This bias, as the name suggests, is applied by people who value their current status. If these individuals are satisfied with their life, there is no reason to change it. Further, as financial considerations are not a concern at the moment, these wealthier individuals might consider the loss of status or personal development as their biggest fear. In the same vein, the status quo bias might be a reason for why individuals perceive the risk of insecure income as greater when social expenditure increases. Considering that welfare states strive to reduce poverty and inequality, we often see a relatively stable middle class in welfare states. These individuals might apply the status quo bias when evaluating their biggest fear. Although the institutional context might provide a safety net, should the entrepreneurial venture fail, the loss of social class would be potentially greater. Similarly, giving up a stable income for insecure income would be sacrificing a good status quo, for uncertainty.

One could argue that there is a plethora of reasons for why these findings are the way they are. However, this thesis was a first step in connecting the structural approach to the individual approach on entrepreneurship. As such, we conducted a quantitative analysis into the risk perceptions of individuals, to see whether further research would be warranted. Since we have shown that social expenditure does have an effect on some personal risks, but also increases the perception of feasibility, we believe further research is definitely warranted. In order to incorporate heuristic aspects, one might consider a large-scale qualitative study.

CONCLUSION

This thesis addresses the gap in the literature pertaining to a lack of overarching research on entrepreneurship from a combined individual and structural perspective. Within this space, specifically, we saw that very little research had been conducted on the effect government policies have on the individual in regard to entrepreneurship. Thus, we wondered whether countries could encourage entrepreneurship through public policies that create a framework which supports the needs of the individual directly. The most immediate way governments could address individuals was by mitigating their risks. As big bureaucracies are not specialized in picking specific winners over losers, we hypothesized that governments should instead target the individual's personal context and provide a security net. This could mitigate some of the personal risks of the individual when considering entrepreneurship. To this regard, we formulated the research question:

"To what extent can welfare policies mitigate the perception of personal risk of potential entrepreneurs to encourage entrepreneurship?"

Measuring a subjective concept such as the perception of personal risk is difficult, which is why we chose to include a further measure that would attest to the overall feasibility of entrepreneurship. The concepts of personal risk and feasibility of entrepreneurship are closely related as shown in the literature review. After having surveyed the literature, we realized that two overarching streams of entrepreneurship literature existed: an individual-centric approach and a structure focused approach. Acs et al. (2013) were the first to create a framework that combined the two approaches. However, even within their work, we noticed the absence of both personal considerations of risk and structural aspects of welfare policies. Thus, in order to answer this research question, we conducted a thorough and extensive quantitative analysis of individual and country-level data, collected from EU and OECD sources. Since welfare policy is a very multifaceted and intricate concept that affects individuals at various levels, we chose to use social expenditure as a proxy.

In the ensuing data analysis, we found statistically significant results that allow us to conclude an answer to our research question. Unfortunately, we were unable to definitively confirm our primary Hypothesis, which stated that social expenditure mitigates the perception of personal risk of the individual. Due to the measurement of our data, the different personal risks were compared in relation

to each other. Thus, we hypothesized that as one personal risk is perceived more, another would be perceived less. We can see a small increase in perception of the two risks (model 1 and 4), that had a statistically significant relationship with social expenditure as the latter increases. This shows us that as countries increase their social expenditure, the perception of insecure income and wasting time and energy as top fears becomes stronger. In other words, individuals who live in countries that spend more money on social welfare programs, perceive their income and time/energy to be of greater importance when considering entrepreneurship. However, since the six variables were to be examined in relation to one another, and four out of the six models had insignificant relationships, we cannot definitively correlate the overall mitigation of specific personal risks in their relation to welfare policies, as asked in the research question.

However, feasibility is also theoretically closely intertwined with perceptions of personal risk. One would not judge self-employment as feasible if the personal risks were too severe. Our second hypothesis, stating that as social expenditure increases, so would the feasibility of self-employment, can be confirmed. Feasibility of self-employment indirectly measures the perceived risks of self-employment. Since the feasibility of self-employment increased with additional social expenditure, we can confidently say that welfare policies do seem to play a role in mitigating the perception of personal risks when considering entrepreneurship. In other words, we can say that in those countries where more emphasis is put on social policies (by spending more money), individuals are more likely to find self-employment feasible.

After having presented our results, we discussed further considerations of these findings. Firstly, we reviewed some of our assumptions. Is social expenditure spent efficiently enough to affect perceptions of personal risks? We discussed, that in order to answer this question, further research is necessary. Similarly, we reviewed the assumption that entrepreneurship must always be a policy incentive. Our analysis showed some evidence that a relationship between social expenditure and the perception of personal risk exists. We further found that other factors also have an effect on the perception of personal risks by individuals. It seems that social groups are just as, if not more, influential to personal perception of risk as social expenditure. We found one's social class to be a large determining factor of one's risk perception, along with one's gender. In order to get a better understanding of our dependent variables of personal risk perception, we considered different heuristics. In order to understand the effect welfare spending has on an individual's consideration of risk, one has to understand the way in which individuals make decisions. Some of these findings and discussion topics sparked our suggestion for further research.

Our paper has provided a start in investigating the relationship between the welfare state, risk perception, and entrepreneurship. We will also discuss how we could reiterate and expand upon our initial research and findings. We have previously indicated that one of our limitations was the fact that we could not effectively distinguish the efficiency of different policies. If we or others were to take up this research, we would suggest considering a more nuanced measure of welfare policies. Further, if we were to continue our research and had the resources, we would conduct our own survey. This would help to get a clearer concept of personal risk perception, along with other questions that could help us to better understand the heuristics at play. This would be followed up with qualitative interviews with entrepreneurs, employees, and policymakers. Thereafter, we would follow up with case studies on each country, where the different welfare regimes would be considered in combination with specific policies and the legislative framework. This could be expanded in a time series analysis, in which we would measure the effect of introducing new policies on the perception of personal risk. Another avenue for research might consider the first topic of discussion. In a globalized world of economics, it would be interesting to see whether the concept of comparative advantage could be applied to entrepreneurship. And while entrepreneurship certainly causes growth, so does incremental innovation.

Of course, we realize, that all of the above would require require significant resources. One might consider splitting these suggestions into distinct research proposals in order to venture further into this unknown field of empirical research. In doing so, the gap in the literature omitting the individual context and structural social policies might be filled.

Lastly, relating our findings back to the quote at the beginning of this thesis - “Good thing if you live in a country that offers free health care!” Victor seems to have been right. It is a good thing to live in a country that offers free health care, as it allows individuals who are interested in entrepreneurship to worry about one less thing.

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Appendix

Appendix 1: Full Regression Outputs

1.1 Model 1: Income Insecurity

VARIABLES	(1) Empty Model	(2) Demographic	(3) Full Model
Income Insecurity			
Age		0.986***	0.987***
		(0.00102)	(0.00103)
Gender - Women		1.154***	1.158***
		(0.0278)	(0.0282)
Student		0.784***	0.786***
		(0.0467)	(0.0474)
Retiree		0.703***	0.704***
		(0.0272)	(0.0275)
Job Seeking		0.819***	0.832***
		(0.0441)	(0.0458)
Education Age		1.013***	1.012***
		(0.00166)	(0.00170)
Income Level			
Difficult to manage on current income			1.063
			(0.0537)
Get by on current income			1.082*
			(0.0493)
Live comfortably on current income			0.973
			(0.0481)
Entrepreneurship course			1.085***
			(0.0305)
Social Expenditure		**1.038*** **	**1.039*** **
		(0.0135)	**(0.0147)**
GDP			1.000
			(0.00292)
var(cons[Country])	1.057***	1.039***	1.041***
	(0.0162)	(0.0115)	(0.0118)
Constant	0.522***	0.634***	0.590***
	(0.0229)	(0.0689)	(0.0796)
Observations	33,055	32,634	32,117
Number of groups	31	31	31
ICC	1.66%	1.16%	1.194%
Waldchi2	-	751.48	747.86
hat	-	0.000	0.000
hatsq	-	0.740	0.802

seEform in parentheses: *** p<0.01, ** p<0.05, * p<0.1

The table shows the Odds Ratios from the multilevel logistic model (standard error in parentheses). Obtained using melogit in Stata 15. (1) shows the relationship before controls, (2) shows the standard demographic factors, for (3) shown the addition of non-demographic controls and finally, the (4) is our complete finished model with second level controls. The WaldChi2 shows the improvement in the log likelihood (LL) and improves as we add our demographics, non-demographics and second level controls. The hat is significant and the hatsq is not significant allowing us to assume the right variables are present.

1.2 Model 2: Job Insecurity

VARIABLES	(1) Empty Model	(2) Control
Lack of Job Security		
Age		0.994***
		(0.00115)
Employment preference Job Security		1.290***
		(0.0547)
Social Expenditure		1.013
		(0.0252)
GDP		1.007
		(0.00510)
var(_cons[Country])	1.153***	1.132***
	(0.0447)	(0.0416)
Constant	0.198***	0.190***
	(0.0138)	(0.0414)
Observations	33,055	18,679
Number of groups	31	31
ICC	4.154%	3.6.32%
Waldchi2	-	68.64
hat	-	0.000
hatsq	-	0.008

seEform in parentheses: *** p<0.01, ** p<0.05, * p<0.1

1.3 Model 3: Homelessness

VARIABLES	(1) Empty Model	(2) Demographic	(3) Non-Demographic	(4) Full Model
Homelessness				
Age		0.998**	0.999	0.999
		(0.000759)	(0.000826)	(0.000827)
Gender - Women		1.121***	1.117***	1.117***
		(0.0268)	(0.0284)	(0.0284)
Student		0.817***	0.817***	0.817***
		(0.0441)	(0.0460)	(0.0460)
Income Level				
Difficult to manage on current income		1.056	1.059	1.059
		(0.0357)	(0.0540)	(0.0540)
Get by on current income			1.007	1.006
			(0.0462)	(0.0462)
Live comfortably on current income		0.921***	0.944	0.944
		(0.0270)	(0.0472)	(0.0472)
It is difficult to start one's own business due to a lack of available financial support				
Tend to agree			0.951	0.951*
			(0.0288)	(0.0288)
Tend to disagree			0.864***	0.864***
			(0.0382)	(0.0382)
Totally disagree			0.785***	0.785***
			(0.0478)	(0.0478)
It is difficult to start one's own business due to the complex administrative procedures				
Tend to agree			1.004	1.004
			(0.0312)	(0.0312)

Tend to disagree			0.925**	0.925**
			(0.0363)	(0.0363)
Totally disagree			0.830***	0.830***
			(0.0412)	(0.0412)
Risk Aversion				
Somewhat risk averse			1.005	1.005
			(0.0369)	(0.0369)
Somewhat risk taking			1.013	1.013
			(0.0361)	(0.0361)
Risk taking			0.924**	0.924**
			(0.0344)	(0.0344)
Social Expenditure		**0.991**	**0.995**	**0.994**
		(0.0194)	**(0.0191)**	**(0.0205)**
var(_cons[Country])	1.101***	1.098***	1.094***	1.094***
	(0.0280)	(0.0275)	(0.0265)	(0.0264)
GDP				1.001
				(0.00427)
Constant	0.535***	0.595***	0.614***	0.600***
	(0.0304)	(0.0883)	(0.0937)	(0.110)
Observations	33,055	32,74	28,842	28,842
Number of groups	31	31	31	31
ICC	2.829%	2.773%	2.665%	2.661%
Waldchi2	-	54.35	125.52	125.57
hat	-	0.048	0.02	0.022
hatsq	-	0.245	0.641	0.676
seEform in parentheses: *** p<0.01, ** p<0.05, * p<0.1				

1.4. Model 4: Wasting Time and Energy

VARIABLES	(1) Empty Model	(2) Control	(3) Control	(4) Full Model
Wasting Time and Energy				
Age		0.989***	0.989***	0.990***
		(0.00157)	(0.00157)	(0.00127)
Gender - Women		0.921	0.921	0.985
		(0.0478)	(0.0477)	(0.0407)
Education Age		1.016***	1.016***	1.015***
		(0.00301)	(0.00301)	(0.00242)
Job Seeking		0.628***	0.626***	0.698***
		(0.0833)	(0.0831)	(0.0734)
Preference for employment due to fixed working hours		1.595***	1.596***	1.531***
		(0.116)	(0.117)	(0.0885)
Entrepreneurship not feasible, due to lack of capital		0.728***	0.727***	
		(0.0537)	(0.0536)	
Entrepreneurship course		1.282***	1.282***	1.248***
		(0.0773)	(0.0772)	(0.0576)
Income Level				
Difficult to manage on current income				1.430***
				(0.155)
Get by on current income				1.686***
				(0.167)
Live comfortably on current income				2.032***
				(0.208)
Social Expenditure		**1.060****	**1.071*****	**1.054****
		(0.0256)	**(0.0249)**	**(0.0266)**
GDP		1006		1005
		(0.00494)		(0.00518)
var(_cons[country])	1.192***	1.109***	1.114***	1.133***
	(0.0556)	(0.0358)	(0.0378)	(0.0401)
Constant	0.175***	0.119***	0.139***	0.0702***
	(0.0135)	(0.0273)	(0.0272)	(0.0171)
Observations	33,055	12,679	12,679	18,226
Number of groups	31	31	31	31
ICC	5.068%	3.046%	3.188%	3.651%
Waldchi2	-	162.96	160.99	279.73
hat	-	0.000	0.005	0.000
hatsq	-	0.176	0.540	0.003
seEform in parentheses: *** p<0.01, ** p<0.05, * p<0.1				

1.5 Model 5: Personal Failure

VARIABLES	(1) Empty Model	(2) Demographic	(3) Non-Demographic	(4) Full Model
Personal Failure				
Age		0.998*	1.000	0.997*
		(0.00105)	(0.00117)	(0.00153)
Women - Gender		0.949*	0.958	0.963
		(0.0301)	(0.0326)	(0.0329)
Education Age		0.998	0.997	0.997
		(0.00224)	(0.00241)	(0.00241)
Student		1.388***	1.346***	1.310***
		(0.103)	(0.103)	(0.101)
Retired		1.128**	1.148**	1.148**
		(.0574)	(0.063)	(0.0630)
Job Seeking		1.126*	1.084	1.096
		(0.0799)	(0.0783)	(0.0794)
Income Level				
Difficult to manage on current income		1.012	1.010	1.008
		(0.0671)	(0.0708)	(0.0707)
Get by on current income		1.071	1.066	1.065
		(0.0640)	(0.0678)	(0.0677)
Live comfortably on current income		1.176**	1.192**	1.191**
		(0.0759)	(0.0821)	(0.0821)
Desirability				
Not very desirable			1.132***	1.141***
			(0.0520)	(0.0525)
Fairly desirable			1.231***	1.238***
			(0.0580)	(0.0585)
Very desirable			1.378***	1.387***
			(0.0782)	(0.0788)
Social Expenditure		0.982	0.985	0.988
		(0.0260)	(0.0256)	(0.0275)
GDP				0.999
				(0.00576)
var(_cons[country])	1.201***	1.189***	1.179***	1.179***
	(0.0582)	(0.0546)	(0.0520)	(0.0521)
Constant	0.170***	0.203***	0.171***	0.187***
	(0.0134)	(0.0429)	(0.0365)	(0.0478)
Observations	33,055	32,329	28,246	28,246
Number of groups	31	31	31	31
ICC	5.273%	5.023%	4.772%	4.767%
Waldchi2	-	87.87	122.21	122.26

hat	-	0.000	0.000	0.009
hatsq	-	0.000	0.009	0.000

seEform in parentheses: *** p<0.01, ** p<0.05, * p<0.1
The table shows the Odds Ratios from the multilevel logistic model (standard error in parentheses). Obtained using melogit in Stata 15. (1) shows the relationship before controls, (2) shows the standard demographic factors, for (3) shown the addition of non-demographic controls and finally, the (4) is our complete finished model with second level controls. The WaldChi2 shows the improvement in the log likelihood (LL) and improves as we add our demographics, non-demographics and second level controls. The hat is significant, which means the model is correctly specified. However, the hatsq is also significant, which suggests some missing variables. Since we have tested for all theoretically relevant variables, we could not improve the model overall.

1.6 Model 6: Bankruptcy

VARIABLES	(1) Empty Model	(2) Demographic	(3) Non-Demographic	(4) Full Model
Bankruptcy				
Age		0.990***	0.988***	0.989***
		(0.00101)	(0.00116)	(0.00104)
Education Age		0.989***	0.990***	0.991***
		(0.00167)	(0.00184)	(0.00171)
Gender - Women		1.126***	1.076***	1.105***
		(0.0265)	(0.0279)	(0.0266)
Student		1.235***	1.218***	1.270***
		(0.0729)	(0.0757)	(0.0760)
Retiree		1.216***	1.145***	1.204***
		(0.0450)	(0.0465)	(0.0455)
Job Seeking		1.225***	1.218***	1.221***
		(0.0644)	(0.0665)	(0.0654)
Income Level				
Difficult to manage on current income		0.894**	0.914*	0.892**
		(0.0424)	(0.0470)	(0.0432)
Get by on current income		0.849***	0.862***	0.847***
		(0.0363)	(0.0401)	(0.0370)
Live comfortably on current income		0.755***	0.806***	0.765***
		(0.0353)	(0.0412)	(0.0365)
Entrepreneurship course			0.842***	0.837***
			(0.0258)	(0.0238)
Risk Aversion				
Somewhat risk averse			0.882***	0.880***
			(0.0315)	(0.0298)
Somewhat risk taking			0.852***	0.838***
			(0.0298)	(0.0275)
Risk taking			0.770***	0.751***
			(0.0288)	(0.0260)
Social Expenditure		**0.993**	**0.995**	**0.987**
		(0.0180)	**(0.0181)**	**(0.0188)**
				1.005

GDP				(0.00395)
var(_cons[country])	1.095*** (0.0266)	1.084*** (0.0236)	1.083*** (0.0237)	1.079*** (0.0224)
Constant	0.659*** (0.0365)	1.471*** (0.217)	1.980*** (0.303)	1.576*** (0.273)
Observations	33,055	32,329	27,367	31,25
Number of groups	31	31	31	31
ICC	2.689%	2.2392%	2.402%	2.272%
Waldchi2	-	447.3	540.73	542.53
hat	-	0.000	0.000	0.000
hatsq	-	0.086	0.283	0.429

seEform in parentheses: *** p<0.01, ** p<0.05, * p<0.1

The table shows the Odds Ratios from the multilevel logistic model (standard error in parentheses). Obtained using melogit in Stata 15. (1) shows the relationship before controls, (2) shows the standard demographic factors, for (3) shown the addition of non-demographic controls and finally, the (4) is our complete finished model with second level controls. The WaldChi2 shows the improvement in the log likelihood (LL) and improves as we add our demographics, non-demographics and second level controls. The hat is significant and the hatsq is not significant allowing us to assume the right variables are present.

1.7 Model 7: Feasibility of Self Employment

VARIABLES	(1) Empty Model	(2) Demographic	(3) Non-Demographic	(4) Full Model
Feasibility of Self-Employment				
Age		0.966*** (0.00119)	0.982*** (0.00141)	0.982*** (0.00141)
Gender - Women		0.668*** (0.0186)	0.804*** (0.0258)	0.804*** (0.0258)
Education Age		1.020*** (0.00196)	1.015*** (0.00226)	1.015*** (0.00226)
Income Level				
Difficult to manage on current income		1.158** (0.0694)	1.356*** (0.0932)	1.356*** (0.0932)
Get by on current income		1.283*** (0.0691)	1.756*** (0.109)	1.755*** (0.109)
Live comfortably on current income		1.647*** (0.0947)	2.493*** (0.167)	2.487*** (0.167)
Student		0.840*** (0.0529)	0.727*** (0.0518)	0.727*** (0.0518)
Retired		0.584*** (0.0280)	0.634*** (0.0350)	0.634*** (0.0350)
Desirability				

Not very desirable			3.794***	3.796***
			(0.169)	(0.169)
Fairly desirable			13.61***	13.61***
			(0.631)	(0.631)
Very desirable			18.55***	18.56***
			-1.039	-1.039
Entrepreneurship Course			1.596***	1.597***
			(0.0570)	(0.0570)
Risk Aversion				
Somewhat risk averse			1.045	1.045
			(0.0493)	(0.0492)
Somewhat risk taking			1.229***	1.228***
			(0.0550)	(0.0550)
Risk taking			1.577***	1.576***
			(0.0742)	(0.0742)
Social Expenditure		1.018	1.073**	1.058*
		(0.0242)	(0.0296)	(0.0306)
var(_cons[country])	1.117***	1.149***	1.207***	1.195***
	(0.0330)	(0.0426)	(0.0603)	(0.0566)
GDP				1.008
				(0.00600)
Constant	0.436***	1.458**	0.0650***	0.0540***
	(0.0267)	(0.275)	(0.0147)	(0.0142)
Observations	28,900	28,280	26,928	26,928
Number of groups	31	31	31	31
ICC	3.253%	4.063%	5.406%	5.1273%
Waldchi2	-	2631.73	5613.27	5614.56
hat	-	0.000	0.000	0.000
hatsq	-	0.000	0.000	0.000

seEform in parentheses: *** p<0.01, ** p<0.05, * p<0.1
The table shows the Odds Ratios from the multilevel logistic model (standard error in parentheses). Obtained using melogit in Stata 15. (1) shows the relationship before controls, (2) shows the standard demographic factors, for (3) shown the addition of non-demographic controls and finally, the (4) is our complete finished model with second level controls. The WaldChi2 shows the improvement in the log likelihood (LL) and improves as we add our demographics, non-demographics and second level controls. The hat remains insignificant and the hatsq id also insignificant leading us to believe that we are missing some controls.

Appendix 2: Graph

1. Social Expenditure by Country - sorted by total social expenditure