# EXPLORING THE ANTECEDENTS OF ENTREPRENEURIAL INTENTIONS

## AN EXAMINATION OF GLOBAL ENTREPRENEURSHIP MONITOR DATA

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# DECLARATION OF ORIGINALITY

I, Daniel Georg Schulz, certify that

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ABSTRACT

Exploring the Antecedents of Entrepreneurial Intentions

An Examination of Global Entrepreneurship Monitor Data

The calls for new and innovative firms are growing louder, claiming entrepreneurs create jobs and boost the economy at the same time. This study examines the effects of unemployment and perceived opportunities and capabilities on entrepreneurial intentions. Previously, most research in this field focused on entrepreneurial activity instead and yielded contradicting outcome. The aim is to make use of the more direct relationship that can be drawn by employing entrepreneurial intentions instead of actual activity. Specifically, this study focuses on the relationship between unemployment and entrepreneurial intentions. Data from the Global Entrepreneurship Monitor and the World Bank for 92 countries and for the years between 2003 and 2018 are analyzed by conducting a multiple linear regression. The findings of this study show that unemployment rates are positively related to entrepreneurial intentions and so are increasing levels of perceived opportunities and capabilities. This study offers a new perspective on the discussion of the relationship between unemployment and entrepreneurship. The results indicate that the drivers of entrepreneurial intentions are numerous and yield relevant insights for policy-makers to support them in their efforts to promote entrepreneurship and spur economic development.

# ÖZET

## Girişimcilik Niyetine Yönelik Öncüllerin Keşfi

## Küresel Girişimcilik İzleme Verilerinin İncelenmesi

Yeni ve yenilikçi firmalara olan istek, girişimcilerin iş yarattıkları ve ekonomiyi bir çırpıda destekledikleri ileri sürülerek daha da artmaktadır. Bu çalışma, işsizliğin ve algılanan fırsatların ve yeteneklerin girişimcilik niyetleri üzerindeki etkilerini incelemektedir; oysa bu alandaki çoğu araştırma girişimci aktiviteyi bağımlı değişken olarak kullanmış ve çelişkili sonuçlar ortaya çıkarmıştır. Amaç, fiili faaliyet yerine niyetlerin kullanılmasıyla çizilebilecek daha doğrudan bir ilişkiyi kullanmak Özellikle bu çalışma işsizlik ve girişimcilik niyeti arasındaki ilişkiye odaklanmaktadır. Global Girişimcilik Monitöründen ve Dünya Bankası'ndan 92 ülke ve 2003 ile 2018 arasındaki yıllar için çoklu doğrusal regresyon verileri kullanılarak analiz yapılmıştır. Bu çalışmanın bulguları, işsizlik oranlarının girişimcilik niyetleriyle pozitif ilişkili olduğunu ve dolayısıyla algılanan fırsat ve yetenek seviyelerinin arttığını göstermektedir. Sonuçlar, girişimcilik niyetlerinin itici güçlerinin çeşitli olduğunu göstermekte ve politika yapıcıların girişimciliği teşvik etme ve ekonomik kalkınmayı oluşturma çabalarında kendilerine destek olmak üzere gerekli içgörüleri sunmaktadır.

*To Benjamin, Birgit, Joachim, Leonie and Stefanie*

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# CHAPTER 1

# INTRODUCTION

Entrepreneurship is considered to be the engine of economic growth. The calls for new and innovative ventures are growing louder in many countries claiming entrepreneurs create jobs and boost the economy at the same time (Fueglistaller, Müller, Müller, & Volery, 2015). The aftereffects of the economic crises in the last decade brought about relatively low economic growth rates combined with high levels of unemployment in a number of developed countries. This has led to a new way of thinking among scholars and policymakers as well who increasingly rely on firm creation rather than adhering to multinational corporations as a means to achieve economic development and generate jobs (Acs, 2015; Carree & Thurik, 2010; Mühlböck, Warmuth, Holienka, & Kittel, 2018). Research shows that entrepreneurship can indeed contribute to reducing unemployment (Thurik, Carree, van Stel, & Audretsch, 2008). Yet interestingly, there are considerable fluctuations observable in actual entrepreneurial activity throughout economies and countries (Acs, 2015). Naturally, entrepreneurial activity varies in the same fashion as economy growth levels and national output do. Nevertheless, it is vital for policymakers to understand why entrepreneurial activity varies between countries and to attempt to reveal the determining factors of entrepreneurial success. Research initiatives such as the Global Entrepreneurship Monitor (GEM) seek to gather information, to understand the circumstances that hinder or spur individuals' decisions to become entrepreneurs, and to offer interpretative approaches to principles of entrepreneurship. Policymakers should be provided with relevant

guidelines to actively support entrepreneurs and dismantle existing barriers to business creation and thus create win-win situations in their respective country (Thurik et al., 2008).

As mentioned above, there is evidence indicating that entrepreneurship can help mitigate unemployment under certain circumstances. Examining studies in this strand of literature however yields contradicting outcomes. On the one side an unemployment push, for instance as a response to economic decline with job losses and only few vacancies, leads to more entrepreneurship as people attempt to escape from unemployment. On the other side people are discouraged by an economic downswing, expecting less profitability and opt against self-employment (Thompson, 2011). The actual effects of the relationship between unemployment and entrepreneurship remain unclear (Mühlböck et al., 2018). In this context, Fairlie (2013) claims that the push effect prevails, and more firms are created in consequence of economic turmoil. Yet an alternative view suggests that entrepreneurship, by creating jobs in subsequent periods, reduces unemployment and thereby reverses the causal link between the two respective variables (Thurik et al., 2008). All things considered, the relationship of unemployment and entrepreneurship is inconclusive as empirical evidence shows positive and negative results at both macro and micro levels (Carrasco, 2003; Cowling & Mitchell, 1997; Meager, 1992; Mühlböck et al., 2018; Thurik et al., 2008).

What most studies in this field have in common is that they examine the relationship of unemployment and entrepreneurial activity. With entrepreneurial intentions there is another variable on-hand that has in fact been studied thoroughly over the course of entrepreneurship research, however potential benefits of employing entrepreneurial intentions instead of actual entrepreneurship activity,

when investigating the relationship with unemployment, have been comprehensively neglected. Intentions are psychological antecedents of an action. They show a more direct image of how people would act if they could (Ajzen, 1991; Bird, 1988). Entrepreneurial intentions can play a vital role since they act as a mediator between the actual act of starting a business and possible external factors that prevent individuals from starting a business (Krueger, Reilly, & Carsrud, 2000). By this means, a vast number of exogenous influences can be neglected, and focus can be laid on the underlying relationship of the variables to be tested. Certainly, in the end, entrepreneurial intentions alone will neither create a single job nor boost the economy if they do not translate into actual entrepreneurial activity. Yet the aim of researching this topic is to enhance the understanding of the entrepreneurial phenomenon and its underlying relationships. With the help of intentions, a more immediate picture of how people feel about starting a business can be drawn, since many people might not have the required resources or (perceived) skills to start a firm or do not see sufficient opportunities around them. There are countless other reasons that prevent individuals from starting a firm.

Information about intentions are valuable in particular when behavior is rare or difficult to observe, which can be the case in entrepreneurship research when actual entrepreneurial activity is low (Ajzen, 1991). Entrepreneurial intentions represent the tendency to engage in entrepreneurial activity. Furthermore, examining entrepreneurial intentions provides a means to do research beyond descriptive studies of demographic and economic factors alone and adds decisions of individuals, which should be subject to research as well (Bird, 1988). Besides, at the end of the day, entrepreneurship is about people.

Therefore, this study aims to explore the antecedents of entrepreneurial intentions and whether unemployment has a significant effect on entrepreneurial intentions. In this context it further examines whether perceived opportunities or perceived capabilities significantly have an impact on entrepreneurial intentions. It attempts to thereby advance the somewhat gridlocked ongoing discussion on the relationship of unemployment and entrepreneurship by providing an alternative perspective. Thus, this study seeks to understand whether entrepreneurship is a new trend because it is cool or rather because it is an effect of macroeconomic and individual conditions.

The study's results yield the following benefits. First, it adds to the research on factors that spur entrepreneurship. Second, the study's findings present relevant information to support policymakers with the decision on whether and how to promote entrepreneurship if seeking to boost the economy and mitigate unemployment. Third, it encourages other researchers to investigate entrepreneurial intentions instead of entrepreneurial activity, since both variables exhibit considerable differences, and this study can thereby serve as a starting point for further research.

An economic-psychological model of determinants of entrepreneurial intentions is proposed and its parameters empirically estimated. The model is adapted from Mühlböck, Warmuth, Holienka, & Kittel (2018) who introduced their model to predict intentions as well. Intention models, as the one employed in this paper, serve as a coherent and generalizable framework in order to yield resilient predictions, because by understanding intentions one can at the same time approximate the underlying behavior (Krueger et al., 2000).

The rest of this study proceeds as follows. Firstly, an overview of previous literature in the field of entrepreneurship in general as well as its interaction with unemployment is introduced. Secondly, the research design and method are depicted, including the conceptual model of this study, the research questions and the constructed hypotheses. Thirdly, the findings of this research are presented and related to the hypotheses as well as to previous research in this field. The document is concluded with a discussion on findings, implications for possible stakeholders and recommendations for future research.

# CHAPTER 2

# LITERATURE REVIEW

In this chapter, fundamental concepts, theories and terms from the world of entrepreneurship are presented and milestone studies in this area discussed. In order to lay the basis and provide detailed information for the research that is done in the following chapters, focus is laid on the question of how entrepreneurial intentions translate into entrepreneurial activity. Furthermore, previous findings on the relationship of unemployment and entrepreneurship are described and possible moderating factors of this relationship are examined.

## 2.1 Entrepreneurship

Entrepreneurship is one of the prominent buzzwords of our time, but what exactly is the story behind the term? To begin with, entrepreneurship can be defined as a process that aims at identifying, evaluating and making use of opportunities. In doing so, the aspect of innovation is highlighted inherently and at the same time a central concept of entrepreneurship (GEM, 2017). Becoming an entrepreneur, the key players in the world of entrepreneurship, is no sudden event but rather an evolution that starts with at least some extent of entrepreneurial intent (Krueger et al., 2000). Moreover, it is commonly agreed that entrepreneurs are made, not born (Drucker, 1985; Krueger & Brazeal, 1994). The prevailing way of thinking among entrepreneurs is marked by the emphasis of opportunities over threads (Krueger et al., 2000). Nevertheless, and contrary to what one might infer from that, empirical

evidence shows that entrepreneurs are rather risk-averse compared to non-entrepreneurs (Brockhaus, 1980; Hongwei & Ruef, 2004).

One of the early attempts to identify a stereotypical entrepreneur dates back to 1912 when Schumpeter named entrepreneurs the prime cause of economic development and defined them as individuals who establish new economic structures by bringing about innovation and technological change. The author describes entrepreneurs to have control over the economy to the extent that they challenge less innovative companies by introducing new inventions and therefore make current technologies obsolete. Eventually, former incumbent firms are driven out of the market. This process is called creative destruction and is one of the main characteristic of Schumpeter's theory of economic development (Schumpeter, 1912). Facilitating entrepreneurship is a primary objective in market economies because of its considerable benefits as assessed by Baumol (1968).

Today, the importance of entrepreneurship within the scope of economic development of countries is generally recognized to be no less than essential. For instance, the Organisation for Economic Co-operation and Development (OECD) views entrepreneurship as a core element of economic performance (GEM, 2017). Therefore, the significance of entrepreneurship should not be underestimated, especially when considering that firm-creation is a long-term driver of endogenous growth. In other words, if governments fail to or do not intend to rely on external stimuli of economic growth, fostering conditions for business domestically is the best way to boost the economy in the long run (Romer, 1994).

Policymakers can choose from several tools to promote entrepreneurial activity, for instance establishing an entrepreneurial culture in which a society enhances the exhibition of attributes and behaviors that are related to entrepreneurs

(Brownson, 2013). Alternatively, they may direct their attention to unemployment, perceived opportunities and perceived capabilities as potential influencing factors of entrepreneurial intentions, which are the variables closely examined in the following.

## 2.2 Entrepreneurial intentions

In psychology research, the principle of intentions and its effects on behavior has been investigated thoroughly in order to shed light on the antecedents of goal-directed action (Aarts & Dijksterhuis, 2000; Ajzen & Madden, 1986; Gollwitzer & Brandstätter, 1997). This section is prefaced by illustrations of the concept of entrepreneurial intentions, followed by developing the influence of entrepreneurial intentions on entrepreneurial activity. More importantly, the question is addressed whether or not – and to what extent – intentions actually translate into activity.

As mentioned in the previous chapter entrepreneurship is a way of thinking that emphasizes opportunities. Since identifying these opportunities is an intentional process, entrepreneurial intentions is rightly in the center of academic research (Krueger et al., 2000). Numerous scholars recognize the importance of this idea in the context of entrepreneurship, carry out studies and collect findings in order to shed light on antecedents of entrepreneurial activity. Key literature and authors in this scientific field are introduced and discussed in the following in order to provide an academic overview of entrepreneurial intent and reveal its function as potential driver of entrepreneurial activity.

Bird (1988) sees intentions as psychological antecedents of an action. Regarding the entrepreneurial phenomenon, she states that entrepreneurial intentions

lay the foundation of a firm's structure and direction from the beginning by directing "attention, experience, and action toward a business concept" (Bird, 1988). Organizational success, development and growth are all results of these conscious intentions. Entrepreneurial intentions can aim at creating a new business as well as creating new values inside established businesses. Within this process both rational and intuitive thinking affects entrepreneurial intentions. The author detects a strong link between entrepreneurial ideas and organizational outcome, whereas earlier academic attention was much rather placed on entrepreneurial traits or environmental contexts as prevailing factors for organizational success. Nevertheless, Bird (1988) clarifies that entrepreneurs do not only develop the very idea to start a firm but also appreciate external factors such as the social, political and economic context. Likewise, she finds that along with aspects of the environmental context of the firm, personal traits do play a role in starting a venture as well. To that effect, the author classifies entrepreneurial intentions as a connection between the entrepreneur and the surroundings of the business. This view further develops theories on entrepreneurship with the focus on entrepreneurial ideas and their outcomes instead of previously intensely studied entrepreneurial traits and contexts. Thus, entrepreneurship research advances beyond descriptive reports toward a more comprehensive approach. To the same effect, her work provides support for the distinction of the entrepreneurial phenomenon from strategic management (Bird, 1988). In a similar manner, the present document employs entrepreneurial intentions instead of actual activity as the means of measuring entrepreneurial efforts.

Can entrepreneurial intent, however, be regarded as equal to entrepreneurial activity? No, there is a different notion to the two. It is crucial for this study to reveal

the relationship of entrepreneurial intentions and entrepreneurial activity and, in particular, to address the question to what extent entrepreneurial intentions translate into actual activity.

First, an overall perspective of the situation based on current reports on the scope of entrepreneurship is provided. Figure 1 illustrates that in 2018 the number of people currently starting or running a new business is generally lower in most geographic regions than the number of people having intention to start a new firm in the near future, except for Japan and a few countries in Europe and North America. The latter region exhibits generally the lowest rates of early-stage entrepreneurial activity as well as entrepreneurial intentions. Since intention and activity rates do not differ excessively, another theory from a different perspective argues that a large fraction of the people intending to start a business actually go through with it. Taken as a whole, the regions of the Middle East and Africa demonstrate the highest imbalance in the variables in consideration. Gaps between the two indicators can reach high disparities as found in Morocco and Egypt where for every person engaging in a new venture, six others show entrepreneurial intentions (GEM, 2018).

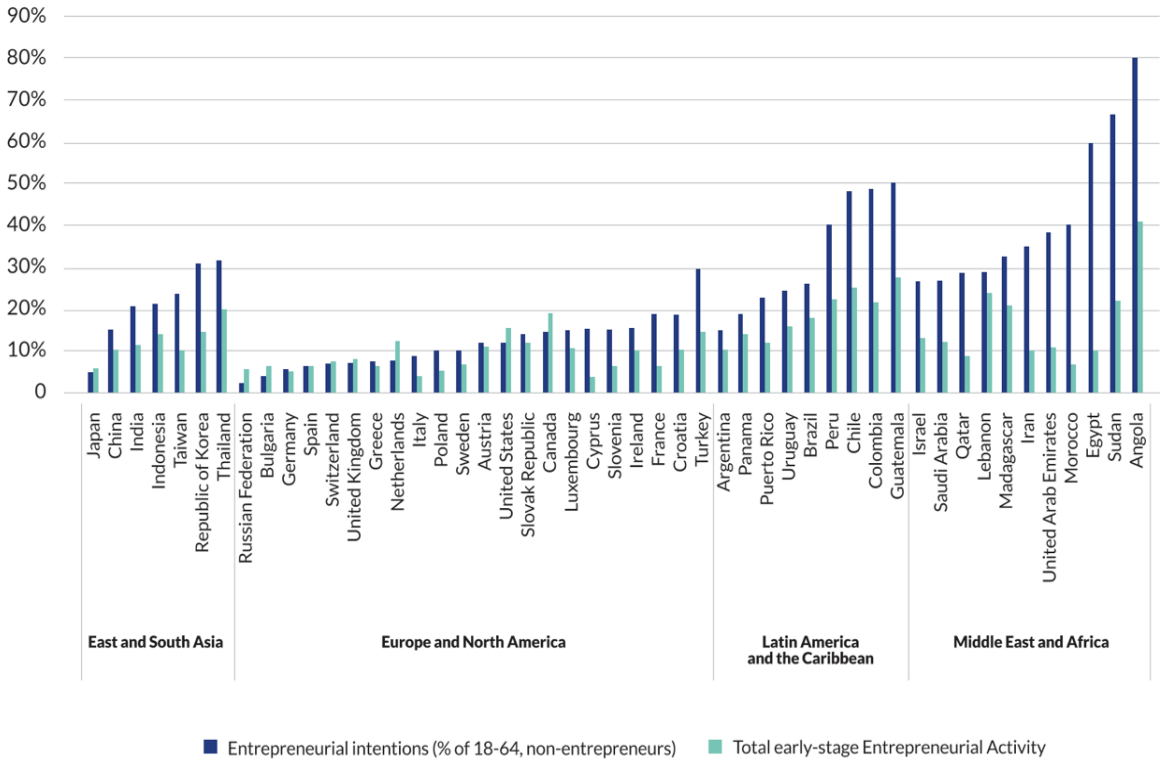


Figure 1 Entrepreneurial intentions and total entrepreneurial activity rates in 48 economies (GEM, 2018)

As pointed out in the previous section, intentions and activity can vary considerably in some circumstances. From a research perspective, what are the prevalent theories and findings on the interaction of the two constructs? Research on entrepreneurship recognizes entrepreneurial intentions as a useful determinant for entrepreneurial activity. Instead of examining factors that spur or hinder entrepreneurship or identifying personality traits of people that are more likely to become entrepreneurs, this area of research focuses on the decisions of individuals and seeks to answer questions by a behavioral approach. Within that strand of literature, Ajzen (1991) developed the theory of planned behavior, originating from the theory of reasoned action by Fishbein and Ajzen (1975). His objective is to help better predict and comprehend behavior with a clear focus on specific contexts rather

than using general dispositions as predictors for behavior, as was rather in the center of investigations before. Intentions are one of the decisive factors that influence behavior or more specifically they represent motivational factors that affect behavior. Motivational factors in turn describe the degree of commitment of a persons' willingness to try. Ajzen (1985) emphasizes that intentions only influence behavior if the person is able to decide freely whether or not to exercise the behavior. In agreement with Ajzen (1991), Conner and Armitage (1998) view intentions as the level of effort someone invests in pursuit of a behavior and state that, if intentions to carry out a behavior are relatively high, the probability of the performance's achievement is high as well. According to Ajzen (1991), activity or behavior can be predicted by joining the two constructs behavioral intentions and behavioral control. Influencing aspects of behavioral control can be the presence of sufficient resources and skills of entrepreneurs. Behavioral control, together with intentions, is the second direct predictor of behavior. Opportunities and resources represent this control and, as believed by Ajzen (1991), must be available in order to perform the intended behavior. He identifies for instance time, money, skills and cooperation with others as aspects of behavioral control. The principle of behavioral control is extended for situations when there is less volitional control over the behavior, meaning when individuals have less control over their will. In these situations, the introduction of perceived behavioral control substitutes the former concept and highlights that the own belief in being able to carry out a performance or self-efficacy is a strong influencer of behavior. The author forecasts that the relative importance of behavioral intentions and behavioral control depends on the respective behavior and that their importance varies depending on the field of application. In some situations, it may fluctuate up to a point when the impact of one

of the two predictors is completely neglectable and behavior as the outcome can fully be attributed to the other predictor. In other words, related to the concept of intentions, behavior can be fully determined from intentions alone with a high degree of accuracy, if control is not an issue for a given behavior (Sheppard, Hartwick, Warshaw, & Hartwick, 1988).

As claimed by Mühlböck, Warmuth, Holienka and Kittel (2018) one of the most powerful models to explain entrepreneurial activity is the entrepreneurial potential model by Krueger & Brazeal (1994), depicted in Figure 2. This model in turn originates from the theory of planned behavior by Ajzen (1991). It states that a necessary prerequisite for developing entrepreneurial intentions is the presence of perceived feasibility, meaning a certain level of perceived opportunity and perceived capabilities.

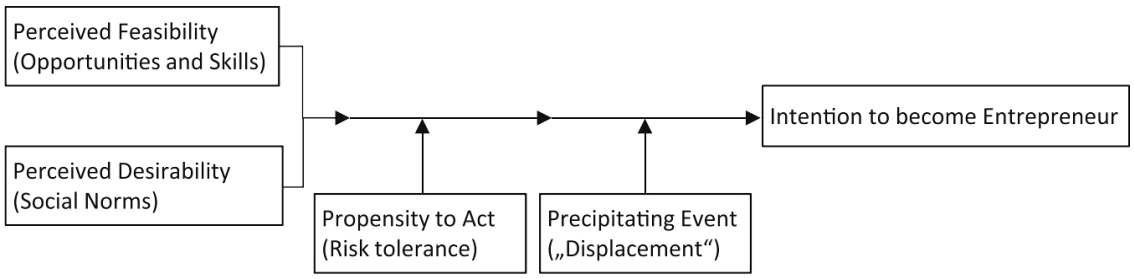


Figure 2 The simplified Krueger-Brazeal model of entrepreneurial potential (Mühlböck et al., 2018, p. 979)

Mühlböck et al. created a model of their own by adapting the Krueger-Brazeal model in a way that is shown in Figure 3. This model functions as the basis for the model used in the present study.

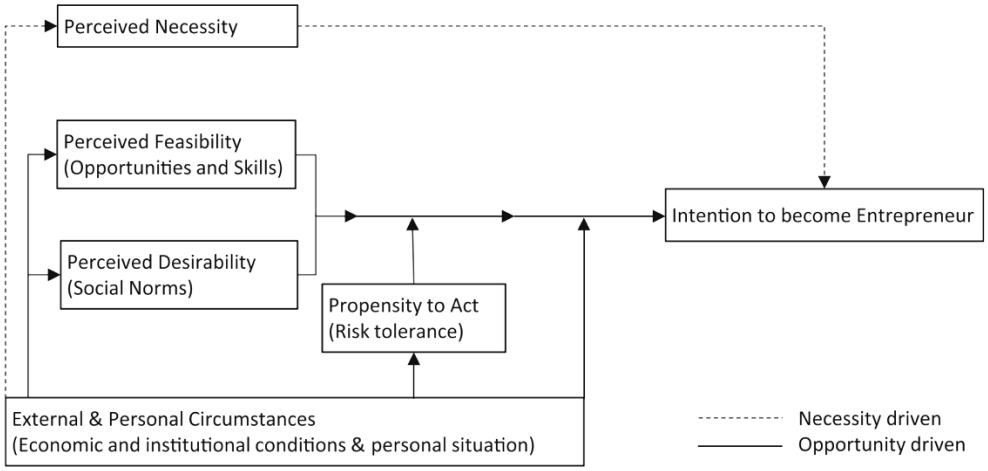


Figure 3 The model of Mühlböck et al. (2018)

The authors aim at expanding the original model by adding external circumstances into the process in order to place their model on a firmer foundation and not limit their focus on individual-level factors, but reflect macro level economic and institutional conditions as well. This aspect is incorporated in the model of this study too.

How is Ajzen's work and model evaluated by other researchers in the same field? Kruger et al. (2000) appreciate the significance of intentions as a predictor of behavior in line with Bagozzi, Baumgartner and Yi (1989) and rate intentions as the "single best predictor of any planned behavior". Because certain attitudes in turn predict intentions, they can be seen as a means to better understanding the behavior itself (Krueger et al., 2000). Engle et al. (2010) argue that the model of planned behavior is not only a significant predictor of behavior but is also widely deployable for a vast number of applications. In accordance with Krueger et al. (2000) the authors favor Ajzen's theory of planned behavior over personality or situational variables in terms of predicting behavior. It is widely recognized that intention models are best suitable for application scenarios with planned behavior, and

therefore especially qualify for entrepreneurship (Bird, 1988; Engle et al., 2010; Krueger et al., 2000).

The validity of Ajzen's theory of planned behavior and its successful prediction of entrepreneurial intent is also confirmed in more recent work (Moriano, Gorgievski, Laguna, Stephan, & Zarafshani, 2012; Shook & Bratianu, 2010; Sommer & Haug, 2011; Van Gelderen et al., 2008) To take it a step further, Engle et al. approve the significance in each of the studied countries. By now, a number of studies in various fields inside the scope of entrepreneurship (Autio, H. Keeley, Klofsten, G. C. Parker, & Hay, 2001; Kolvereid, 1996; Krueger et al., 2000) and outside have applied Ajzen's model of planned behavior and all of them confirm the significance and accuracy, such as the studies about smoking behavior (Babrow, Black, & Tiffany, 1990), ethical behavior (Flannery & May, 2000), risk-oriented behavior (Quinlan, Jaccard, & Blanton, 2006) and internet activity (Hsu & Chiu, 2004).

As stated above, it is widely accepted that intentions play a prominent role in entrepreneurship research. Applying the findings and opinions presented in this section to the field of entrepreneurship therefore means that entrepreneurial intentions with a certain level of behavioral control have a direct impact on entrepreneurial activity. If in a given situation the availability of control is nonrelevant for a behavior, entrepreneurial activity can be directly and entirely predicted by entrepreneurial intentions, for instance if an entrepreneurial activity requires no or only little resources or skills to carry out.

## 2.3 Unemployment and entrepreneurship

Why exactly should policymakers aim at fostering entrepreneurship? First, increasing rates of entrepreneurship help unemployed residents on an individual level to find a job by being self-employed as an entrepreneur or being employed by firms that emerged from entrepreneurs starting a business in previous years. Second, on the macro level entrepreneurship also spurs economic growth in subsequent periods (Mühlböck et al., 2018; Thurik et al., 2008).

Another area of literature concentrates on the investigation of the relationship of entrepreneurship and unemployment. Early findings date back to 1912 when Knight, stated that individuals decide between three states: unemployment, self-employment and employment and thereby implying a positive correlation between self-employment and unemployment. Oxenfeldt (1943) extended this proposition by claiming that self-employment is a viable alternative to unemployment or low income. In the opinion of Thurik, Caree, van Stel and Audretsch (2008), doing research on this matter is crucial in order to understand the relationship of unemployment and self-employment and in this way provide guidance for policymakers in their efforts to reduce unemployment.

The positive relation between entrepreneurship and unemployment is also known as unemployment push or refugee effect, because the decision of becoming self-employed can be seen as a viable alternative to (imminent) joblessness or low income (Grilo & Irigoyen, 2006; Grilo & Thurik, 2005; Parker, 2004). People mainly feel pushed by unemployment toward self-employment, because the opportunity cost of starting a firm diminishes, for instance without having the alternative of a well-paid job available (Blanchflower & Meyer, 1994; Blau, 1987; Evans, 1989; Evans & Leighton, 1990). There is however an alternative view on the

relationship of unemployment and entrepreneurship, the so called entrepreneurial effect. Thurik et al. (2008) conclude that high levels of self-employment lead to a reduction in unemployment rates, especially in subsequent periods, as entrepreneurs create jobs. Compared to the above-mentioned unemployment push, which detects a positive relation between unemployment and entrepreneurship, the entrepreneurial effect describes a negative relationship while both views are characterized by reversed causal links.

When considering the factors that determine entrepreneurship on a macro level the unemployment rate is deemed as key principle, alongside the general economic development of a country (Carrasco, 2003). Yet, the relationship between unemployment and entrepreneurship is still unresolved as findings on this matter are inconsistent (Carrasco, 2003; Cowling & Mitchell, 1997; Meager, 1992; Mühlböck et al., 2018; Thurik et al., 2008).

## 2.4 Perceived opportunities and perceived capabilities

Self-perceptions such as perceived opportunities and perceived capabilities can be classified as attributes concerning the individual in the grand scheme of how entrepreneurial activity contributes to economic development throughout the world. Aside from individual attributes, the social, cultural, political and economic context determine entrepreneurial activity as well as societal values about entrepreneurship (GEM, 2018). In order to illustrate how decisive the concept of perception versus reality is, Davidsson (1991) gives the example in what way motivation affects the outcome. He acknowledges that motivation is determined by the perceived reality, no matter the actual reality. Ultimately, the actual reality still has impact on the

outcome through external factors, however it does not influence decision making itself, since an individual can only take her or his own perceptions of the reality as basis for decision making (Davidsson, 1991). Arenius and Minniti (2005) suggest that what they call perceptual variables, such as subjective perceptions about one's own skills, alertness to opportunities and fear of failure, are correlated to the decision of becoming an entrepreneur. The two terms perceived opportunities and perceived capabilities, are introduced in the following, due to their interfering role in the entrepreneurial phenomenon and because they serve as independent variables of the analysis in this study.

### 2.4.1 Perceived opportunities

How exactly is the idea of perceived opportunities connected to entrepreneurship? Opportunities for entrepreneurship are a requirement for business creation. Equally important however is an entrepreneurs' perception that opportunities for starting a firm are present. If an individual does not detect an opportunity it basically does not exist for this person even though it might exist for others in the same environment. Frequently, high levels of opportunity perceptions can be the explanation for high rates of entrepreneurship. Consistently, low levels of entrepreneurial activity may stem from both few actual opportunities and also from few individuals detecting them. Levels of perceived opportunities can be improved by a favorable business environment with advantageous domestic conditions such as economic growth, population growth and a positive culture and policy regarding entrepreneurship in a country.

However as may be imagined, the level of perceived opportunities alone is by far not the only factor influencing the capacity of entrepreneurship. At times for instance it is the case that in countries with relative high levels of perceived opportunities, i.e. people see chances for business creation around them, still only a small number of people actually seize the occasion and start an endeavor. In many cases, the underlying obstacle is that people may not feel they possess the required skills to implement their ideas as it is the case in Sweden or Poland (GEM, 2018).

### 2.4.2 Perceived capabilities

As described in the previous section, there must be further factors affecting entrepreneurship. Similarly to the idea of perceived opportunities, the perception about one's own capabilities may be affected directly and indirectly by several external conditions and thus have an impact on entrepreneurial intentions, without even affecting one's actual capabilities. Apart from personal attitudes toward entrepreneurship, also perceptions about one's own ability to become an entrepreneur affect the actual number of people that decide to start a business (GEM, 2008).

How can perceived capabilities be improved or that is to say what yields higher rates of perceived capabilities? The authors of GEM (2008) claim that entrepreneurship training is a determinant of perceived skills. If people receive adequate training in starting a business, they tend to have a higher perception of their own capabilities. Varying levels of perceived capabilities can be observed, depending on whether the training received was compulsory or voluntary. Furthermore, seeing successful entrepreneurs in the direct environment enhances the

perception of one's own skills without enhancing the actual skills, even more so if the economic climate is favorable (GEM, 2008).

It needs to be highlighted that an individual who exhibits high levels of positive perceptions, of both opportunity and capability, does not necessarily become an entrepreneur in future. Apart from other factors and in line with the concept of opportunity cost, among the alternatives in terms of life planning there might be for instance a well-paid employment job that the individual rather chooses to pursue (GEM, 2018). Consequently, in addition to economic and demographic metrics, subjective perceptions do play a role in business creation as well, as worked out in this section. The two constructs of perceived opportunities and perceived capabilities are both determining factors of entrepreneurial activity and in the case of this study they might potentially be also determining factors of entrepreneurial intentions.

# CHAPTER 3

# RESEARCH DESIGN AND METHOD

The previous chapter aims at laying the theoretical foundation for the following chapters, whereas in this chapter the design of this study is determined as well as the methodology of how to implement the research is outlined. To be more precise, the scope and origin of the data used in this study is exposed and the conceptual model that depicts the research question is both presented, and its origins clarified. Moreover, the variables used in the research model are introduced, the hypotheses to be tested are formulated and the applied statistical approach is outlined.

## 3.1 Research objective

The relationship of individual and macro level factors and entrepreneurship has been studied thoroughly in academic research, yet findings yield ambiguous and contradicting outcomes, especially regarding a supposed effect of unemployment on entrepreneurial activity (Thurik et al., 2008). Studying intentions – as opposed to actual activity – promises to reveal a more direct link as intentions show how individuals would act if they had the required skills and resources. Thereby, various external reasons to why a person does not start a firm can be neglected.

Thus, this study seeks to contribute to the discussion and offer a new perspective by investigating the drivers of entrepreneurial intentions. In detail, this study examines the effects of unemployment, perceived opportunities and perceived capabilities on entrepreneurial intentions.

## 3.2 Research questions

Based on the research objective of this study, the following research questions can be compiled. First, does the macro level factor unemployment have a statistically significant effect on entrepreneurial intentions? Second, does the individual level factor perceived opportunities have a statistically significant effect on entrepreneurial intentions? Third, does the individual level factor perceived capabilities have a statistically significant effect on entrepreneurial intentions? These questions serve as the underlying questions of this research on which the subsequent hypotheses and examination build upon.

## 3.3 Conceptual framework

This study links the key economic indicator unemployment to certain parameters of entrepreneurial activity. More precisely, it empirically investigates the correlation between the unemployment rate of a country and the entrepreneurial intentions of residents in that respective country. Additionally, the variables perceived opportunities and perceived capabilities are included in order to deepen the examination of the interdependencies. The model arrived at after taking these factors into account is depicted by the following conceptual model.

The applied model is adapted from Mühlböck, Warmuth, Holienka, & Kittel (2018) who examine the relationship of perceived necessity, perceived feasibility (corresponding with the variables perceived opportunity and perceived capabilities used in this study), perceived desirability, extended by factors of the macro level

with entrepreneurial intentions. Their goal is to detect the existence of what they call nons-entrepreneurs, individuals that choose to become entrepreneurs mainly based on the lack of other alternatives, acting out of desperation. The present study borrows their model and its individual level aspects of perceived feasibility adding unemployment rate as a macro level indicator in order to test the relationship on the dependent variable entrepreneurial intentions. The preceding model investigates the dependent variable entrepreneurial intentions as well, however focusing solely on the share of entrepreneurs that want to start a business despite having a negative perception of opportunities and their own capabilities. In contrast, the study at hand focuses not only on that share of entrepreneurs but expands the examination to all individuals that have entrepreneurial intentions in the respective countries. The model arrived at after adapting the approach of Mühlböck, Warmuth, Holienka, & Kittel (2018) in the above-mentioned fashion is illustrated in Figure 4.

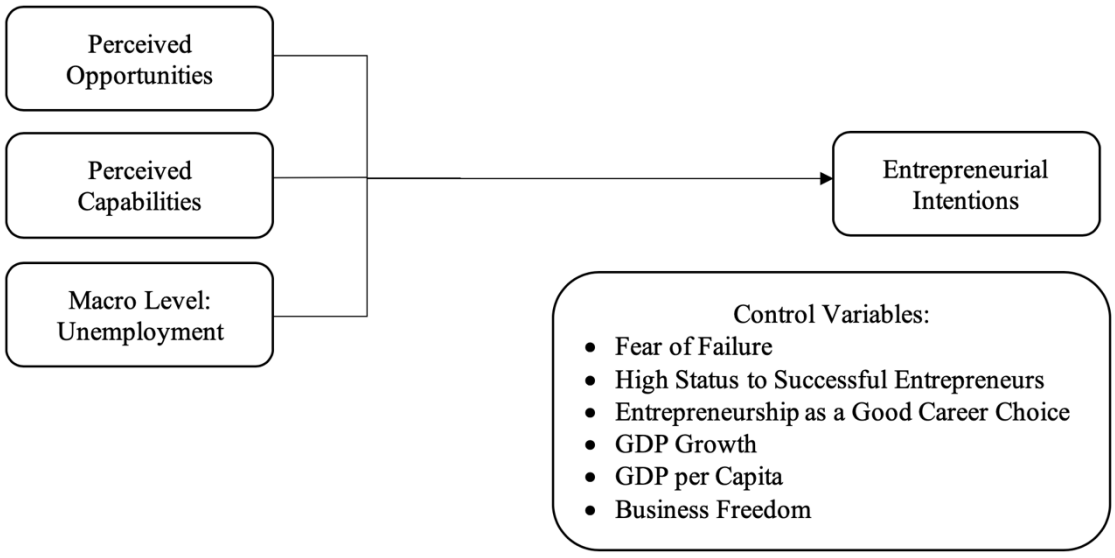


Figure 4 Conceptual model, own adaptation from Mühlböck, Warmuth, Holienka, & Kittel (2018)

The following variables are used to conduct a regression analysis. The dependent variable entrepreneurial intentions is defined as the percentage of the population between 18 and 64 years who are latent entrepreneurs and who aim at starting a business within the next three years, while individuals already engaged in any stage of entrepreneurial activity are excluded (GEM, 2018). The independent variable unemployment rate represents the share of the total labor force that is without work but available for and seeking employment. The rate is accessible from the World Bank data base as a weighted average model of the International Labour Organization. In order to examine the effect that a change in the unemployment rate from one year to the other has on intentions, the unemployment rate is taken from the previous year in each case. Perceived opportunities serves as another independent variable, defined as the percentage of the population between 18 and 64 years "who see good opportunities to start a firm in the area where they live" (GEM, 2018, p. 139). Lastly, the independent variable perceived capabilities is described as the percentage of the population between 18 and 64 years "who believe they have the required skills and knowledge to start a business" (GEM, 2018, p. 139).

In order to control for possible other factors that could influence the relationship of the unemployment rate, perceived opportunities and perceived capabilities on entrepreneurial intentions, the following control variables are incorporated into the model. Fear of failure rate is defined as the percentage of the population between 18 and 64 years, excluding individuals involved in any stage of entrepreneurial activity, who "indicate that fear of failure would prevent them from setting up a business" (GEM, 2018, p. 139). High status to successful entrepreneurs serves as the second individual level control variable in the model and is described

as the percentage of the population between 18 and 64 years "who agree with the statement that in their country, successful entrepreneurs receive high status" (GEM, 2018, p. 139). Entrepreneurship as a good career choice, the third control variable, represents the percentage of the population between 18 and 64 years "who agree with the statement that in their country, most people consider starting a business as a desirable career choice" (GEM, 2018, p. 139).

In line with Mühlböck et al. (2018), the following three macro level control variables are added to the model. The variable gross domestic product (GDP) growth is described as the annual percentage growth rate of GDP at market prices based on constant local currency, retrieved from the World Bank database. The variable GDP per capita is obtained from the same source and is defined as the sum of gross value added by all resident producers in the economy including product taxes and deducting subsidies not included in the value of the products. The data is expressed in constant local currency as well and divided by one million for visualizing the outcome in the illustrated tables in the following chapters of this study. The control variable business freedom is obtained from the heritage foundation database and is defined as an overall indicator that describes the efficiency of government regulation of business. The score – between zero (least free business environment) and one hundred (freest business environment) – is derived from several factors, including the cost of starting a business, the time required to obtain a license and the cost of closing a business.

Below, for clarification, a summary of the above-mentioned variables is displayed in Table 1, where the variable's labels are assigned to their variable function as well as to their respective name used in the statistical analysis.

Table 1. Variable Overview

| Variable Label | Variable Function | Variable Name |
|---|---|---|
| Entrepreneurial Intentions | Dependent Variable | Intentions |
| Unemployment<br>Perceived Opportunities<br>Perceived Capabilities | Independent Variables | Unemployment<br>Perc_Opp<br>Perc_Cap |
| Fear of Failure<br>High Status to Successful Entrepreneurs<br>Entrepreneurship as a Good Career Choice<br>GDP Growth<br>GDP per Capita<br>Business Freedom | Control Variables | FoF<br>Status<br>Career<br>GDP_Growth<br>GDP_p_Cap<br>Business |

As stated previously, the applied model derives from Mühlböck, Warmuth, Holienka, & Kittel (2018). The present paper adopts the application of perceived feasibility and employs unemployment rate as the external indicator in order to test the effect on entrepreneurial intentions with multiple linear regressions using the collected data described in the previous section. The statistical method has been used in various studies before and has produced relevant findings in the past (Durkin, Davidson, Kuhn, O'Connor, & Barlow, 1994; Preti & Miotto, 1999; Wennekers, Van Wennekers, Thurik, & Reynolds, 2005).

### 3.4 Hypotheses

In order to test the underlying relationships of the variables depicted in the conceptual model hypotheses are developed in this section. The dependent variable in focus of this study is entrepreneurial intentions and these intentions are

considered a strong predictor of entrepreneurial activity (Ajzen, 1991; Bird, 1988; Krueger et al., 2000). Since there are no research results available on the effects of unemployment on entrepreneurial intentions, findings of the effects of unemployment on entrepreneurial activity serve as guidelines in order to set up the hypotheses of this study. In previous research there is evidence on the influence of unemployment on entrepreneurial activity suggesting a positive relationship (Grilo & Irigoyen, 2006; Grilo & Thurik, 2005; Parker, 2004). Despite evidence of other studies showing a negative relation too, the positive relation is considered to outweigh the negative in accordance with Thurik et al. (2008). Thus, the following hypothesis is proposed:

Hypothesis 1: Unemployment rates are positively related to entrepreneurial intentions.

With some exceptions (Mühlböck et al., 2018), the majority of studies found that perceived opportunities are positively associated with entrepreneurial activity or are even a necessary condition (Arenius & Minniti, 2005; Davidsson, 1991; GEM, 2018). Since entrepreneurial intentions are a strong predictor of entrepreneurial activity (Ajzen, 1991; Bird, 1988; Krueger et al., 2000) it is assumed that these variables have a similar effect on the variable entrepreneurial intentions. Therefore, the following hypothesis is developed:

Hypothesis 2: Perceived opportunities are positively related to entrepreneurial intentions.

Similarly to the concept of perceived opportunities, findings on the relationship of perceived capabilities and entrepreneurial activity suggest that a

strong confidence in one's own skills leads to high rates of entrepreneurship (GEM, 2008). As entrepreneurial intentions and entrepreneurial activity are closely associated (Ajzen, 1991; Bird, 1988; Krueger et al., 2000), it is assumed that higher levels of perceived capabilities result in more people expressing entrepreneurial intentions. Consequently, the following hypothesis is proposed:

> Hypothesis 3: Perceived capabilities are positively related to entrepreneurial intentions.

## 3.5 Sample data

This study uses a rich data set of the databases of GEM, the World Bank and the Heritage Foundation in order to test the relationship between unemployment rates, entrepreneurial intentions, perceived opportunities and perceived capabilities. Secondary data obtained for 92 countries for the years from 2003 until 2018 including 621 observations is employed in this study. Appendix A shows a full list of countries whose data is employed in this research. GEM is the world's leading research consortium for the study of entrepreneurship. Since its inception in 1999 by the Babson College and the London Business school, GEM has surveyed over 2.9 million adults producing high quality reports and rich data sets on rates of entrepreneurship across various stages of entrepreneurship, self-perceptions and motivation of entrepreneurs, demographics and much more. At the same time, it represents a consistently growing community of researchers and a network of local experts that work on their common goals to identify factors that encourage or prevent entrepreneurial activity and to create a platform that inspires the discussions, such as to what extent entrepreneurs boost the economy. Another goal is to identify

policy implications that foster entrepreneurial capacity and respective output by making use of the tremendous internationally orchestrated data collection effort. In other words, apart from improving the understanding of the entrepreneurial idea, researchers jointly aim at establishing evidence-based policies globally, because they are conscious of the scope and significance of entrepreneurship. As consequence of its long-standing dedication, GEM constitutes a trusted source of data of entrepreneurship research for countless benefiters, most prominently organizations such as United Nations, World Economic Forum, World Bank, and OECD. One main advantage of GEM data is that the sample is derived from the whole population between the age of 18 to 64 years in the respective country and includes both entrepreneurs and non-entrepreneurs (Fernandes, João, & Fernandes, 2012).

The World Bank development data group, the creators of the second database from which data is obtained in this study, works together closely with other agencies of international institutions that offer statistical insights, such as the OECD, United Nations, the International Monetary Fund and regional development banks. Data is gathered from the statistical system of member countries and coordinated centrally in order to provide timely and reliable information (World Bank, 2019).

The Index of Economic Freedom has been published for twenty five years offering data for several indicators, such as business freedom. Data is provided for most countries on earth on a yearly basis by the Heritage Foundation, an American think tank.

# CHAPTER 4

# FINDINGS OF THE STUDY

In this section, the results of the previously described statistical analysis are dismantled into the following parts. Descriptive statistics, empirical results and their impact on the proposed hypotheses are presented and discussed.

## 4.1 Descriptive statistics

In the following, assumptions for multiple linear regression models are tested in order to evaluate the model's fit. Examining the normal predicted probability plot (see Appendix B, Figure B1) results in the assumption of normally distributed residuals and thus valid inferences that can be drawn from the regression. Table 2 shows that the value of the variance inflation factor (VIF) is considerably less than the threshold of 10, indicating the absence of multicollinearity (Field, 2009).

Table 2. Collinearity Testing

| | Collinearity Statistics | |
|---|---|---|
| | Tolerance | VIF |
| Unemployment | .882 | 1.134 |
| Perceived Opportunities | .492 | 2.030 |
| Perceived Capabilities | .328 | 3.045 |
| Fear of Failure | .719 | 1.390 |
| High Status to Successful Entrepreneurs | .753 | 1.328 |
| Entrepreneurship as a Good Career Choice | .553 | 1.810 |
| GDP per Capita | .921 | 1.086 |
| GDP Growth | .884 | 1.131 |
| Business Freedom | .666 | 1.502 |

Also, as can be extracted from Table 3, all independent variables exhibit correlation coefficients with magnitudes of less than .80 and are therefore not subject to multicollinearity (Field, 2009). Furthermore, errors due to influential outliers have been tested for and corrected where applicable so that Cook's Distance regarding residuals of each observation shows a maximum of .046, which is considerably lower than the suggested threshold of 1.0. Moreover, the standardized residuals score between -2.800 and 2.933 within the proposed range of -3 to 3 (Field, 2009).

As described in detail in the methodology section, the regression is performed on data from 92 countries including 621 observations. Table 3 shows the variables' minimum, maximum, mean, standard deviation, number of observations. In the further course of this chapter, the findings are examined from the perspective of grouping the evaluated countries into three different clusters.

Table 3. Descriptive Statistics of the Variables

| Variable Names | N | Minimum | Maximum | Mean | Standard Deviation |
|---|---|---|---|---|---|
| Entrepreneurial Intentions | 621 | 1.55 | 60.36 | 17.27 | 12.14 |
| Unemployment | 621 | .96 | 34.94 | 7.78 | 4.52 |
| Perceived Opportunities | 621 | 2.85 | 84.66 | 40.67 | 15.85 |
| Perceived Capabilities | 621 | 8.65 | 87.93 | 48.85 | 14.74 |
| Fear of Failure | 621 | 11.59 | 75.42 | 34.58 | 8.45 |
| High Status to Successful Entrepreneurs | 621 | 31.47 | 100.00 | 68.87 | 10.47 |
| Entrepreneurship as a Good Career Choice | 621 | 22.81 | 95.62 | 62.44 | 13.04 |
| GDP per Capita | 621 | .00 | 88.95 | 2.84 | 11.52 |
| GDP Growth | 621 | -14.40 | 25.12 | 2.82 | 3.24 |
| Business Freedom | 621 | 36.7 | 100.00 | 74.80 | 13.33 |

Overall, the average unemployment rate of the sample amounts to 7.78 percent, varying from approximately one percent up to 35 percent. In the aggregate, out of one thousand people within the range of 18 to 64 years of age 172 expressed intentions to start a business, fluctuating from the lowest observation with just 15 out of one thousand up to 603 in the highest observation. Approximately half of the participants expressed sufficient confidence in their own skills and knowledge to start a business and roughly 40 percent indicated that they see good opportunities to start a firm in the area where they live.

## 4.2 Empirical outcome

The basic finding in this section is that more unemployment, more perceived opportunities, more perceived capabilities lead to a higher degree of entrepreneurial intentions. All three are significant and combined with the control variables they account for a substantial share of 60.9 percent of the variation in entrepreneurial intent in general, as adjusted R square amounts to .609. Table 4 presents the variables' correlations. The variable perceived capabilities exhibits a strong, positive linear relationship with entrepreneurial intentions by the factor .724, whereas the control variable fear of failure correlates negatively on a moderate level with entrepreneurial intentions. Both variables perceived opportunities and entrepreneurship as a good career choice considerably correlate with entrepreneurial intentions, while unemployment rate shows a moderate, positive linear relationship. There is sufficient evidence available in the population to show that all of the tested variables are significantly correlated with entrepreneurial intentions at the 0.01 level.

Table 4. Pearson's Correlation Matrix

| | Intent-ions | Unemp-loyment | Perc_Opp | Perc_Cap | FoF | Status | Career | GDP_ p_Cap | GDP_ Growth | Busi-ness |
|---|---|---|---|---|---|---|---|---|---|---|
| Intentions | 1 | | | | | | | | | |
| Unemploy-ment | .160** | 1 | | | | | | | | |
| Perc_Opp | .478** | -.140** | 1 | | | | | | | |
| Perc_Cap | .724** | .142** | .580** | 1 | | | | | | |
| FoF | -.230** | -.017 | -.184** | -.473** | 1 | | | | | |
| Status | .218** | -.012 | .391** | .272** | -.032 | 1 | | | | |
| Career | .514** | .171** | .386** | .592** | -.192** | .319** | 1 | | | |
| GDP_p _Cap | .212** | .026 | -.057 | .071 | .012 | .120** | -.047 | 1 | | |
| GDP_ Growth | .196** | -.007 | .264** | .112** | -.036 | .091* | .118** | .022 | 1 | |
| Business | -.493** | -.144** | -.143** | -.434** | .077 | .018 | -.421** | -.110** | -.191** | 1 |
| **. Correlation is significant at the 0.01 level (2-tailed).<br>*. Correlation is significant at the 0.05 level (2-tailed). | | | | | | | | | | |

Table 5 shows the regression coefficients of the variables employed in the regression analysis. The factor perceived capabilities stands out as the most defining one among them, with a standardized beta of .537. The coefficient of .163 of the variable of interest unemployment rate indicates that a rise of one percentage point in unemployment, entrepreneurial intentions increase by .163. The variable high status to successful entrepreneurs fails as the only independent variable to have a significant impact on entrepreneurial intentions for the participants in this model with a p-value of .335. The other eight variables are all significant accountable predictors of entrepreneurial intentions with p-values ranging below the threshold of 0.05 between .000 and .027.

Interestingly, the factor fear of failure has a positive influence on entrepreneurial intentions in this model, yet a negative direct correlation to the variable entrepreneurial intentions. Contrary to what one might expect, namely that

individuals expressing negative feelings about a potential failure do not foster entrepreneurial intentions, in a model with all the above-mentioned variables an increase in fear of failure leads to more entrepreneurial intentions among the participants of the survey of the secondary data. It can be established that this is mainly due to the presence of the independent variable perceived capabilities in the statistical analysis. If the variable perceived capabilities is erased from the model, fear of failure exhibits a significant negative effect on entrepreneurial intentions with an unstandardized beta coefficient of -.140.

Table 5. Regression Coefficients of the Model

| | Unstandardized Coefficients | | Standardized Coefficients | | |
|---|---|---|---|---|---|
| | B | Std. Error | Beta | t | Sig. |
| (Constant) | -5.969 | 4.043 | | -1.476 | .140 |
| Unemployment | .163 | .072 | .061* | 2.271 | .023 |
| Perc_Opp | .105 | .027 | .137** | 3.828 | .000 |
| Perc_Cap | .443 | .036 | .537** | 12.267 | .000 |
| FoF | .114 | .043 | .079** | 2.680 | .008 |
| Status | -.032 | .034 | -.028 | -.964 | .335 |
| Career | .079 | .031 | .085* | 2.521 | .012 |
| GDP_p_Cap | .176 | .028 | .167** | 6.374 | .000 |
| GDP_Growth | .221 | .100 | .059* | 2.211 | .027 |
| Business | -.156 | .028 | -.172** | -5.584 | .000 |
| Dependent Variable: Intentions<br>Adjusted R Square: .609<br>**. significant at the 0.01 level<br>*. significant at the 0.05 level | | | | | |

Ultimately, hypothesis 1 is supported by unemployment having a significant positive relation on entrepreneurial intentions. Both hypothesis 1 and hypothesis 2 are supported as well, whereas perceived capabilities has the most apparent impact on entrepreneurial intentions of all variables examined.

## 4.3 Country clusters

In order to enable an even deeper examination of the findings, this section investigates differences and analogies between groups of countries that can be formed, based on the following characteristics. GEM (2017) proposes a classification of the countries participating in their survey according to their level of economic development, adapted from the World Economic Forum. Herein the phases of economic development can be divided into three phases. First, the factor-driven phase which is characterized by the prevalence of agriculture, extractive industries and a focus on unskilled workers and natural resources. Second, countries in the efficiency-driven phase became increasingly competitive due to improved product quality and production processes. Third, economies advanced into the innovation-driven phase tend to exhibit an expanding service sector as well as knowledge-intense businesses. In the present study, consistent with the approach of GEM (2017, p. 20), countries in transition from factor-driven to efficiency-driven phase are assigned to factor-driven and countries in transition from efficiency-driven to innovation-driven phase are grouped to efficiency-driven (World Economic Forum, 2018). In Table 6, each country employed in the database of this study is assigned to a cluster, depending on its economic development level. In line with the classification by the World Economic Forum, Fernandes et al. (2012) confirm that the most adequate number of clusters is three, when classifying countries in the framework of GEM data.

Table 6. Countries by Economic Development Level and Geographic Region

| | Factor-driven economies | Efficiency-driven economies | Innovation-driven economies |
|---|---|---|---|
| Cluster number | 1 | 2 | 3 |
| Africa | Algeria, Cameroon, Ethiopia, Ghana, Nigeria, Zambia | Egypt, Morocco, Namibia, Tunisia | |
| Asia & Oceania | Bangladesh, India, Kazakhstan, Philippines, Vietnam | Indonesia, Iran, Jordan, Lebanon, Malaysia, Saudi Arabia | Australia, Hong Kong, Israel, Japan, New Zealand, Singapore, South Korea, United Arab Emirates |
| Latin America & Caribbean | | Argentina, Brazil, Chile, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Jamaica, Mexico, Panama, Peru, Trinidad and Tobago, Uruguay, Venezuela | Puerto Rico |
| Europe | | Bulgaria, Bosnia & Herzegovina, Croatia, Georgia, Hungary, Latvia, Lithuania, Montenegro, Poland, Romania, Russia, Serbia, Slovakia, Turkey | Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Slovenia, Spain, Sweden, Switzerland, United Kingdom |
| North America | | | Canada, United States |

Applying the statistical model on the subsets filtering only for the countries in one cluster yields the following results. Cluster 1, compared to the other two clusters, contains the smallest group of countries as well as the least number of observations (29) in the employed dataset. Cluster 2 and 3 comprise 271 and 300 observations, respectively. In the sample, factor-driven economies exhibit the highest scores of entrepreneurial intentions. The maximum score of all observation, 60.4, is found in cluster 1, which is notably higher, compared to 52.5 in cluster 2 and only 35.4 among innovation-driven economies. Moreover, on average factor-driven economies show a score of 30.1 in terms of entrepreneurial intentions, while efficiency-driven economies score 23.5 in this regard and innovation-driven economies only 9.6. Likewise, the standard deviation between the observations in

cluster 1 is almost three times as high as the one in cluster 3. This is partially due to the fact that innovation-driven economies exhibit comparable low absolute numbers as well as a low range of scores of entrepreneurial intentions.

In terms of unemployment rate, efficiency-driven economies show the widest range among the three clusters with 2.4 minimum and up to 29 percent maximum rate. Interestingly, the highest observation among economies in cluster 1 is comparably low with 11 percent unemployment rate. This might be due to the fact that the sample size of factor-driven economies is relatively small as mentioned before. It is also remarkable that the average unemployment rate among these countries is relatively low with 4.77, compared to 8.7 and 6.6 among efficiency-driven and innovation-driven economies, respectively.

The range of observations among the clustered countries include scores of perceived opportunities from 2.9 up to 84.7, where the lowest data point among factor-driven economies is as high as 26.5. Also, the mean scores of perceived opportunities among countries in cluster 1 is substantially higher with 55.9, compared to 41.3 and 37.9 among countries in cluster 2 and 3, respectively.

Equally, levels of perceived capabilities differ between the country clusters examined in a similar manner. Cluster 1 expresses both the highest minimum and maximum values (from 23.6 up to 87.9) among the clusters (from 8.7 to 83.5 in cluster 2 and from 9.0 to 65.9 in cluster 3). Furthermore, the average values of perceived capabilities among countries in cluster 1 is considerably higher with 60.8, in contrast to 55.3 and 40.9 among countries in cluster 2 and 3, respectively.

Applying the statistical model employed in this study on the observations of cluster 1, shows that among the variables utilized only perceived capabilities proves

to have a significant impact on entrepreneurial intentions of residents of factor-driven economies, as can be seen in Table 7.

Table 7. Regression Coefficients of Cluster 1

| | Unstandardized Coefficients | | Standardized Coefficients | | |
|---|---|---|---|---|---|
| | B | Std. Error | Beta | t | Sig. |
| (Constant) | -38.792 | 15.681 | | -2.474 | .023 |
| Unemployment | 1.038 | .693 | .194 | 1.499 | .150 |
| Perc_Opp | .189 | .154 | .192 | 1.220 | .237 |
| Perc_Cap | .622 | .186 | .738** | 3.352 | .003 |
| FoF | .149 | .169 | .151 | .880 | .390 |
| Status | .137 | .187 | .121 | .734 | .472 |
| Career | .098 | .225 | .082 | .436 | .668 |
| GDP_p_Cap | .106 | .238 | .047 | .447 | .660 |
| GDP_Growth | .443 | .747 | .069 | .592 | .561 |
| Business | -.169 | .222 | -.118 | -.762 | .456 |

Dependent Variable: Intentions
Adjusted R Square: .740
**. significant at the 0.01 level
*. significant at the 0.05 level

People from efficiency-driven economies, pooled in cluster 2, see both perceived opportunities and perceived capabilities as decisive drivers of entrepreneurial intentions, as depicted in Table 8. The model shows that the unemployment rate does not play a prevalent role in terms of affecting entrepreneurial intentions of countries in cluster 2. Of all nine independent variables in the model, including the control variables, only perceived opportunities, perceived capabilities, entrepreneurship as a good career choice and GDP per capita exhibit statistically significant relations with entrepreneurial intentions. Also for economies in cluster 2 the strongest among the predictors is perceived capabilities with a

standardized beta coefficient of .458, followed by perceived opportunities with a coefficient of .219.

Table 8. Regression Coefficients of Cluster 2

| | Unstandardized Coefficients | | Standardized Coefficients | | |
|---|---|---|---|---|---|
| | B | Std. Error | Beta | t | Sig. |
| (Constant) | -16.793 | 6.617 | | -2.538 | .012 |
| Unemployment | -.017 | .116 | -.006 | -.142 | .887 |
| Perc_Opp | .179 | .059 | .219** | 3.030 | .003 |
| Perc_Cap | .387 | .061 | .458** | 6.340 | .000 |
| FoF | -.038 | .072 | -.025 | -.522 | .602 |
| Status | -.043 | .060 | -.040 | -.719 | .473 |
| Career | .151 | .069 | .148* | 2.188 | .030 |
| GDP_p_Cap | .163 | .035 | .219** | 4.588 | .000 |
| GDP_Growth | .059 | .154 | .017 | .382 | .702 |
| Business | .069 | .058 | .055 | 1.191 | .235 |

Dependent Variable: Intentions
Adjusted R Square: .543
**. significant at the 0.01 level
*. significant at the 0.05 level

Table 9 demonstrates that for residents in countries of cluster 3 both perceived capabilities and the perceived opportunities are decisive for the presence of entrepreneurial intentions. To summarize, it can be stated that for countries throughout all clusters perceived capabilities is the strongest predictor of entrepreneurial intentions in the model. The variable perceived opportunities proves to have a crucial impact on entrepreneurial in some areas. The unemployment rate fails to play a decisive role as driver of entrepreneurial activity in the clustered countries – in contrast to applying the model on the entire dataset as discussed in the previous section. This observation might be partially due to the fact that the sum of the number of countries of the subsets combined is less than the number of countries

of the entire data set as some of the countries are not categorized in terms of the GEM economic development classification.

Table 9. Regression Coefficients of Cluster 3

| | Unstandardized Coefficients | | Standardized Coefficients | | |
|---|---|---|---|---|---|
| | B | Std. Error | Beta | t | Sig. |
| (Constant) | -3.297 | 3.584 | | -.920 | .358 |
| Unemployment | .132 | .101 | .071 | 1.302 | .194 |
| Perc_Opp | .060 | .019 | .197** | 3.250 | .001 |
| Perc_Cap | .175 | .031 | .364** | 5.576 | .000 |
| FoF | .231 | .038 | .352** | 6.147 | .000 |
| Status | -.009 | .028 | -.018 | -.333 | .740 |
| Career | .005 | .022 | .012 | .224 | .823 |
| GDP_p_Cap | .382 | .050 | .392** | 7.623 | .000 |
| GDP_Growth | .171 | .081 | .102* | 2.104 | .036 |
| Business | -.075 | .026 | -.143** | -2.856 | .005 |

Dependent Variable: Intentions
Adjusted R Square: .357
**. significant at the 0.01 level
*. significant at the 0.05 level

# CHAPTER 5

# DISCUSSION

In the following the study's results are related to findings from previous research in the same field. Moreover, it is elaborated why insights gained from this document might prove useful for various stakeholders and in what way there might be restraints that should be considered when applying this paper's outcome. Additionally, advice for future research on this matter is given.

## 5.1 Discussion of findings

It was Schumpeter (1942) who foresaw that the economy in the twenty first century would be largely dependent on innovation to create technological advance and economic development. And in fact, in recent decades there has been a shift from production economies focusing on cost efficiency towards more innovation driven economies for various reasons (Beynon, Jones, & Pickernell, 2019). A number of scholars plead in favor of entrepreneurship as a source of job creation, economic growth and a stabilizing factor in times of economic slumps (Acs & Szerb, 2007; Carree & Thurik, 2010). Therefore, it pays off to invest in understanding the conditions and obstacles that spur or hinder entrepreneurial efforts and success.

Since academic literature on the relationship of unemployment and entrepreneurial intentions is quite sparse this study focuses on exactly this, adding perceived opportunities and perceived capabilities to examine correlations in detail.

Scientific findings on the relationship of unemployment and entrepreneurship have been inconclusive. One of the most striking outcome of this study is that focusing on intentions instead of activity yields a significant positive relationship between unemployment and entrepreneurial intentions and thus supporting hypothesis 1. In line with Thurik et al. (2008) this study provides evidence that unemployment can clearly be considered a push factor not only for entrepreneurial activity, but also for entrepreneurial intentions. The emergence of entrepreneurial intentions can to some extent be interpreted as a way out, escaping the dilemma of joblessness. Not only for monetary reasons people seek a solution to unemployment but it is also recognized that long-term unemployment has significant negative effects on individuals' wellbeing, especially in terms of worsening isolation, depression and pessimism about one's own skills. Employment is one option to ensure a steady source of income that is required to meet basic needs. The results support the theoretical approach that self-employment, or at least having intentions to become self-employed, is a means to try and escape the dilemma of unemployment and its association to personal failure and social decline (Bartley & Plewis, 2002).

One of the most remarkable findings of this research is that there is indeed a statistically significant effect of unemployment on intentions, however when analyzing the magnitude of the influence it needs to be highlighted that for every percentage point increase or decrease of the unemployment rate, entrepreneurial intentions rise or decline by .163 units. Considering the much lower range of the unemployment rate compared to entrepreneurial intentions displayed in the sample, it needs to be acknowledged that the observed effect is rather low. For instance, the findings indicate that a surge in unemployment rate by ten percent points yields

entrepreneurial intentions to rise by 1.63 percentage points. The unemployment rate ranges between .96 and 34.94 percent whereas entrepreneurial intentions exhibit a range of 58.81 in the sample, and a standard deviation of 4.5 and 12.4 respectively. This shows that the impact of unemployment on intentions is slim, especially when compared to the independent variable perceived capabilities whose effect on intentions in terms of the standardized values of the model is 8.8 times higher than the one of the unemployment rate.

Applying this finding to the real world means that, apart from the demonstrated significant effect of unemployment on intentions to start a firm, policy makers should be aware of the relative low magnitude of the relationship and should rather target other variables, for instance perceived capabilities. The suggestions for policy makers based on the results of this research are stated more in detail in the implications section.

Building on previous findings it is expected that perceived opportunities and capabilities might have similar effects on entrepreneurial intentions as they have on entrepreneurial activity. The results of the statistical analysis confirmed both hypothesis 2 and hypothesis 3 and the methodology applied was capable of verifying a significant relation. Therefore, increasing levels of perceived opportunities and perceived capabilities in particular, as a key takeaway of this study, result in higher levels of entrepreneurial intentions. In accordance with Arenius & Minniti (2005) who examined the role of both perceived opportunities and capabilities on the emergence of nascent entrepreneurs, the findings of this study suggest that both – individuals who perceive good chances to start a firm in the area where they live and individuals who believe in their own skills as entrepreneurs – have a significantly higher tendency to develop entrepreneurial intentions.

In terms of standardized beta values, the impact of the variable perceived capabilities is 3.9 times higher than the influence of perceived opportunities on entrepreneurial intentions. In other words, it is much more important how skilled as an entrepreneur an individual thinks she or he is – regardless of their actual skills – in order to develop the intention to start a firm, rather than the perceived opportunities to start a firm in the area they live in. These are important findings of this study when assessing the options of how to encourage the emergence of entrepreneurial intentions.

As discussed in chapter 2 there are substantial differences between countries in terms of their scores of entrepreneurial intentions and entrepreneurial activity. These variations are closely examined in the following on the basis of the two countries Turkey and Germany. In terms of the GEM classification of the economic development Turkey is classified among the efficiency-driven economies and Germany among the innovation-driven economies. In 2018, 29.7 percent of the residents in the respective age group in Turkey expressed intentions to start a business and 14.2 percent were actually involved in early stage entrepreneurial activity. In contrast, only 5.9 percent of the residents in Germany showed intentions to start a firm and 5 percent were involved in early stage entrepreneurial activity (GEM, 2018).

One approach to interpret the differences is to consider the gap in the magnitude of the levels. In 2018 Turkey's level of entrepreneurial intentions is five times as high as in Germany and actual early stage entrepreneurial activity is about three times as high. According to the findings of this study, higher rates of intentions are partially due to a higher unemployment rate (in 2018, 10.8 to 3.8 in Turkey and Germany, respectively) and to higher levels of perceived capabilities (in 2018, 56.8

to 38.3 in Turkey and Germany, respectively), which both is supported in the case of Turkey and Germany in 2018. From a different perspective one might argue that despite lower levels of both entrepreneurial intentions and early stage entrepreneurial activity, the gap between the two is much lower in Germany where 85 percent of those who state to intent to start a firm actually go through with it and start a business, compared to 48 percent in Turkey.

This leaves policymakers with several choices of how to proceed when higher levels of entrepreneurship is their goal. For the case of Turkey the most promising starting point should be to improve the conversion rate from intentions to actual activity rather than trying to increase the already high levels of entrepreneurial intentions. In contrast, when considering the case of Germany the conversion rate should not be the focus of further effort however, levels of entrepreneurial intentions should be improved in order to achieve higher overall levels of entrepreneurial activity. Specific proposal on how to implement these suggestions are stated in the following section.

Subsequent to discussing the differences between the two highlighted countries, the focus is broadened below and the results of the cluster analysis from the previous chapter are discussed. The finding that individuals from developing countries observe much higher levels of opportunities to start a business in the country they live in compared to residents from developed countries might arguably stem from the perception that developed countries seem rather saturated to their residents, while developing countries might reveal more chances for new opportunities. Similarly, higher rates of perceived capabilities and opportunities among factor-driven economies depict one approach to explain the generally higher rates of entrepreneurial intentions of individuals from developing countries. This

relationship can be derived from the results of this study. Higher levels of perceived capabilities of people from countries in cluster 1 might stem from the individuals' perception that see successful entrepreneurs around them, who are more present in these countries compared to innovation-driven economies, as described in chapter 2 and shown in Figure 2.

The finding that for countries in cluster 1 only perceived capabilities is a significant predictor of entrepreneurial intentions could be explained in several ways. One explanation could be the relative low sample size of cluster 1 that refuses to allow for a significant relationship. An alternative approach is to infer that for individuals from factor-driven economies unemployment or perceived opportunities play only a minor part in the emergence of entrepreneurial intentions. This observation makes sense especially in view of the fact that unemployment is low among these countries. Yet, there are other factors available for individuals to develop intentions to start a firm in these countries, for instance they do acknowledge that the believe in one's own skills is a crucial factor in doing so, according to the findings of this study.

For both the economies in cluster 2 and 3 alongside perceived capabilities, perceived opportunities proves to be a significant predictor of entrepreneurial intentions as well. Remarkably, as stated previously these more developed countries however exhibit less overall levels of perceived opportunities. Yet, this study provides evidence that for them higher levels of perceived opportunities are to some extent accountable for the emergence of entrepreneurial intentions. Interestingly, for people in efficiency-driven economies this relationship cannot be established even though they exhibit much higher rates of perceived opportunities. In line with the approach of saturated markets, one interpretation of this finding is that for residents

in developing countries, perceived opportunities is not a necessary requirement for developing entrepreneurial intentions, because there are plenty of opportunities available around them to start a business anyway. In other words, opportunities to start a firm are not seen as the bottleneck for them perhaps because there are a number of fields and areas in which they see good chances for improvement in any case as opposed to people from developed countries.

## 5.2 Implications

As mentioned previously, findings and theories on the relationship of unemployment and entrepreneurship have produced inconclusive outcomes. This study focuses on the effect on entrepreneurial intentions instead of activities and can thereby provide the discussion with additional evidence from another perspective and therefore contribute to advance the discussion. The data used in this study stems from the GEM research initiative for the most part. GEM data however does not distinguish between formal and informal entrepreneurship, in other words whether a business is actually formally registered or not. It cannot differentiate entrepreneurs active in the informal sector from those who actually registered a firm. Thereby, the problem arises that the rate of entrepreneurship tends to be overestimated, since some of the survey's participants claim to be in the process of setting up the firm but do not actually create the business (Angulo-Guerrero, Pérez-Moreno, & Abad-Guerrero, 2017). In this context, taking entrepreneurial intentions instead of entrepreneurial activity promises to prove even more suitable because this drawback of GEM data can simply be bypassed, just like countless other external factors that are accountable for individuals not transforming their entrepreneurial intentions into

actual activity can be neglected. On account of intentions, a more immediate connection of how individuals think about becoming an entrepreneur can be compiled. People might refrain from actually and formally starting a firm and yet exhibit intentions to do so because of obstacles on their way to establish a firm. Hence, in a research context focusing on entrepreneurial intentions can prove to be favorable, depending on the underlying question to be examined.

Apart from providing new evidence for the discussion among scholars on the relationship of unemployment and entrepreneurship, this study yields relevant insights to support policymakers' decision making with regard to the question whether or how to spur entrepreneurship as a means to contribute to economic development and oppose unemployment. What should be done in order to increase entrepreneurial efforts? The findings of this study can provide a general implications as well as specific guidelines for the particular countries and the country clustered presented in this research.

Generally, if the goal of an economy is to promote entrepreneurship, promoting entrepreneurial intentions is a good way because intentions are a necessary requirement for entrepreneurial activity. However, this study can only serve as a useful source when it comes to statistically significant findings on entrepreneurial intentions, since actual entrepreneurial activity is not part of the examined data sample.

The results of this study suggest that entrepreneurial intentions can be strengthened if the following conditions for individuals are favorable. The most distinct insight from this study is that higher confidence in one's own skills as an entrepreneur leads to higher levels of entrepreneurial intentions. Therefore, policymakers and scholars should find ways to enhance the perception of

individuals' capabilities. Moreover, higher rates of perceived opportunities and unemployment are also predictors of entrepreneurial intentions, however the detected effect of unemployment on intentions is rather low, which is another key outcome of this study. In other words, policymakers should not trust in higher rates of unemployment being absorbed by higher rates of self-employment alone.

What does that mean for policymakers in the countries discussed in this research? In order to give valid advice, the particular situation of the specific country has to be taken into account. For instance, according to the findings of this model policymakers in Germany should work on increasing entrepreneurial intentions by the previously discussed means. Policymakers in Turkey by contrast should work on improving the conversion rate so that entrepreneurial intentions also translate into entrepreneurial activity. Regarding the distinction between the clustered economies, this studies' results generally suggest that developing countries should aim at increasing perceived capabilities of their residents and developed countries should in addition attempt to improve the perceptions of opportunities in the respective countries.

## 5.3 Limitations and future research

When pointing out supposed benefits of employing entrepreneurial intentions instead of entrepreneurial activity as the focus of research one has to also acknowledge the potential downsides. Whereas factual entrepreneurial activity can be interpreted as a driver of economic growth and can be clearly measured, for instance in firms formally established, jobs created or value added, intentions lack a comparable direct causal link. Insights on entrepreneurial intentions might and

should not be treated as evidence for an immediate boost of economic outcome but should rather be considered as one piece of the puzzle toward understanding the entrepreneurial phenomena and its implications on the real economy. This study should not be seen as research that provides explanations on why entrepreneurial intentions are not implemented to the full extent and on why they differ from actual entrepreneurial activity.

GEM is widely recognized and appreciated as a source for reliable data however there are limitations that accompany this data. GEM as principal of the research initiative is reliant on their survey's participants to declare truthful statements and so is this study. The validity of self-perceptions can be questioned at times and cannot be regarded equal to hard economical or demographic facts like the number of businesses or residents registered in a country (Arenius & Minniti, 2005).

Assumption testing on the linear regression model used in this study yielded a scatterplot of residuals that might potentially indicate heteroscedasticity (see Appendix B, Figure B2). Future research on the variables using data from GEM should take this limitation into consideration. Using secondary data might bring about limitations as control over data is restricted.

Regarding the concept of perceived opportunities, used as an independent variable in this study, one has to note that people from various countries and cultures might have a different idea of what an opportunity means. This potential cultural difference should be accounted for in future research. The concept of entrepreneurial intentions itself has been studied thoroughly in the context of entrepreneurship, however the connection to unemployment and its reciprocal influences has been largely neglected and should therefore be investigated more intensively in future to

get a more comprehensive understanding and to be able to assess whether this study's outcome may be replicated or opposed.

As presented in the previous chapters, the results of this study provide evidence that higher levels of perceived opportunities and perceived capabilities lead to increased entrepreneurial intentions. How to improve perceived opportunities and perceived capabilities in turn to spur entrepreneurship should be addressed by further research and shall not be the focus of this study.

# CHAPTER 6

# CONCLUSION

This study investigates the drivers that spur or hinder the emergence of entrepreneurial intentions. The purpose of this study is to make a contribution to the ongoing discussion by examining the impact of unemployment, along with perceived opportunities and capabilities, on entrepreneurial intentions. In order to test the relationships and the research model, data for sixteen years, from 92 countries and three databases is employed and multiple linear regressions are applied. Additionally, several control variables are incorporated to the model in order to control for possible other factors that might interfere with the relationship of the applied independent variables and entrepreneurial intentions.

The analysis yields relevant and interesting results, as findings suggest that unemployment, together with perceived opportunities and capabilities have a significant impact on entrepreneurial intentions. The influence of unemployment on intentions however is relatively small, which was not expected at this low level and should be noted by all stakeholders. This study can contribute to the discussion of whether and how unemployment affects entrepreneurship and offers a new perspective by employing entrepreneurial intentions instead of entrepreneurial activity.

Even though this document reveals some limitations, that mainly relate to limited reliable data in the field of entrepreneurship, it can be considered a valuable starting point for future research, especially with regard to the relationship of unemployment and entrepreneurial intentions. Research in this area is still limited

and inconclusive at times which calls for further efforts to examine the relationships from several perspectives and based on additional data. This would certainly advance the discussion as well as the theoretical knowledge on the entrepreneurial phenomenon and could thereby yield vital insights and spur entrepreneurship in reality. The implications of this study can provide policymakers useful recommendations on their questions of how to promote entrepreneurship in order to boost the overall economic development.

APPENDIX A

COUNTRIES IN THIS STUDY

| | |
|---|---|
| Africa | Algeria, Angola, Burkina Faso, Cameroon, Egypt, Ethiopia, Ghana, Morocco, Namibia, Nigeria, Tunisia, Zambia |
| Asia & Oceania | Australia, Bangladesh, Hong Kong, India, Indonesia, Iran, Israel, Japan, Jordan, Kazakhstan, Lebanon, Malaysia, New Zealand, Palestine, Philippines, Saudi Arabia, Singapore, South Korea, Tonga, United Arab Emirates, Vietnam |
| Latin America & Caribbean | Argentina, Barbados, Belize, Brazil, Chile, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Jamaica, Mexico, Panama, Peru, Puerto Rico, Suriname, Trinidad and Tobago, Uruguay, Vanuatu, Venezuela |
| Europe | Austria, Belgium, Bosnia & Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Macedonia, Montenegro, Netherlands, Norway, Poland, Portugal, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, United Kingdom |
| North America | Canada, United States |

APPENDIX B

ASSUMPTIONS TESTING RESULTS

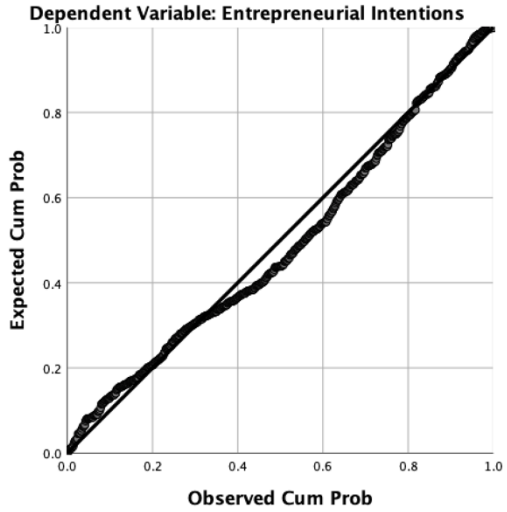


Figure B1 Normal predicted probability plot of regression standardized residual

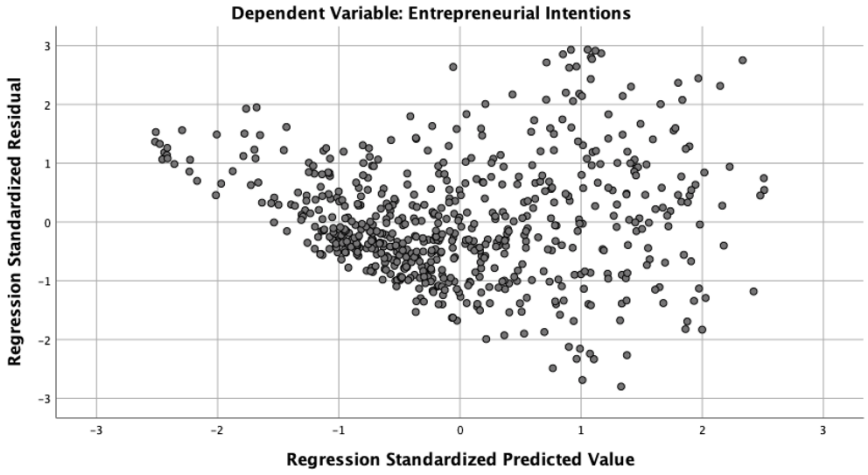


Figure B2 Scatterplot of the residuals indicating potential heteroscedasticity

# REFERENCES


Aarts, H., & Dijksterhuis, A. (2000). Habits as knowledge structures: Automaticity in goal-directed behavior. *Journal of Personality and Social Psychology*. https://doi.org/10.1037/0022-3514.78.1.53

Acs, Z. J. (2015). Small business economics: A global perspective. *Challenge*, *35*(6), 38–44. https://doi.org/10.1080/05775132.1992.11471626

Acs, Z. J., & Szerb, L. (2007). Entrepreneurship, economic growth and public policy. *Small Business Economics*, *28*(2–3), 109–122. https://doi.org/10.1007/s11187-006-9012-3

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, *50*(2), 179–211.

Ajzen, I., & Madden, T. J. (1986). Prediction of goal-directed behavior: Attitudes, intentions, and perceived behavioral control. *Journal of Experimental Social Psychology*. https://doi.org/10.1016/0022-1031(86)90045-4

Angulo-Guerrero, M. J., Pérez-Moreno, S., & Abad-Guerrero, I. M. (2017). Disparities in entrepreneurial activity and attitude across EU countries. *European Planning Studies*, *25*(4), 680–702. https://doi.org/10.1080/09654313.2017.1287163

Arenius, P., & Minniti, M. (2005). Perceptual variables and nascent entrepreneurship. *Small Business Economics*, *24*(3), 233–247. https://doi.org/10.1007/s11187-005-1984-x

Autio, E., H. Keeley, R., Klofsten, M., G. C. Parker, G., & Hay, M. (2001). Entrepreneurial Intent among Students in Scandinavia and in the USA. *Enterprise and Innovation Management Studies*. https://doi.org/10.1080/14632440110094632

Babrow, A. S., Black, D. R., & Tiffany, S. T. (1990). Beliefs, Attitudes, Intentions, and a Smoking-Cessation Program: A Planned Behavior Analysis of Communication Campaign Development. *Health Communication*. https://doi.org/10.1207/s15327027hc0203_2

Bartley, M., & Plewis, I. (2002). Accumulated labour market disadvantage and limiting long-term illness: Data from the 1971-1991 office for national statistics' longitudinal study. *International Journal of Epidemiology*. https://doi.org/10.1093/intjepid/31.2.336

Beynon, M. J., Jones, P., & Pickernell, D. (2019). The role of entrepreneurship, innovation, and urbanity-diversity on growth, unemployment, and income: US state-level evidence and an fsQCA elucidation. *Journal of Business Research*, *101*(June 2018), 675–687. https://doi.org/10.1016/j.jbusres.2019.01.074

Bird, B. (1988). Implementing entrepreneurial ideas; The case for intention. *The Academy of Management Review*, *13*(3), 442–453. https://doi.org/10.5465/AMR.1988.4306970

Blanchflower, D. G., & Meyer, B. D. (1994). A longitudinal analysis of the young self-employed in Australia and the United States. *Small Business Economics*. https://doi.org/10.1007/BF01066108

Blau, D. M. (1987). A time-series analysis of self-employment in the United States. *Journal of Political Economy*.

Brockhaus, R. H. (1980). Risk taking propensity of entrepreneurs. *Academy of Management Journal*, 23(3), 509-520.

Brownson, C. D. (2013). Fostering Entrepreneurial Culture: A Conceptualization. *European Journal of Business and Management*, *5*(31), 146–154. Retrieved from http://www.academia.edu/download/32788732/Fostering_Entrepreneurial.pdf

Carrasco, R. (2003). Transitions to and From Self-employment in Spain: An Empirical Analysis. *Oxford Bulletin of Economics and Statistics*. https://doi.org/10.1111/1468-0084.00132

Carree, M. A., & Thurik, A. R. (2010). The Impact of Entrepreneurship on Economic Growth. In *Handbook of Entrepreneurship Research*. https://doi.org/10.1007/978-1-4419-1191-9_20

Cowling, M., & Mitchell, P. (1997). The evolution of U.K. self-employment: A study of government policy and the role of the macroeconomy. *The Manchester School, 65(4), 427-442.* https://doi.org/10.1111/1467-9957.00073

Davidsson, P. (1991). Continued entrepreneurship: Ability, need, and opportunity as determinants of small firm growth. *Journal of Economic Psychology*. https://doi.org/10.1016/0167-4870(89)90045-7

Drucker, P. F. (1985). Entrepreneurial strategies. *California Management Review, 27, 9-25*. https://doi.org/10.2307/41165126

Durkin, M. S., Davidson, L. L., Kuhn, L., O'Connor, P., & Barlow, B. (1994). Low-income neighborhoods and the risk of severe pediatric injury: A small- area analysis in Northern Manhattan. *American Journal of Public Health*. https://doi.org/10.2105/AJPH.84.4.587

Engle, R. L., Dimitriadi, N., Gavidia, J. V., Schlaegel, C., Delanoe, S., Alvarado, I., … Wolff, B. (2010). Entrepreneurial intent: A twelve-country evaluation of Ajzen's model of planned behavior. *Team Performance Management*, *16*(1–2), 35–57. https://doi.org/10.1108/13552551011020063

Evans, D. S. (1989). An estimated model of entrepreneurial choice under liquidity constraints. *The Journal of Political Economy*.

Evans, D. S., & Leighton, L. S. (1990). Small business formation by unemployed and employed workers. *Small Business Economics*. https://doi.org/10.1007/BF00401628

Fernandes, P. O., Ferreira, J., Fernandes, C. (2012). Entrepreneurial attitudes and perceptions in a cross-country setting: evidence from GEM data. In *Proceedings of the 7th European Conference on Innovation and Entrepreneurship: ECIE* (pp. 198-207). Academic Conferences Limited.

Field, A. (2009). *Discovering statistics using SPSS (3rd ed.)*. London, England: Sage publications Ltd.

Flannery, B. L., & May, D. R. (2000). Environmental ethical decision making in the U.S. metal-finishing industry. *Academy of Management Journal*. https://doi.org/10.2307/1556359

Fueglistaller, U., Müller, C., Müller, S., & Volery, T. (2015). *Entrepreneurship Modelle – Umsetzung – Perspektiven Mit Fallbeispielen aus Deutschland, Österreich und der Schweiz*. *Entrepreneurship*. https://doi.org/10.1007/978-3-8349-4770-3_5

Global Entrepreneurship Research Association. (2008). Global Entrepreneurship Monitor 2008 Executive Report. *Executive Report*, *14*, 146. Retrieved from http://www.mendeley.com/research/global-entrepreneurship-monitor-2004-executive-report/

Global Entrepreneurship Research Association. (2017). Global Entrepreneurship Monitor - Global Report 2016/17, 180. Retrieved from http://www.gemconsortium.org/report/49812

Global Entrepreneurship Research Association. (2018). *Global Entrepreneurship Monitor 2018/2019 Global Report*. *Executive Report*. Retrieved from http://www.gemconsortium.org/

Gollwitzer, P. M., & Brandstätter, V. (1997). Implementation Intentions and Effective Goal Pursuit. *Journal of Personality and Social Psychology*. https://doi.org/10.1037/0022-3514.73.1.186

Grilo, I., & Irigoyen, J.-M. (2006). Entrepreneurship in the EU: To wish and not to be. *Small Business Economics*, 26(4), 305-318.

Grilo, I., & Thurik, R. (2005). Entrepreneurial Engagement Levels in the European Union. *International Review of Entrepreneurship*, *3*(2), 143–168. Retrieved from www.eim.nl/smes-and-entrepreneurship

Hongwei, H., & Ruef, M. (2004). The myth of the risk-tolerant entrepreneur. *Strategic Organization*. https://doi.org/10.1177/1476127004047617

Hsu, M. H., & Chiu, C. M. (2004). Internet self-efficacy and electronic service acceptance. *Decision Support Systems*. https://doi.org/10.1016/j.dss.2003.08.001

Kolvereid, L. (1996). Prediction of employment status choice intentions. *Entrepreneurship: Theory and Practice*.

Krueger, N. F., & Brazeal, J. D. V. (1994). Entrepreneurial potential and potential entrepreneurs. *Entrepreneurship theory and practice,* 18(3), 91-104.

Krueger, N. F., Reilly, M. D. J., & Carsrud, A. L. (2000). Competing models of entrepreneurial intentions. *Journal of Business Venturing*, *15*(98), 411–432. https://doi.org/10.1016/S0883-9026(98)00033-0

Meager, N. (1992). Does unemployment lead to self-employment? *Small Business Economics*, *4*(2), 87–103. https://doi.org/10.1007/BF00389850

Moriano, J. A., Gorgievski, M., Laguna, M., Stephan, U., & Zarafshani, K. (2012). A Cross-Cultural Approach to Understanding Entrepreneurial Intention. *Journal of Career Development*. https://doi.org/10.1177/0894845310384481

Mühlböck, M., Warmuth, J. R., Holienka, M., & Kittel, B. (2018). Desperate entrepreneurs: no opportunities, no skills. *International Entrepreneurship and Management Journal*, *14*(4), 975–997. https://doi.org/10.1007/s11365-017-0472-5

Parker, S. C. (2004). *The economics of self-employment and entrepreneurship*. Cambridge, UK: Cambridge University Press. https://doi.org/10.1017/CBO9780511493430

Preti, A., & Miotto, P. (1999). Suicide and unemployment in Italy, 1982-1994: *Journal of Epidemiology and Community Health*. https://doi.org/10.1136/jech.53.11.694

Quinlan, S. L., Jaccard, J., & Blanton, H. (2006). A decision theoretic and prototype conceptualization of possible selves: Implications for the prediction of risk behavior. *Journal of Personality*. https://doi.org/10.1111/j.1467-6494.2006.00386.x

Romer, P. M. (1994). The Origins of Endogenous Growth. *Journal of Economic Perspectives*. https://doi.org/10.1257/jep.8.1.3

Schumpeter, J. A. (1912). *Theorie der wirtschaftlichen Entwicklung. Duncker & Humblot.* https://doi.org/10.3790/978-3-428-51746-6

Sheppard, B. H., Hartwick, J., Warshaw, P. R., & Hartwick, J. O. N. (1988). The Theory of Reasoned Past Action : Meta-Analysis of with Modifications for Recommendations and. *Journal of Consumer Research*. https://doi.org/10.1086/209170

Shook, C. L., & Bratianu, C. (2010). Entrepreneurial intent in a transitional economy: An application of the theory of planned behavior to Romanian students. *International Entrepreneurship and Management Journal*. https://doi.org/10.1007/s11365-008-0091-2

Sommer, L., & Haug, M. (2011). Intention as a cognitive antecedent to international entrepreneurship-understanding the moderating roles of knowledge and experience. *International Entrepreneurship and Management Journal*. https://doi.org/10.1007/s11365-010-0162-z

Thompson, P. (2011). Necessity and Opportunity Entrepreneurs through the Business Cycle. In *CIRPÉE-Ivey Conference on Macroeconomics and Entrepreneurship*.

Thurik, A. R., Carree, M. A., van Stel, A., & Audretsch, D. B. (2008). Does self-employment reduce unemployment? *Journal of Business Venturing*, *23*(6), 673–686. https://doi.org/10.1016/j.jbusvent.2008.01.007

Van Gelderen, M., Brand, M., Van Praag, M., Bodewes, W., Poutsma, E., & Van Gils, A. (2008). Explaining entrepreneurial intentions by means of the theory of planned behaviour. *Career Development International*. https://doi.org/10.1108/13620430810901688

Wennekers, S., Van Wennekers, A., Thurik, R., & Reynolds, P. (2005). Nascent entrepreneurship and the level of economic development. *Small Business Economics*. https://doi.org/10.1007/s11187-005-1994-8

World Economic Forum (2018). *The Global Competitiveness Report 2018*. *World Economic Forum Reports 2018*. https://doi.org/ISBN-13: 978-92-95044-73-9