



**university of  
 groningen**

**Influences on changes in the number of start-ups and  
 entrepreneurial activity  
 Case study: The Netherlands and Germany**

***Marty Doldersum***

***S2395487***

***Master Thesis***

***M.Sc. Economic Geography***

***Supervisor: Aleid Brouwer***

***Second Corrector: Sierdjan Koster***

***University of Groningen***

**28-11-2017**

# Table of Contents

Abstract .....	4
1. Introduction.....	5
1.1. Motivation .....	5
1.2. Research Problem Definition.....	7
2. Theoretical Framework .....	9
2.1. Literature review .....	9
Economic Growth .....	9
Global perspective.....	10
Entrepreneur .....	11
Start-ups .....	12
Entrepreneurial climate.....	13
Institutions.....	14
2.2. Conceptual Model .....	17
3. Methodology .....	19
3.1. Data .....	19
GEM – Adult Population Survey (APS).....	19
GEM – National Expert Survey (NES).....	19
3.2. Research methods.....	19
Logistic Regression .....	19
Interviews .....	20
3.3 Data analysis.....	20
Input Variables .....	21
3.3. Quality of the data.....	22
GEM – Adult Population Survey (APS).....	22
GEM – National Expert Survey (NES).....	23
Interviews .....	23
4. Analysis and Results .....	24
4.1. Cultural aspects .....	24
Culture .....	24
Meaningful job .....	28
Gender .....	30
4.2. Economic aspects .....	32

Income .....	32
Self-employed or employees.....	36
Opportunity versus Necessity .....	37
4.3. Physical Aspects.....	39
Internet accessibility.....	39
Size and infrastructure .....	42
4.4. Institutional aspects .....	45
Employment protection .....	45
Bureaucracy.....	46
Government financing and support .....	47
4.5. Educational aspects.....	50
Level of education .....	50
Attention for entrepreneurship in education .....	54
Age.....	56
5. Conclusion .....	58
5.1. Conclusions.....	58
Cultural aspects .....	58
Economic aspects .....	59
Physical aspects .....	59
Institutional aspects .....	60
Educational aspects.....	60
Positive or negative? .....	61
Final Conclusion.....	62
5.2. Discussion and reflection .....	62
5.3 Recommendations.....	63
Recommendations for policy makers.....	63
Recommendations for further research.....	64
Literature.....	65
Appendices .....	70
Appendix A: List of variables 2003 .....	70
Appendix B: List of variables 2012 .....	71
Appendix C: Summary Interview Erik Nijman .....	72
Appendix D: Summary (online) Interview Bert van der Sel.....	73

## **Abstract**

The influences on start-up rates are complex. Data shows that in the Netherlands and Germany, two rather similar countries, the start-up rates have developed differently in the early 2000s. Where the start-up rate in Germany has stayed relatively constant, the start-up rate in the Netherlands has almost doubled, from 5% to almost 10%. This research aims to find the underlying effects that could possibly have influenced the change in start-up rate in these countries. Several cultural, economic, physical, institutional and educational effects have been investigated, predominantly by using logistic regression analyses on data acquired from the General Entrepreneurial Monitor (GEM) Adult Population Survey. The years 2003 and 2012 have been examined for both countries in order to find information on differences that arose within this period of time. Amongst the main findings were that the start-up rate in the Netherlands is mainly increased through an increase in the number of self-employed without employees and an increase in younger starters, paired with an increase in attention for entrepreneurship in the Dutch education system. Also the change in societal views on entrepreneurship, such as personally knowing an entrepreneur, positive media attention, seeing entrepreneurship as a desirable career choice, expecting to start a business in the next 3 years and the perceived meaningfulness of one's current job, have shown to influence the relative increase in the Netherlands. Remarkable was that economic and institutional aspects were not found to play a role in the relative increase in the start-up rate in the Netherlands.

# 1. Introduction

## 1.1. Motivation

In the field of economic geography, firms and their location play an important role. Especially in the more specified field of firm demography this role is of even greater importance. At the founding of the firm, a location decision is made. This decision is important for the firm because, for example through the availability of certain resources, a large labour pool or a strong customer basis, its location can have a considerable influence on the success of the firm. However, not only the firm itself but also its surroundings are affected by this decision, because of the (economic) effects that firms can have on their region.

Next to the location, also the number, size and sector of firms play a large role in the economic impact on a region or country. Especially the number of firms is for a great deal affected by the amount of start-up companies in the region. There have been numerous studies on start-up rates and the reasons behind it. Most of these studies have given either a theoretical outline or have made comparisons between countries on a global level that are economically or culturally unlike (Holmes & Schmitz, 1990; Begley & Tan, 2001; Veciana et al., 2005). However, also countries that are seen as very similar in many ways can show great differences in the number of start-ups and level of entrepreneurial activity. For the Netherlands and Germany this is the case.

The Netherlands and Germany are relatively similar countries in many ways. First of all in an economic way, according to the Global Entrepreneurial Monitor (2016), the economic development phase of both countries can be seen as 'Innovation-Driven'. Also the GDP per capita (2014) is similar with \$47,590 for Germany and \$51,373 for the Netherlands (GEM, 2016). Geographically the two countries are neighbours and both located within Europe. Culturally the Netherlands and Germany can also be seen as similar, since both countries have a Western-European culture and both the languages Dutch and German have the same West-Germanic origin (König, 2013). Even in an institutional way the countries have similarities since both the democracies are member of the European Union (European Union, 2016).

In the year 2003 the rates of established business ownership in Germany were higher than in the Netherlands with a difference of 4,6 percent in Germany to 3,8 percent in the Netherlands (GEM, 2014). However in 2014 the established business rate in the Netherlands has grown to 9,59 percent, almost the double of the rate in Germany with 5,15 percent (GEM, 2015a; Figure 1).

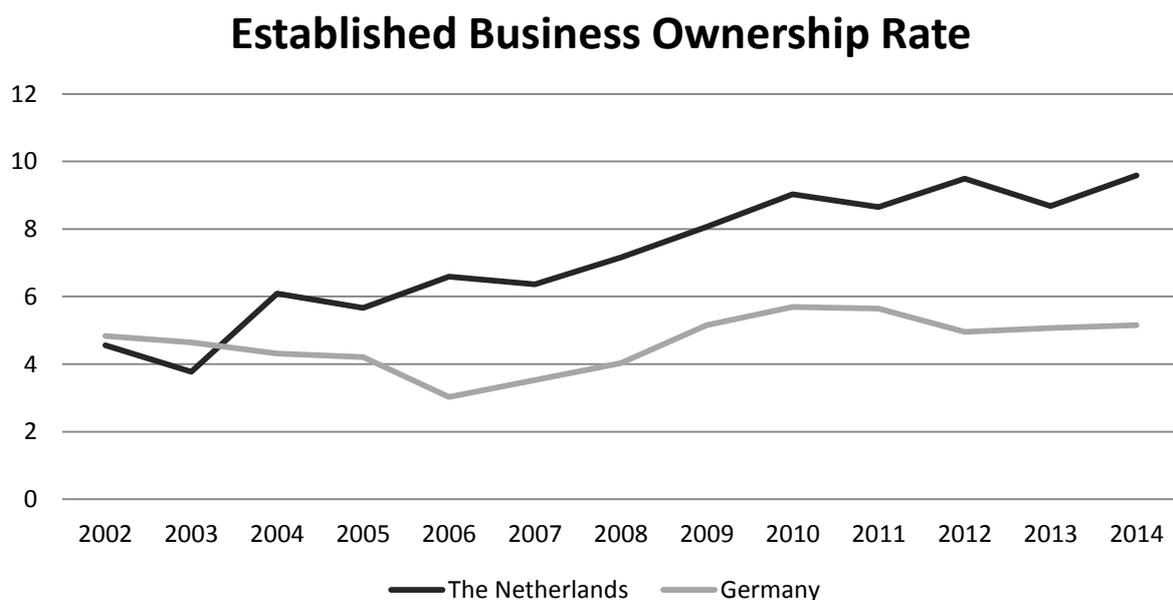


Figure 1: Established Business Ownership Rate

Source: GEM, 2015a.

Also the number of new start-ups (total early-stage entrepreneurial activity) that described their product as new or innovative in 2003 was 41% in Germany to 25% in the Netherlands; in 2014 these numbers have changed to 37% in Germany and 40% in the Netherlands (GEM, 2015a; Figure 2).

### TEA: New Product

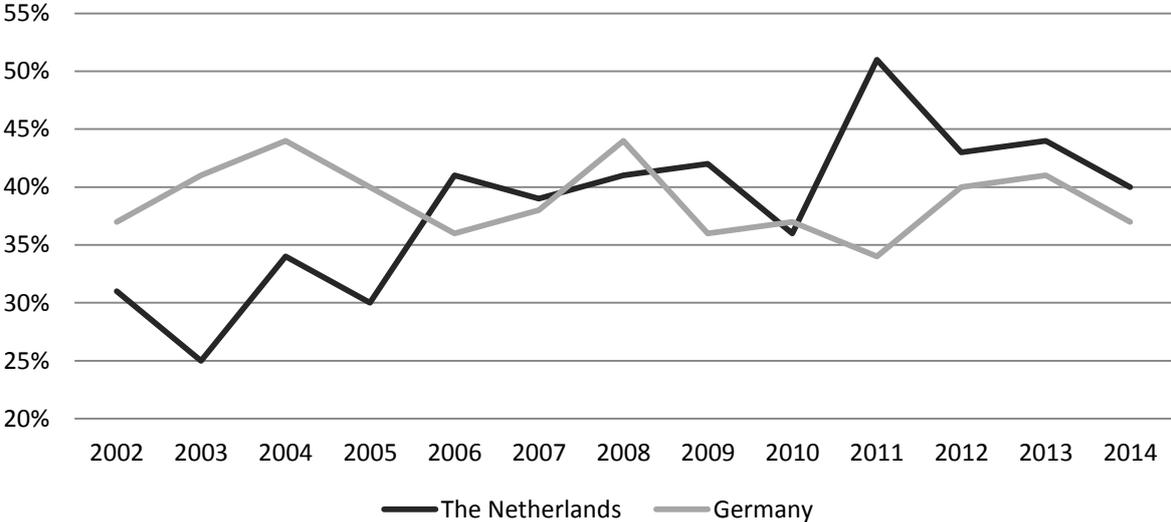


Figure 2: Total Early-stage Entrepreneurs that sell a 'New Product' Source: GEM, 2015a.

Not only the number of early-stage entrepreneurs that consider their product as new or innovative has increased, also the number of early-stage entrepreneurs in total has increased. This is shown in figure 3.

### Total Early-Stage Entrepreneurship (TEA)

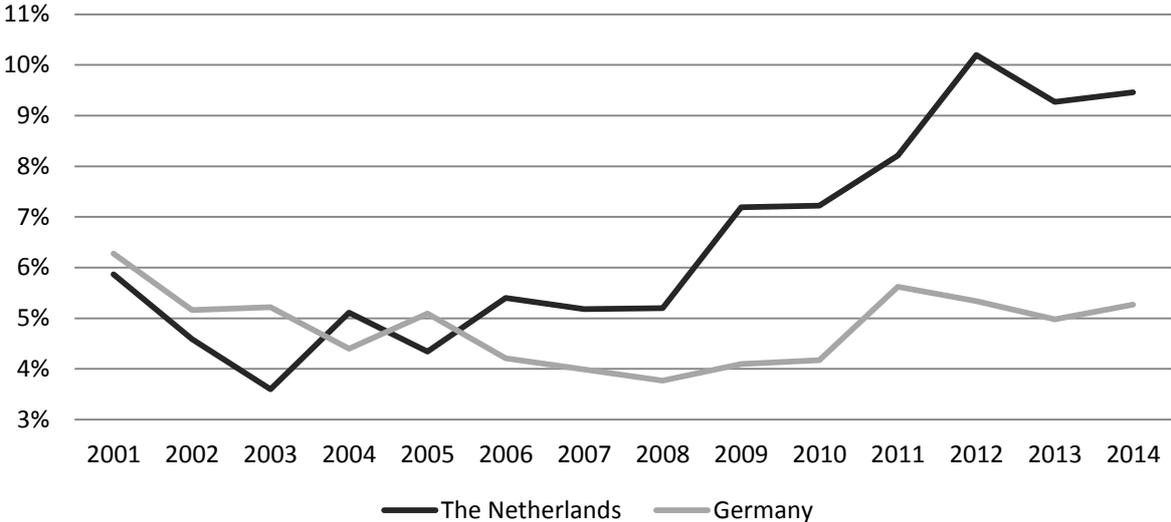


Figure 3: Total early-stage Entrepreneurial Activity (%) Source: GEM, 2016a

This relative difference and change over a period of ten years is notable since the two countries are so similar in many other respects.

According to Bosma and Schutjens (2011) the entrepreneurial climate, among others, has a large influence on the level of entrepreneurship. In this research will be investigated what the reasons for the relative change in start-up rates and level of entrepreneurship are and if differences in entrepreneurial climate can indeed be found. In the end it will be concluded which aspects do indeed play a role in the increasing Dutch start-up rate and for which aspects no proof could be found. It will also be reflected on whether the increase is a positive development or, for example due to increased necessity entrepreneurship during the economic crisis, a negative development. In order to investigate this, quantitative data will be added up by qualitative data from both countries.

Earlier research has been done on the geographical aspect of start-up rates and the level of entrepreneurship (Bosma & Schutjens, 2011). However, in many other studies there has been relatively little attention for changes over time (eg. Bosma & Schutjens, 2011). An exception on this is the work of Andersson and Koster (2011). They investigated the persistence of start-up rates over time in Sweden. In their study, however, they investigated a situation that is relatively stable. Where in this case there is a relatively big change over time. Also, the work of Andersson and Koster refers to a regional case, whereas this research will mainly focus on the country level. This is a very different situation and research to this specific situation can result into valuable outcomes that differ from the stable Swedish case and can be used in more locations of a similar nature. In this way this research has additional value to already existing literature. Also the fact that this research compares relatively very similar countries with different start-up and entrepreneurship rates can lead to valuable insights in the underlying causes of increased start-up rates and entrepreneurial activity. These reasons might support future policy- and decision-making processes. Though acknowledging that there are certainly influences that play on a regional level which can influence entrepreneurship, the rates on a country level differ with such significance that it gives reason to believe that certain influences on country level can play a considerable role. Regional influences will also be taken into account during the analysis, though, based on the previous figures, it is believed that a main focus on the country level can be a valuable contribution to current research in the field and can support country-level policies and decision making.

## **1.2. Research Problem Definition**

The research problem is defined by the following main and sub questions:

### Main Question:

How can the increasing difference in the start-up rates between the Netherlands and Germany be explained?

### Sub Questions:

- 1.a. What are cultural influences on start-up rates from the literature?
- 1.b. What are cultural influences which explain the differences in start-up rates between the Netherlands and Germany?
  
- 2.a. What are economic influences on start-up rates from the literature?
- 2.b. What are economic influences which explain the differences in start-up rates between the Netherlands and Germany?
  
- 3.a. What are influences of the physical environment on start-up from the literature?
- 3.b. What are influences of the physical environment which explain the differences in start-up rates between the Netherlands and Germany?

- 4.a. What are institutional influences on start-up rates from the literature?
- 4.b. What are institutional influences which explain the differences in start-up rates between the Netherlands and Germany?
  
- 5.a. What are educational influences on start-up rates from the literature?
- 5.b. What are educational influences which explain the differences in start-up rates between the Netherlands and Germany?
  
- 6. Is the increased start up rate in the Netherlands a positive development?

## 2. Theoretical Framework

### 2.1. Literature review

#### Economic Growth

Entrepreneurship is a topic that is often mentioned in present day literature as a way to increase economic growth and development (Acs & Szerb, 2007; Audretsch et al., 2006; Koster & van Stel, 2014; Verheul et al., 2001). However, this idea is one that has been around for longer already.

Schumpeter (1942, p.82) claimed that creative destruction is a main driver of economic growth. He states that capitalism is by nature a form of economic change and can never be stationary. Schumpeter (1942) says: *'the fundamental impulse that sets and keeps the capitalist engine in motion comes from the new consumers, goods, the new methods of production or transportation, the new markets, the new forms of industrial organization that capitalist enterprise creates.'* The principle of creative destruction implies that in a situation of increased competition, only the most successful or innovative firms will survive (Schumpeter, 1942; Koster & van Stel, 2014). Also in 1912, Schumpeter describes a similar effect where entrepreneurship stimulates creative destruction through recombining existing production factors. In this process the newly formed firms enter the market with new products and services and compete with the already existing firms. In order to be able to compete with the new firms, existing firms have to improve their own performance as well. Only the most successful new and existing firms will be able to survive. This process stimulates innovation and through this also economic growth.

Koster and van Stel (2014) recognize the effect of creative destruction as the main way through which new business start-ups induce economic growth. In their research they use employment growth as a measure of economic growth. Though recognizing creative destruction as the biggest effect, they specify two effects of new business start-ups that cause employment growth. Next to the lagged effect of creative destruction, they also pose a direct effect. This direct effect means that new firms hire employees. A part of these employees will come from already existing firms so this will have no effect on employment growth, but it is also probable that a part of the employees will be drawn from the unemployed or inactive part of the population. This effect shows a difference between the impact on economic growth between self-employed and other larger start-ups. A self-employed person does not hire personnel, which makes the impact on economic growth more limited. Fritsch and Weyh (2006) also recognized this effect. Although they state that the size of this effect differs between sectors. Start-ups in the manufacturing sector generally have a larger direct employment effect than start-ups in the service sector (Fritsch & Weyh, 2006).

Not only the innovativeness of new and existing firms is important, but also the sector in which they are active (Harada, 2003). Firms that are active in the same geographic location, but in a different sector, are often not competing with each other. For the purpose of creative destruction however, firms need to compete with each other in order to be driven to innovate and improve performance (Schumpeter, 1942). Next to competition, also cooperation can be a way of improving performance. Boschma and Iammarino (2009) did research on the economy of Italian regions and came to the conclusion that having a related variety of firms is the best way to increase regional growth. When companies in a region are closely related to each other in terms of industry, they can learn from each other and, through this learning, come to higher levels of innovation. There are various ways through which new business start-ups can contribute to a related variety of firms in a region. First of all, the creation of spinoffs can have an effect on the economic situation of a region. Spinoffs from a

company are often active in the same or a relative sector and are often innovative (Klepper, 2001). They can stimulate innovation by either competing or cooperating with other companies and their mother-company. Another reason why new business start-ups in a region can contribute to regional economic growth is because successful companies can attract other companies to locate in the same area. Spinoffs that locate near to the mother company, as well as the attraction of new firms, can contribute to the creation of spatial concentration of specific sectors. In order to come to a situation with successful knowledge spill overs, both geographical and cognitive proximity are important (McCann, 2013).

**Global perspective**

The issues of entrepreneurship and new business start-ups are important all over the world. In the developed world it is often seen as a positive development and a driver of economic growth (GEM, 2016a). However, in the developing world there are mixed outcomes (Naudé, 2010; GEM, 2016a). Factor-driven economies have the highest percentage of total early-stage entrepreneurship (TEA) as a share of the total population (GEM, 2016a). Also, the TEA levels for women are the highest in factor-driven economies, absolutely as well as relatively to men (GEM, 2016a). The reason why this in many cases does not result in economic growth lies in the different kinds of entrepreneurship. A large share of the entrepreneurial activity in developing countries is not based on improvement relative to a current job and is also not aiming for innovation. In many definitions of entrepreneurship, this difference is the difference between self-employment and entrepreneurship, but this is combined in the GEM definition. The following paragraph will further specify on this. In developing countries, many business start-ups are necessity driven, more than in developed countries (GEM, 2016a). This means that the entrepreneur started because there was no other option, rather than making use of an opportunity.

The difference between developed innovation-driven economies and factor- and efficiency-driven economies is also shown from the sectors in which entrepreneurial activity occurs most. In the factor- and efficiency-driven economies, half of the entrepreneurial activity occurs in the wholesale and retail sector (GEM, 2016a). In the innovation-driven economies this is only a quarter, the largest share of entrepreneurial activity occurs in ICT, finance, professional and other services (GEM, 2016a). Figure 4 shows this distribution.

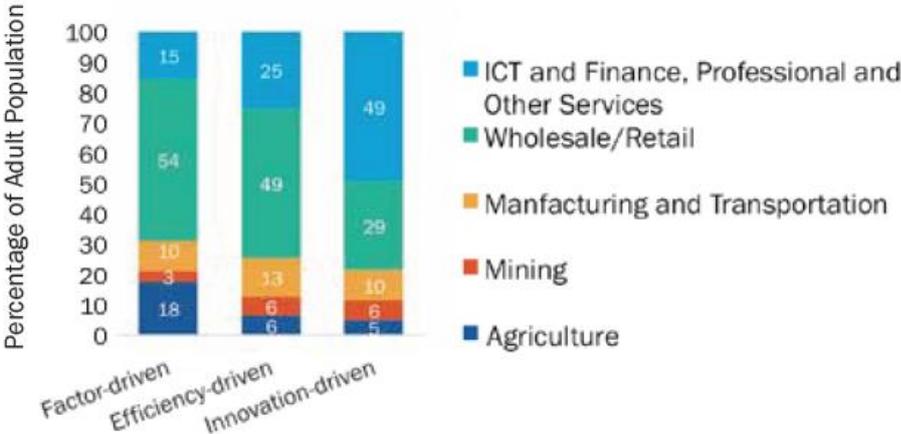


Figure 4: Entrepreneurial activity per economy per sector Source: Global Entrepreneurial Monitor, 2016

However, this view can be different for individual countries. Koster and Rai (2008) investigated the link between economic development and entrepreneurship in India, which is classified as a factor-

driven economy (GEM, 2016a). The expected result would be a negative relation due to a high number of necessity entrepreneurs. However, in the Indian situation the opposite was the case and entrepreneurship seemed to be an important driver of economic growth (Koster & Rai, 2008). The reason for this is that the Indian economy is largely service based, this facilitates small firms and thus fits in a favourable climate for entrepreneurship in this sector. This example shows that the rate, sort and effects of entrepreneurship are not only dependant on the economic situation, but that there are more, often case specific, influences on the rate, sort and effects of entrepreneurship.

### **Entrepreneur**

There are different definitions of what an entrepreneur actually is and which qualities an entrepreneur possesses or should possess. One way to look at an entrepreneur is through the Austrian perspective. In the Austrian perspective entrepreneurship is seen as an omnipresent aspect of human action, such that all individuals are entrepreneurs (Boettke & Coyne, 2003). Even though it can be argued that all individuals are entrepreneurs, there is only a certain amount of the population that actively engages in entrepreneurship. Kirzner (1973) argues that 'entrepreneurial alertness' is an important capability that entrepreneurs possess. This set of skills increases the ability to identify entrepreneurial opportunities (Kirzner, 1973; Gaglio & Katz, 2001). In his later work, Kirzner describes entrepreneurial alertness in two ways. Namely as 'the ability to notice, without search, opportunities that have hitherto been overlooked' (Kirzner, 1979, p.48) and as 'a motivated propensity of man to formulate an image of the future' (Kirzner, 1985, p.56). In the work of Baumol (1990) entrepreneurs are described as 'persons who are ingenious and creative in finding ways that add to their own wealth, power and prestige'. This definition is relatively similar to the first definition given by Kirzner (1973), but with the main difference that in the definition of Baumol the main goal of an entrepreneur is to increase his own wealth. Baumol argues that entrepreneurship does not always have to be positive for society. For example, organized crime is also a form of entrepreneurship but has a negative effect on society. Depending on the sort of entrepreneurship, it can either be productive, unproductive or destructive for society (Baumol, 1990). Also Shane and Venkataraman (2000, p.218) give a definition on entrepreneurship. They define the field of entrepreneurship as 'the scholarly examination of how, by whom, and with what effects opportunities to create future goods and services are discovered, evaluated, and exploited'. Stam et al. (2012) have used this definition and combined it with amongst other the definition of Kirzner (1973) to come up with their own definition. They see entrepreneurship as 'the process by which opportunities to create future goods and services are discovered, evaluated, and exploited'. This way of looking at entrepreneurship comes close to the way Schumpeter (1912) described it. He saw an entrepreneur as a person who carries out new combinations and who turns inventions into innovations. Next to these views, there is the definition of the General Entrepreneurial Monitor (GEM). GEM has a definition of entrepreneurship which defines it rather narrowly as a new business activity, though it is rather broad in the sense of what is seen as new business activity. The GEM definition of entrepreneurship is the following: "Any attempt at new business or new venture creation, such as self-employment, a new business organization, or the expansion of an existing business, by an individual, a team of individuals, or an established business" (GEM, 2016b; p.1). There is one main difference between the definition of GEM and the other definitions mentioned above. This is that in the GEM definition, not only innovative firms or firms with new ideas are included, but all forms of self-employment. Whereas in many other definitions there is a difference between an entrepreneur and a self-employed person. The fact that these two groups are combined in the same definition can be seen as

a disadvantage of the definition of GEM. The economic impact of self-employed people which are not innovative differs from the impact of innovative entrepreneurs. By using this definition for analysis, the fact that also non-innovative self-employed people are included has to be taken into account. A positive aspect of the GEM definition is that it is relatively easy to operationalize. It can be difficult to classify whether something can be seen as innovative and 'something new' or not. What some might see as something new or innovative, might be classified as not innovative by others. This makes this classification rather subjective. The GEM definition on the other hand leaves little space for own interpretation. The GEM definitions classification has a more institutional basis, which makes it easy to classify and operationalize. Within this report the GEM definition will be followed. The main reason for this is the argument that, within this definition, entrepreneurship can be well operationalized and this thus offers the most possibilities to perform analysis based on real world data.

### **Start-ups**

This paragraph will discuss what is understood by a start-up. A start-up can in all situations be seen as a new entry in the market. There are different ways of entering a market. First of all, an existing firm can create a new product (Shane, 2003). This is called product-diversification. Next to this, a firm can also open a new branch in a different market (Lumpkin & Dess, 1996). This is called geographic diversification. Another option is to create a new firm (Gartner, 1989). This creation or 'birth' of a firm is mostly referred to when talking about start-ups. Often, a start-up is also defined as an innovative new firm, but this is not always the case (Koster & Stel, 2014; Robehmed, 2013, GEM, 2016a). Graham (2012) argues that a start-up differs from a regular new business through the amount of growth. However, there are other sources that do not make a difference between start-ups and other new businesses. The GEM (2016a) refers to any starting company as a start-up. This definition will also be used in this research, since it aligns with almost all available data. Within the creation of a firm, it is not evident from which moment on it can be seen as a start-up. There are different points that can be argued to be the starting point of a new firm. First of all a start-up could be defined already from the moment that the intention to start is there. However, in most cases this is hard to define and this definition is therefore also little used. A more common starting point is the moment of actual acting. For example the moment that a firm registers at the chamber of commerce. Since this date is more easily defined and less subjective, this definition is often used. Other possible definitions of the starting point are the point where certain sources such as funding, housing or personnel are acquired or the point where the first customer transaction is made. As mentioned in the paragraph above, the GEM consortium differentiates between a nascent entrepreneur and an owner-manager of an existing business (GEM, 2016b). This differentiation aligns well with the different starting points. Where a nascent entrepreneur is busy setting up a company and an owner-manager is part of a company that is already running.

A start-up can be a completely new firm, but a spinoff from a larger company is also seen as a start-up (GEM, 2016a). The background of a start-up can have large influences on the probable success. The relative amount of start-ups can be measured by using a start-up rate. The start-up rate is defined as the number of new start-ups per 100.000 inhabitants (Kauffman, 2016). Kauffman (2016) also refers to this as the Kauffman Index of Start-up Activity. In this research, the starting point of a start-up is defined as the moment of registering at the chamber of commerce. This definition is chosen since it is often the only definition of which data is available. For example also in the GEM

dataset (GEM, 2016b). Also, this definition is the mainly used definition, which makes it easier to compare outcomes of this research to other literature.

### **Entrepreneurial climate**

It is widely recognized that many differences in entrepreneurial activity and attitude exist across countries and regions (Bosma & Schutjens, 2011). One of the factors that has an influence on entrepreneurial attitudes is the climate in which the entrepreneur lives (Bosma & Schutjens, 2011). Regional demography, regional economic attributes and formal and informal institutions can be the cause of spatial differences in entrepreneurial attitude (Bosma & Schutjens, 2011). Bosma and Schutjens (2011) conclude that entrepreneurship is easier developed in urban regions with low unemployment, high GRP growth and where people have good opportunities to get to know other start-up entrepreneurs than in regions with high unemployment, low GRP growth and lack of opportunities to get to know other entrepreneurs. Knowing other start-up entrepreneurs influences the entrepreneurial attitudes in a region, but also positive media attention and a high status for successful entrepreneurs have an influence on entrepreneurial attitudes in a region (GEM, 2015a). The main indicators of entrepreneurial attitudes are the fear of failure of entrepreneurship, the perceived capabilities of oneself to be a successful entrepreneur and the perceived entrepreneurial opportunities that one sees in the region (GEM, 2015a). A high fear of failure has a negative effect on entrepreneurial activity in a region (Bosma & Schutjens, 2011). Good perceived opportunities and confidence in the own perceived capabilities have a positive effect on entrepreneurial activity (Bosma & Schutjens, 2011).

The entrepreneurial climate has an effect on entrepreneurship in a region, but entrepreneurship itself also partly helps shaping the entrepreneurial climate. An increase in the regional start-up activity can trigger a response mechanism that further increases the regional start-up activity (Andersson & Koster, 2011). Andersson and Koster (2011) argue that there is a regional persistence in start-up rates which is partly caused by path-dependency. One way through which this effect can be explained is through the concept of institutional hysteresis. *'Institutional hysteresis refers to formal and informal institutions being both the products and the determinants of economic exchange and behaviour (cf., North, 1990)'* (Andersson & Koster, 2011, p.183). In other words, a region with high start-up rates in one period might gradually form institutions, both formal and informal, such that they are more favourable for start-up entrepreneurs, which might result in a high start-up rate in the next period again. Likewise, due to limited start-up activity in a certain region, formal and informal institutions might be formed in such a way that they are unfavourable for starting up a new business, which in turn might keep the start-up activity in the region low.

Persistence in regions with high start-up activity can also be explained by dynamic increasing returns (Andersson & Koster, 2011). *'The concept of dynamic increasing returns refers to positive feedback mechanisms including learning and the establishment of traded and untraded externalities (Arthur, 1994)'* (Andersson & Koster, 2011). For example in a region with high start-up activity it is relatively easy to come in contact with existing entrepreneurs. This can improve the learning process and help the future entrepreneur by preparing him for known obstacles and difficulties in the entrepreneurial process. In a region with low start-up activity it will be relatively harder to come in contact with current entrepreneurs and therefore it will be harder to make use of this opportunity.

Apart from the mechanisms mentioned above, there are also other region-specific features that influence start up activity. Johansson and Wigren (1996) describe these features as the production milieu. The production milieu consists of *'durable and spatially sticky regional attributes'* (Andersson

& Koster, 2011). A good example of this production milieu is material infrastructure such as internet connection, roads, buildings and airports. Apart from investments over time, also the natural attributes of a region help shape the production milieu (Andersson & Koster, 2011). For example the presence of certain resources, access to waterways or a central location are factors that contribute to the regional production milieu. Since the regional production milieu consists of natural attributes and of durable investments over time, it only changes very slowly (Andersson & Koster, 2011). Andersson and Koster (2011) summarized all the factors mentioned above into one conceptual model. This model can be seen in figure 5.

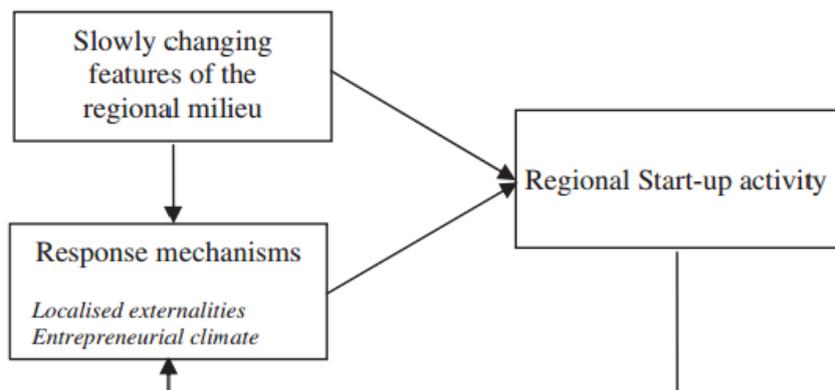


Figure 5: Conceptual model of regional milieu.

Source: Andersson & Koster, 2011: p. 185

Because of the slow change in the regional climate, the influence that institutions can exert, at least in the short range, is often questioned (Andersson & Koster, 2011). However, institutions are often said to have an important role in the field of start-up activity and entrepreneurship.

In this research, the main focus lies on investigating start-up rates on the country level, whereas the entrepreneurial climate is mainly focused on the regional level. This means that the outcomes cannot be interpreted one on one. However, a country is per definition built up by its regions. If respondents from all over the country conclude that the indicators of a entrepreneurial climate are strong, then it can be concluded that overall the country possesses a stronger entrepreneurial climate in its regions. Based on the outcomes of this research it is however not possible to specify where in the countries the regional entrepreneurial climate is strongest.

### **Institutions**

As mentioned before, the role of institutions in the process of increasing start-up activity is sometimes questioned, but often also said to have a large impact. According to the definition of Baumol (1990), the supply of entrepreneurship (entrepreneurial talent) is a constant. This would mean that institutions have no effect on this supply. However, it is argued by Boettke and Coyne (2003) that institutions can affect both the supply and the allocation of entrepreneurship. They say that the institutional environment serves as an incentive structure which guides and influences action. This relation between macro and micro level conditions and outcomes has been seen before in the work of Coleman (1990). He described the rules and institutions on the macro level as the 'rules of the game' that help shape the micro level. The outcomes on the micro level in their turn are not given and together help shape the outcomes on the macro level. This theory has been put in a scheme that is often referred to as Coleman's boat or Coleman's bathtub, it can be seen in figure 6.

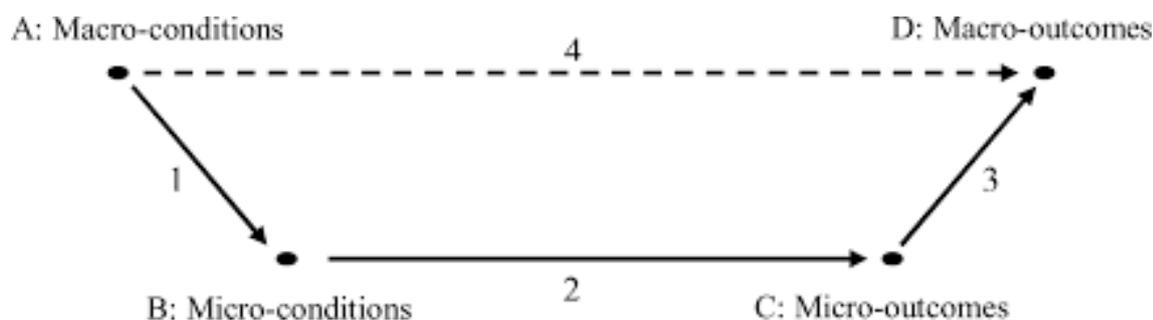


Figure 6: Coleman's boat

Source: Raub et al., 2011: p. 3

Even though the opinions on the impact of institutions on entrepreneurship are divided, a number of ways through which institutions can influence institutions are defined. The concept of institutional hysteresis has been explained before as one example that has an effect in the long run. On both the national and regional level, there are more ways in which formal and informal institutions can help increase or steer entrepreneurial and start-up activity.

On the national level the influence of these institutions can for example run through labour market policies and the way the labour market is shaped in general (Bouri & van Ours, 2008). A factor that can be of importance is the level of employment protection in a country. A high labour protection can work through on the start-up rate in two different ways.

First of all, with a high level of employment protection, an employed person has a relatively high degree of security for the future. An employee cannot be easily fired and also at times of economic downturn there is still a strong measure of security (Bouri & van Ours, 2008). In a situation (or location) with little employment protection, an employee has less certainty for the future. At times when business comes slow for the company, the employee can be fired relatively easily. Leaving a current job to start an own business always brings a sense of risk with it, unregard the level of employment protection. However, even though the insecurity that comes with starting an own business is the same for both situations, the risk relative to the old situation is higher in a situation of strong employment protection, since a more secure situation is left behind. In other words, the opportunity costs for quitting your job and starting a new business are higher in a situation with strong employment protection than in a situation with little employment protection. Through these increased opportunity costs, stronger employment protection can have a negative influence on start-up rates.

The second reason lays in the hiring of employees for the possible future company. When the intention is not to stay self-employed but to hire employees for the new company, the level of employment protection will also apply to these employees. Starting a new business can be risky. In a hypothetical situation of zero employment protection, all employees can be fired immediately in case of failure or economic downturn (Bouri & van Ours, 2008). In this case, the risk of hiring employees is low. In a situation with strong employment protection, the hired employees cannot be fired so easily. When the new business is not successful for any reason, it will be costly to fire or reduce the hours of employees when hired (Bouri & van Ours, 2008). For example contracts might have to be bought off or the employees have to be kept in the company for at least a certain period of time (Bouri & van Ours, 2008). This makes the risk of starting an own company and hiring employees higher in a situation with high employment protection than in a situation with little employment protection.

Apart from the arguments mentioned above, also the duration of the contracts can play a role. With relatively shorter contracts there might be an increased flow of jobs where employees switch

employer (Bouri & van Ours, 2008). An employee who intends to start a new business gets a good opportunity to do so in these 'moments of change'. When the contract of an employee has ended, the risk to engage in entrepreneurship is relatively low because of the reduced opportunity costs of losing the old job. Important to keep in mind is that these opportunity costs might stay high in the case that the employee has already received a new job offer. Similarly, the opportunity costs of employees with long-term or fixed contracts are relatively high.

In the case of the Netherlands and Germany, data on employment protection will be examined to see if the levels of employment protection are higher in Germany than in the Netherlands and with that underline the above mentioned relationship between employment protection and start-ups.

On a local, firm-specific level, the availability of intrapreneurship can also play a role. When one is of the opinion that the risk of engaging in entrepreneurship is too high, intrapreneurship might be an alternative. In essence, intrapreneurship means to engage in entrepreneurship in the way of being innovative, but instead of starting an own business the intrapreneur gets the chance to bring his ideas into reality within an already existing firm (Bosma et al., 2010). In this way, the intrapreneur still has some of the advantages of entrepreneurship, but has avoided a large part of the risks. However, risk aversion is not the only incentive to become an intrapreneur rather than an entrepreneur. The reason can also be one of personal or cultural nature. For example in an environment where entrepreneurship is not seen as an accepted or desirable career choice, one might be more tempted to engage in intrapreneurship instead. Also a personal connection to a certain firm or simply the fact that it is easier to stay within the firm might be incentives for intrapreneurship over entrepreneurship. Measuring the extent of intrapreneurship occurrence lays outside the scope of this research, however it is important to keep in mind that intrapreneurship exists and can be an alternative for those who do not want to take the risks of entrepreneurship.

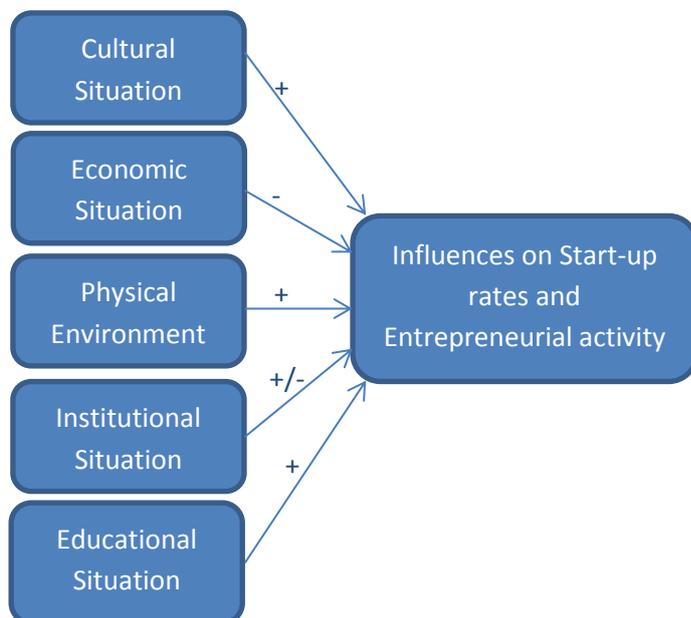
Another way through which institutions can exert influence on the start-up activity on a regional or national level is by the attention that is given to entrepreneurship in for example education. If for example universities and schools of higher education actively promote entrepreneurship as a career choice and put it in a positive daylight, then this can have a positive effect on the rate of entrepreneurship. When this attention to entrepreneurship comes from a national decision then this can affect the country nationwide. Schools and universities themselves can also decide to pay more attention to entrepreneurship, in this case the influence will mostly be on a local or regional level.

Next to this, institutions can also influence entrepreneurial activity through reducing the difficulty of bureaucratic processes. Both when starting up and when running a business, dealing with complicated bureaucratic processes can reduce the attractiveness of starting an own business (Sørensen, 2007). When processes such as applying for subsidies and filing out various forms and taxes are unnecessarily complicated, this might prevent someone from engaging in entrepreneurship. Whereas when these processes are relatively easy, this might not be a problem.

A final way through which institutions can influence entrepreneurial activity is through funds, loans, subsidies, tax reductions and other forms of financial aid. Naturally, when more financial benefits are available, it will become more attractive and less risky to start an own business.

## 2.2. Conceptual Model

Based on the theoretical framework and the goal of the research, the following conceptual model is made. In this model the scope of the research and the selected attributes that will be examined are shown. From the literature it became clear that the reasons to engage in starting-up a business are complex and many different aspects play a role. The cultural situation of a person influences a person's choice to start-up a business through the entrepreneurial climate. A suitable cultural situation can increase the chances to engage in starting-up a business. The institutional situation can have positive effects on the start-up rate in the form of subsidies or lower taxes, but also negative effects on the start-up rate in the form of high employment protection. The educational situation can influence the start-up rate both through attention for starting up a business and through the skills learned. Increasing a person's economic situation can be a stimulation to change job and start a business or to start a business out of necessity. And finally a good physical infrastructure can allow start-ups by allowing for a more suitable production milieu.



Based on the literature, the following hypotheses are made:

Factor	Hypothesis
Cultural	Personal and societal views on business start-ups influence the start-up rate in a country.
Economic	Entrepreneurs are more likely to have a high income than non-entrepreneurs. The Dutch start-up rate increased relative to the German start-up rate through a relative increase in the number of self-employed in the Netherlands. The Dutch start-up rate increased relative to the German start-up rate through a relative increase in the number of necessity driven entrepreneurs in the Netherlands.
Physical	The quality of physical infrastructure (internet, roads, railroads) influences the start-up rate.
Institutional	The Dutch start-up rate increased relative to the German start-up rate through lower levels of employment protection in the Netherlands. The Dutch start-up rate increased relative to the German start-up rate due to lower levels of bureaucracy in the Netherlands. The Dutch start-up rate increased relative to the German start-up rate due to higher levels of government financing and support in the Netherlands.

---

Educational

Entrepreneurs have higher levels of education than non-entrepreneurs.  
There is more attention for entrepreneurship in education in the Netherlands than in Germany.

## **3. Methodology**

### **3.1. Data**

#### **GEM – Adult Population Survey (APS)**

The main dataset that is used is the Adult Population Survey of the GEM. This dataset contains surveys regarding a large number of variables related to start-ups and entrepreneurship for many countries around the world. For this research, all respondents from the Netherlands and Germany have been filtered out. In 2003 this were 3505 respondents from the Netherlands of which 226 started their own business and 7534 respondents from Germany of which 730 started their own business. In 2012, 3501 respondents came from the Netherlands of which 557 started their own business and 4278 respondents came from Germany of which 538 started their own business. Appendices A and B show a list of all variables and number of observations per variable for 2003 (appendix A) and 2012 (appendix B). The different variables are also further discussed in chapter 3.3: Data Analysis.

The data of the APS is collected by a separate team per country. The methods by which respondents are identified is mainly decided by the percentage of landline telephone network coverage in the country (GEM, 2016b). When this is over 85%, landlines are allowed to be used for data collection, if this is not the case, also face-to-face interviews and/or mobile phones may be used (GEM, 2016b). In both the Netherlands and Germany, the surveys were conducted over both landlines and mobile phones, but not by face-to-face interviews.

#### **GEM – National Expert Survey (NES)**

Next to the Adult Population Survey, also the GEM National Expert Survey is used. This dataset contains variables regarding the conditions for start-ups and entrepreneurship in the various countries. Unlike the Adult Population Survey, this dataset does not consist of surveys, but contains a single value for every variable. This value is based on the opinion of national experts. For every country at least 36 experts are selected (GEM, 2016b). These experts are identified by different methods, for example through personal and professional contacts, trade and business magazines, internet, newspapers or university and college lists.

Data from the National Expert Survey cannot be used in quantitative analysis, but because it is based on the knowledge of a large amount of experts, it gives a very good indication of the situation in a country.

### **3.2. Research methods**

#### **Logistic Regression**

The main research method that was used for the analysis is logistic regression. There are several reasons why logistic regression is chosen as most suitable form of analysis.

First of all, a logistic regression does not require independent variables to be interval or ratio, but also ordinal variables can be tested. As most of the independent variables in the analysis are ordinal variables, using logistic regression is more suitable than for example linear regression or a t-test. Even though the research compares different years, a logistic regression is in this case also more

suitable than a time series analysis because a time series analysis requires the respondent in the different years to be the same respondents, and for the data at hand this is not the case.

Secondly, a logistic regression does not only say something about if there is a difference between two groups, but it also gives information about the direction and magnitude of this difference through an odds ratio ( $\exp B$ ). For example if the dependent variable is nationality (Dutch or German, with Dutch as  $y$ ) and the independent variable is knowing an entrepreneur or not, a significant outcome with an odds ratio of 2 would indicate that there is a significant difference between the two groups, and that a person who knows an entrepreneur is two times more likely to come from the Netherlands than from Germany.

Finally, an advantage of using logistic regression is that a logistic regression can also find differences in ordinal variables where both the upper and lower groups have higher values than the groups in between. Such a difference would not be found in for example a t-test or comparable tests.

When using logistic regression, the explanatory value of a model is not expressed in the same way as for an OLS. The R-squared value of a logistic regression model is a pseudo R-squared. This pseudo R-squared value also gives an indication on how much of the variance in the outcome is explained by the model. A perfect prediction gives a 100% score and a prediction similar to the intercept 0%. In this way, the pseudo R-squared value of a logistic regression model can also be used to interpret the explanatory value of the model.

## **Interviews**

In order to get deeper first-hand insights, in-depth interviews were held. A total of four interviews were performed. This number is not large enough to draw conclusion on, but they do help support and validate the outcomes of the logistic regressions. To get an as complete image as possible, the interviews were selected to come from both the Netherlands and Germany, and for both countries include both a person who started up their own business and an expert from the chamber of commerce. The interview at the German chamber of commerce was conducted with Jürgen Belian, who works as a start-up consultant. Through this role he gained extensive knowledge about the situation of start-ups and the processes related to it. The interview at the Dutch chamber of commerce was conducted with Bert van der Sel, advisor start-up support. This role is similar to the role of Mister Belian and through this role Mister van der Sel also gained extensive knowledge on the subject of start-ups. The starters that are interviewed are Volker Deuschel from Germany and Erik Nijman from the Netherlands. Mister Deuschel started a company in 2011 that engages in technical planning for technical building equipment, such as central heating or sanitary facilities. Mister Nijman started his own catering company in 2010. He arranges the catering mainly for events such as birthdays, weddings etc.. These starters were selected because they both started their business during the study period and because they are both in the similar situation of being in the early stages of starting up a business without employees yet.

## **3.3 Data analysis**

The main method of analysis in this research is the logistic regression. This way of analysis has been applied to the GEM Adult Population Survey dataset on the Netherlands and Germany. Nationality has been set as the dependent variable and the other variables as explanatory variables. In this way, a significant outcome means that for the given explanatory variable, there is a significant difference between the Dutch and German population. The data collected from interviews and the GEM

National Expert Survey cannot be analysed by the means of a regression. For this data the information is mainly used as validation of the outcomes of the logistic regressions. The data is stated and related to views and knowledge from other academic literature (as given in the theoretic framework). As can be seen from the sub questions already, there are various aspects that will be analysed. These aspects are cultural, economic, physical, institutional and educational aspects. In the chapter on cultural influences, various societal views and ideas are discussed. In the chapter on economic aspects, the focus lies on income levels of entrepreneurs and the rest of the population. Next to this, the difference between hiring and not hiring employees in the Netherlands and Germany is analysed. Also the amount of necessity driven entrepreneurs is examined. The chapter on physical influences focusses on physical infrastructure, especially internet connectivity, and on the influence of the different size and population density of the countries. The chapter on institutional influences focuses on the institutional influences as mentioned in the theoretical framework. These include employment protection, regulations regarding the start-up process, bureaucracy and various subsidies.

### **Input Variables**

In the research, logistic regressions were performed. In these regressions:

The dependent variables were:

- **'Country'** (0=Netherlands; 1=Germany).
- **'Business starter'** (0=no; 1=yes).

The independent variables concerning cultural aspects are:

- **'Personally knowing someone who started an own business'** (0=no; 1=yes).
- **'Seeing starting a business as a desirable career choice'** (0=no; 1=yes).
- **'There are often stories in public media about successful new businesses'** (0=no; 1=yes).
- **'Successful business starters have a high level of status and respect'** (0=no; 1=yes).
- **'Seeing good business opportunity in the next 6 months'** (0=no; 1=yes).
- **'Having the suspected skills and knowledge to start a new business'** (0=no; 1=yes).
- **'Fear of failure preventing from starting a new business'** (0=no; 1=yes).
- **'My work is meaningful'** (0=Strongly agree; 1=Somewhat agree; 2=Neither agree nor disagree; 3=Somewhat disagree; 4= Strongly disagree)

The independent variables concerning economic aspects are:

- **'Income'** (0=Lowest 33%tile; 1=Middle 33%tile; 2=Highest 33%tile). The data on income is divided in 33%tiles based on the incomes in the country of research.
- **'Necessity Driven entrepreneurship'** (0=no; 1=yes).

In the chapter on physical infrastructure, no logistic regressions are done. Instead, outcomes of the GEM National Expert Survey are used to interpret the quality of physical infrastructure regarding start-ups in a country.

In the chapter on institutional aspects also no logistic regressions are performed. Again, outcomes of the GEM National Expert Survey are used.

The independent variables concerning educational aspects are:

- **'Level of Education'** (0=None; 1=Some Secondary degree; 2=Secondary degree; 3=Post-Secondary; 4=Graduate Experience). This variable has been recoded to these groups in order to get a uniform output for all countries. For the Netherlands it is recoded as following: None stands for no education, Some secondary for any education before middle school, Secondary for a middle school degree, Post-Secondary for a HBO or university Bachelor's degree and Graduate Experience stands for a university Master's degree or PhD. For Germany it is recoded as following: None stands for no education, Some secondary for middle school degrees up until Realschule (equivalent of Have in the Netherlands), Secondary for Gymnasium or vocational training, Post-Secondary stands for Fachhochschulabschluss or a universities Bachelor and Graduate experience stands for a Master's degree or PhD. Because the levels are not exactly the same in both countries, the levels of education of business starters are compared to the rest of their respective countries' populations instead of directly with each other.
- **'Age'** (0=0-17; 1=18-24; 2=25-34; 3=35-44; 4=45-54; 5=55-64; 6=65+). Additionally, to check for the growth in young starters (<24) a dummy variable was created recoding the first two groups to 0 and the rest to 1.

### 3.3. Quality of the data

#### **GEM – Adult Population Survey (APS)**

The data from the Adult Population Survey is collected by separate teams per country and because of that the method of collecting can slightly differ. However, both in the Netherlands and Germany the data is collected through landline and mobile phone surveys. There are a number of quality controls done by the GEM before publishing the data in order to make sure it is as good as possible. *'Each national data file is examined upon submission. Error checks are performed on all submitted data to find and correct any data recording errors and harmonized the format of each variable from country to country. Each variable is examined for out-of-range codes or unusually high rates of missing or refused responses. The frequency distribution for all key indicators is compared to that for other countries and to previous years, to see if there are any possible anomalies. All potential skip logic errors (questions asked that should be skipped, and questions skipped that should be asked) are examined and all extraneous data deleted from the data file. Each team is sent an initial data quality review, which informs them of any errors in their data, allowing them to respond to or fix the problem. Sometimes, if there is excessive missing data, a team may be asked to either re-contact the respondents which should have been asked the question or to resample enough respondents to make-up for the missing data.'* (GEM, 2016b).

Also, supplied weights are made sure to match the gender and age distribution of the specific country. If the weights do not match originally, the weights are adjusted by age and gender population data (GEM, 2016b). If the weights are still not representative, they are discarded and replaced by newly calculated GEM weights. Also all data is returned to the national team twice in order for them to check for possible mistakes and errors before the finalization of the results (GEM, 2016b).

### **GEM – National Expert Survey (NES)**

Also the data of the National Expert Survey is collected following strict GEM directions and guidelines. For each country at least 36 experts are selected. This selection is first checked by the NES coordinator on professional background and other GEM conditions (GEM, 2016b). If the selection does not meet these conditions it is rejected and new experts will need to be found.

An online platform is used to conduct the interviews and introduce the collected data. This platform automatically checks the input for missing fields and incorrect formatting of answers (GEM, 2016b). An automatically generated SPSS file is sent to the National Team for review (GEM, 2016b). *'The NES data is also tested for the reliability of the blocks. These tests were designed under theoretically justified constructs and have proved to be stable since 1999.'* (GEM, 2016b).

### **Interviews**

The data from the interviews is collected first-hand. By including respondents from both the Netherlands and Germany and from both countries' chambers of commerce a complete image is tried to be created. However, this is only a very small sample and the outcomes are merely used to validate results of the quantitative analyses, to gain insights in the respondents opinions and to increase general knowledge on the subject. Both interviews in Germany were recorded and the recordings are delivered together with this report. The interviews in the Netherlands were conducted online and because of this the recordings were unfortunately very unclear. Instead, summaries of these interviews were made and attached to this report in appendices C and D.

## 4. Analysis and Results

### 4.1. Cultural aspects

#### Culture

As mentioned in the introduction, the Netherlands and Germany are similar in many different aspects. These also include many cultural aspects. Both countries are neighbours, have a Western-European culture and both languages have the same West-Germanic origin (König, 2013). Although in both countries there is a separation between church and state, both countries can historically be seen as Christian countries. In both the Netherlands and Germany, the north is more protestant and the south is more catholic (CBS, 2016; Statistische Ämter des Bundes und der Länder, 2014). However, there is more to culture than this. Views of the population can also be seen as culture and also the entrepreneurial climate and its indicators are a part of culture. In the theoretical framework there has already been paid attention to the entrepreneurial climate. The main indicators of entrepreneurial attitudes have been defined by the Global Entrepreneurial Monitor (2015a) as the fear of failure, one's perceived capabilities of becoming a successful entrepreneur and one's perceived opportunities in the region. Though these indicators can give a good indication, it is well comprehensible that these variables alone do not account for a complete explanation. In order to investigate the difference in influence of culture on start-up rates and levels of entrepreneurial activity in the Netherlands and Germany, several other aspects of culture have been added into the analysis. These aspects have all been included in the GEM adult population surveys of 2003 and 2012 (GEM, 2015a). Adding to the initial three indicators, the following aspects have been included:

- If starting an own business is seen as a desirable career choice;
- If there often are stories in the public media about successful new businesses;
- If successful entrepreneurs have a high level of status and respect;
- If a person knows someone personally who started an own business;
- If a person expects to start up a new business in the next 3 years.

These variables were all created by asking individuals how they experience the situation. The outcomes are thus on the respondents' local scale, but together build up results on a national scale. These eight variables together have been used in a logistic regression to determine their role in explaining the differences between the Netherlands and Germany concerning start-up rates. One regression was done for 2003 and one for 2012. The outcomes are shown in table 1.

<b>2003 and 2012 – Entire populations Y = Germany</b>	<b>B 2003</b>	<b>Sig. 2003</b>	<b>Exp(B) 2003</b>	<b>B 2012</b>	<b>Sig. 2012</b>	<b>Exp(B) 2012</b>
Intercept	2,344	,000	10,418	,279	,003	1,322
Personally knowing someone who started an own business	,472	,003	1,603	-,329	,000	0,719
Seeing starting a business as a desirable career choice	-1,320	,000	0,267	-1,484	,000	0,227
There are often stories in public media about successful new businesses	-,017	,916	0,984	-,333	,000	0,717
Successful business starters have a high level of status and respect	,514	,002	1,671	,783	,000	2,188
Seeing a good business opportunity in the next 6 months	-,662	,000	0,516	,489	,000	1,631
Suspected skills and knowledge	-,441	,022	0,643	,163	,018	1,177
Fear of failure	,385	,042	1,470	,260	,000	1,297
Expects to start a business the next 3 years	,830	,000	2,293	,320	,002	1,377

R-squared	0,133	0,194
N	1589	4473

Table 1: Logistic regressions - culture 2003 and 2012.

The table shows that all variables are significant, except for media attention in 2003. The pseudo R squared values are 13,3% for 2003 and 19,4% for 2012. Some aspects are more likely to be found in Germany (odds ratio larger than one) and some aspects are more likely to be found in the Netherlands (odds ratio smaller than one). In order to help explain the difference over time, the variables which differ largely over time are the most relevant ones.

Compared to the results of 2003, the results from 2012 show a number of similarities but also differences. The first notable result is that, in contrast to 2003, the coefficient for media attention is very significant in 2012. The exp B value is lower than 1, which means that the odds to find a Dutch person who encountered this are higher than for a German person. The exp B values for considering entrepreneurship as a desirable career choice, the perceived status of a successful entrepreneur, fear of failure and expectations to start up a business in the next three years have all stayed either higher or lower than 1. Meaning that for these variables, there was no shift in likelihood from one country to the other. The perceived status of successful entrepreneurs has even grown more in Germany relative to the Netherlands. The exp B value for the expectations to start a new business is still above 1, but it has decreased from 2,3 to 1,4. This is a remarkable decline.

Striking in the results of 2012 in comparison to 2003 is that the B values of a number of variables have shifted between positive and negative. Meaning that, for a shift from positive to negative, attributes that were more likely to be found among Germans in 2003 are more likely to be found among Dutch in 2012. Similarly, for a shift from negative to positive, attributes that were more likely to be found among Dutch in 2003 are more likely to be found among Germans in 2012.

In 2003 it was 1,6 times more likely for a German person to personally know an entrepreneur. But in 2012 this has changed to an odds ratio of 1,4 in favour of the Dutch. Also very notable is that for both the variables 'seeing a good opportunity in the next six months' and 'having the perceived skills and knowledge to start up a business', the coefficients have shifted from negative to positive. So where in 2003 the Dutch were more likely to possess these attributes, this shifted to a higher likeliness for Germans in 2012.

When relating the outcomes of the analysis to the trend of a relative increase in the start-up rate in the Netherlands to Germany, the results do not lay in one clear line. First of all, what does not fit the trend are the increased odds favouring Germans for seeing a good opportunity in the next six months and having the perceived skills and knowledge to start up a business. Seeing a good opportunity and perceiving to have the right skillset however does not always result into entrepreneurship (Bosma & Schutjens, 2011). It is also possible that these attributes are available but that for a number of other reasons a person decides not to engage in entrepreneurship. If this is the case then this results in 'untapped entrepreneurial potential' (Bosma & Schutjens, 2011). Bosma and Schutjens (2011) made a map that shows the untapped entrepreneurial potential for the period of 2001 until 2006. This map is shown in figure 7.

## Untapped Entrepreneurial Potential

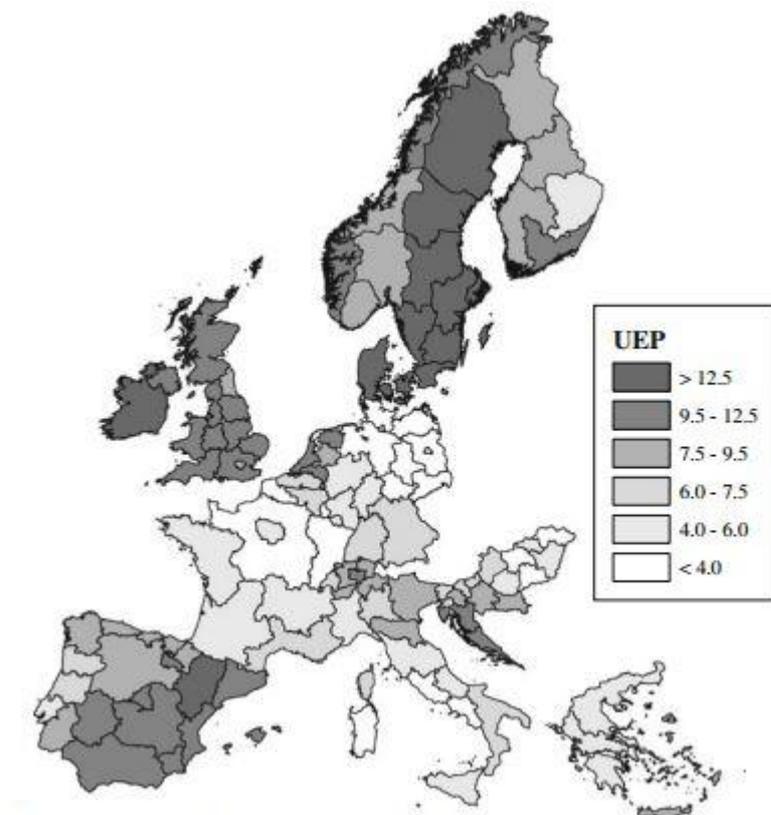


Figure 7: Untapped Entrepreneurial Potential 2001-2006. Source: Bosma & Schutjens, 2011

Figure 7 shows that for the period of 2001-2006 the Netherlands had a much higher score for untapped entrepreneurial potential than Germany. This is consistent with the scores in the analysis for the perceived skills, knowledge and business opportunities in the region for 2003. With a higher percentage of the population involved in entrepreneurship in the Netherlands in 2012, and a higher likelihood for Germans to perceive to have the right skillset and to see good business opportunities, it can be concluded that the level of untapped entrepreneurial potential in Germany has risen relative to the level in the Netherlands. This however, does not explain the reason for the change in start-up rates or the underlying reason for not using this potential in Germany yet.

What lies more in line with the increased start up rate in the Netherlands is that there has been a significant change in the coefficient for knowing an entrepreneur. However, the influence of this is rather difficult to establish. Even though it is widely accepted that knowing an entrepreneur who can help you with the process can have a positive influence on starting up a company yourself (GEM, 2015a), it is not said that this changing coefficient is a cause of the increased start-up rate in the Netherlands. Since an increase in the number of entrepreneurs will naturally also increase the number of people who know an entrepreneur. Therefore it is not completely clear if the change in the coefficient should be seen as a cause or as a result of the increased start-up rate. Likely, it can be seen as a self-reinforcing process, similar to the process of institutional hysteresis where an increase in entrepreneurship helps shape an entrepreneur-friendly climate, which increases entrepreneurship again, and so on and so forth (Andersson & Koster, 2011). So the relative increase in knowing an entrepreneur in the Netherlands can be seen as partly a cause and partly a result. The same can be said about media attention. The General Entrepreneurial Monitor has included the amount of media

attention for successful business start-ups as one of the explanatory variables for new business start-ups (GEM, 2015a). This relationship is understandable since seeing and hearing stories about successful business start-ups might inspire the audience to act in a similar direction themselves as well. An opposite argumentation, where media attention is dependent on the amount of business start-ups is however also possible. A high number of business start-ups naturally also plays a larger role on both regional and national level than a low number of business start-ups would play. The increased start-up rate in the Netherlands can therefore also be seen as a cause for the relative increase in the amount of media attention given to it. So just as for knowing an entrepreneur, media attention can also be seen as partly a cause and partly a result of the number of business start-ups. The increase in media attention related to start up activity can have an increasing result due to issue dynamics. 'Issue dynamics mean that reporting on one issue influences coverage of other issues' (Djerf-Pierre, 2012; p.291). This means that, next to a higher start-up rate, an increase in media attention itself can also cause additional media attention on the topic. Once successful entrepreneurship occurs (regularly) in the media, the self-reinforcing process of issue dynamics can develop and trigger a further increase in attention. However, in this analysis no significant result has been found so this cannot be seen as a reason in this case.

The same analysis, as done before on the Dutch and German population, has also been done for Dutch and German people who are currently owner or manager of a business. By doing this analysis, it can be tested if those who started a business themselves also experience the differences that were found in the previous analyses. The variable 'expecting to start a business' has been left out since all respondents already have an existing business. Table 4 shows the results for 2003 and 2012.

<b>2003 and 2012 – Current business owners Y = Germany</b>	<b>B 2003</b>	<b>Sig. 2003</b>	<b>Exp(B) 2003</b>	<b>B 2012</b>	<b>Sig. 2012</b>	<b>Exp(B) 2012</b>
Intercept	1,766	,000	5,845	1,133	,000	3,106
Personally knowing someone who started an own business	,638	,001	1,892	-,380	,017	,684
Seeing starting a business as a desirable career choice	-1,182	,000	,307	-1,826	,000	,161
There are often stories in public media about successful new businesses	-,198	,294	,821	-,267	,079	,766
Successful business starters have a high level of status and respect	,440	,031	1,553	,697	,000	2,009
Seeing a good business opportunity in the next 6 months	-,625	,001	,535	,469	,003	1,598
Suspected skills and knowledge	-,049	,853	,952	-,224	,337	,799
Fear of failure	,009	,967	1,009	-,151	,432	,860
	R-squared	0,114		0,224		
	N	777		868		

Table 1: Logistic Regression - Culture 2003 and 2012: Business owners

In the analysis, no significant difference was found for media attention, suspected skills and fear of failure. The other variables did have significant results. The Pseudo R-squared values are 11,4% for 2003 and 22,4% for 2012. The results show that in 2012, just as for the total populations, generally more Dutch business owners know someone else who also started a business. In 2003 this was the other way around. This can simply be a result of a higher number of business owners in the Netherlands in 2012 compared to 2003. But it can also be a sign that in general business owners in the Netherlands meet up more often and perhaps exchange tips and experiences. For example the

Dutch chamber of commerce (kvk) organizes meetings and seminars for and with (potential) business owners (Kamer van Koophandel, 2016). Also the fast rise of social media use has made it easier for business owners to come in contact with each other. However, this is the case for Germany as well. The German variant of the chamber of commerce (IHK) also offers meetings and seminars for (potential) business owners (Industrie- und Handelskammern, 2015), and social media is just as available in Germany as in the Netherlands. What might play a role is that the Germans generally find privacy very important (Singh & Hill, 2003). There is a significant effect of the view on privacy on internet usage (Singh & Hill, 2003). The relatively high importance given to privacy in Germany, together with the worldwide increase in social media use, could be an underlying reason explaining the relative change in knowing a business owner. Analysing this would be a whole new investigation and exceeds the scope of this research. Therefore it cannot be said with certainty, but only be stated as a presumption.

Striking from this analysis is that also among business owners, in general Dutch business owners see starting an own business as a good career choice more often, but German business owners more often experience a high level of status and respect. The reason for Dutch business owners to see founding a start-up as a good career path must lay in something else then. For example a higher income or more freedom to do work that is meaningful to one could be reasons for this view. The role of income will be discussed in a later chapter on economic aspects. The meaningfulness of a job is addressed in the following paragraph.

### **Meaningful job**

A possible reason to engage in entrepreneurship can be the freedom to do what you want and what is meaningful to you. This will be tested by comparing the responses of entrepreneurs and the rest of the working population to the statement 'my work is meaningful to me' from the GEM APS dataset with a binary logistic regression. The responses are divided into an ordinal scale with five different levels, ranging from strongly agree to strongly disagree. Unfortunately, this data is not available for the year 2003 so the analysis will only refer to 2012. This is also the reason why this variable has not been included in the previous analysis. Because of the absence of data in 2003, the outcomes cannot say much about the change over time, but it can tell something about the current situation (2012) and a possible relation. The test is done between entrepreneurs and the rest of the population for the two countries separately. A significant difference between the answers of entrepreneurs and not-entrepreneurs can show that one group finds their job more meaningful. By doing the analysis for the two countries separately, the difference between the entrepreneurs and the rest of the population within the individual countries is shown. This is done to find out if entrepreneurs find their work more meaningful than the rest of the population does. After these analyses for the Netherlands and Germany, two other analyses are done to further compare the Netherlands and Germany. One binary logistic regression is done to compare the answers of the Dutch working population to the German working population. Another one is done between Dutch entrepreneurs and German entrepreneurs. The outcomes of these tests can show if one population as a whole finds their jobs more meaningful and if the entrepreneurs in one country find their job more meaningful. The results of the first analysis between the Dutch population and Dutch entrepreneurs are shown in table 5.

<b>The Netherlands 2012</b>	<b>B</b>	<b>Sig.</b>	<b>exp(B)</b>
<b>'My work is meaningful'</b>			
Intercept	-2.3150076	0.000	0.09876543
Strongly agree	1.2967768	0.001	3.65748899
Somewhat agree	0.7682053	0.046	2.15589354
Somewhat disagree	0.1947441	0.672	1.21500000
Strongly disagree	-0.2689899	0.673	0.76415094
R-squared		0.022	
N		2469	

Table 2: Logistic regression between Dutch entrepreneurs and rest of the population

In this analysis, not-entrepreneurs are coded as 0 and entrepreneurs as 1. This means that an exp B value lower than 1 shows a higher likelihood for not-entrepreneurs and an exp B value higher than 1 shows a higher likelihood for entrepreneurs. The different levels of the variable are compared to the control variable 'neither agree nor disagree'. The table shows that there is no significant outcome for both measures of disagreeing to the statement. However, there are significant outcomes for both measures of agreeing. It is 3,66 times more likely that a person who strongly agrees to the statement that he finds his work meaningful is an entrepreneur. Also for somewhat agreeing, it is 2,16 times more likely to be an entrepreneur than someone who isn't an entrepreneur. Important to note is however that the pseudo R-squared value of the model is only 2,2%. This means that the model has only little explanatory value, even though some results are significant. The model only includes one explanatory variable, so a high R-squared value was also not expected. Table 6 shows the results of the analysis for the German case.

<b>Germany 2012</b>	<b>B</b>	<b>Sig.</b>	<b>Exp(B)</b>
<b>'My work is meaningful'</b>			
Intercept	-1.7917595	0.000	0.1666667
Strongly agree	0.1125882	0.715	1.1191710
Somewhat agree	-0.4630350	0.193	0.6293706
Somewhat disagree	-1.7635886	0.095	0.1714286
Strongly disagree	-0.6061358	0.577	0.5454545
R-squared		0.010	
N		1829	

Table 3: Logistic regression between German entrepreneurs and rest of the population

As can be seen in table 6, not a single outcome is significant. These results show that, based on the data, there is no relationship found between entrepreneurship and the presumed meaningfulness of one's job in Germany. It is a remarkable difference that there is a positive relationship found in the Netherlands and no relationship in Germany. Even though the pseudo R-squared value is very low, this result might be a small contribution to the difference in start-up rates. It might also be possible that there is a difference between the entire Dutch and German population on whether they find

their job meaningful or not. It could be that Dutch people in general find their job less meaningful and because of that, more often start to engage in entrepreneurship but turn out to find their new job not more meaningful. This is so far only an assumption. A binary logistic regression between the two populations is done to test if this is actually the case. Table 7 shows the results.

The Netherlands / Germany	B	Sig.	Exp(B)
<b>'My work is meaningful'</b>			
Intercept	0.03315221	0.824	1.0337079
Strongly agree	-0.15044992	0.326	0.8603208
Somewhat agree	-0.73574828	0.000	0.4791468
Somewhat disagree	-1.39127569	0.000	0.2487578
Strongly disagree	-1.59129683	0.000	0.2036613
R-squared		0.021	
N		4299	

Table 4: Logistic regression between German and Dutch population 2012

Between the populations of the Netherlands and Germany there are some significant outcomes. The outcomes for 'somewhat agree', 'somewhat disagree' and 'strongly disagree' are significant. The Netherlands is coded as 0 and Germany as 1 and all significant values of exp B are lower than 1, which means that all these statements are more likely to be found among the Dutch population. The pseudo R-squared value is again very low with 2,1%, but again a high R-squared value cannot be expected for a single explanatory variable. Since both somewhat agree and both levels of disagree are more likely in the Netherlands, a clear conclusion cannot be drawn in this case.

A final test comparing only the entrepreneurs of the Netherlands with the entrepreneurs of Germany would have been done on this matter. Though there were enough observations in completeness, the number of observations for specific levels of the variable (strongly disagree) were too low to do decent analysis and return plausible results. Therefore this is left out of the research.

## Gender

Mister van der Sel from the Dutch chamber of commerce stated that he noticed an increase in the amount of female business starters. This statement is interesting and gives a good reason for further investigation. GEM data is used to see if there is not only an absolute increase in female business owners in the Netherlands between 2003 and 2012, but also a relative one which could help explain the relative increase in the start-up rate in the Netherlands compared to Germany. In figure 8 the percentage of female business owners in the Netherlands and Germany is shown for 2003 and 2012.

## Business owners: % female

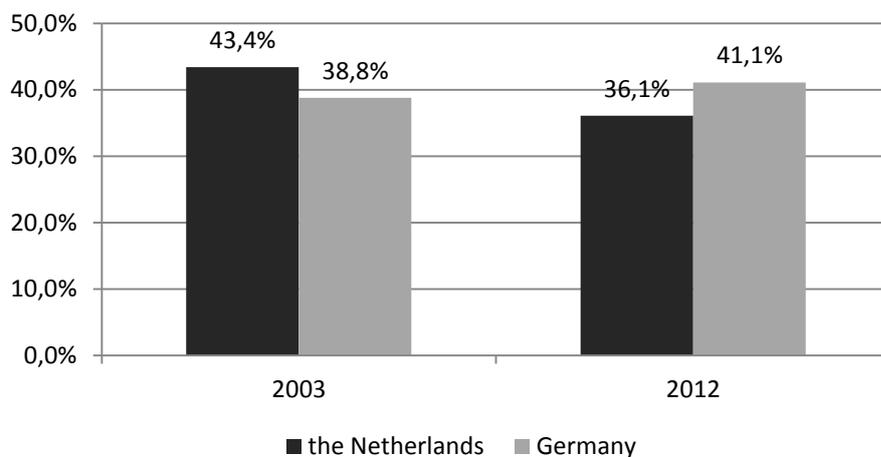


Figure 8: Percentage of business owners that is female.

The figure shows that from 2003 to 2012, there has been a decrease in the percentage of female business owners in the Netherlands, which means that, even though the absolute amount of female business owners might have increased, the increased start-up rate is not caused by a relative increase in female business owners. There has been a slight relative increase in female business owners in Germany over the years. Comparing this to the Dutch case, it can be concluded that the relative increase in the Dutch start-up rate cannot be explained by a relative increase in female business owners.

## 4.2. Economic aspects

This chapter will analyse the economic aspects that might influence the difference in start-up rate between the Netherlands and Germany. The focus will lay on the income of entrepreneurs, especially compared to the income of the rest of the working population. The data on income of entrepreneurs and the rest of the population in the Netherlands and Germany comes from the GEM dataset and is only available from 2005 onwards and only in 33%-tiles. Therefore, 2005 will be used as the first year and the situation of 2005 will be compared to 2012 to see if differences arose in this period of time that can help explain the differing trends in both countries' start-up rates. Next to the income, also the fact if someone is working alone or with employees is examined in this chapter. It is included because hiring employees produces costs. Also, having employees or not influences the economic impact of a company (in the way of increased employment). After that, the percentage of necessity driven entrepreneurs is analysed. Finally, subsidies and financing can also be seen as economic aspects, but this is also an institutional aspect and is therefore discussed in chapter 4.4. institutional aspects.

### Income

In this chapter, first the income levels in the Netherlands will be examined. In figure 9 the different income groups in 2005 for entrepreneurs and the rest of the population are shown.

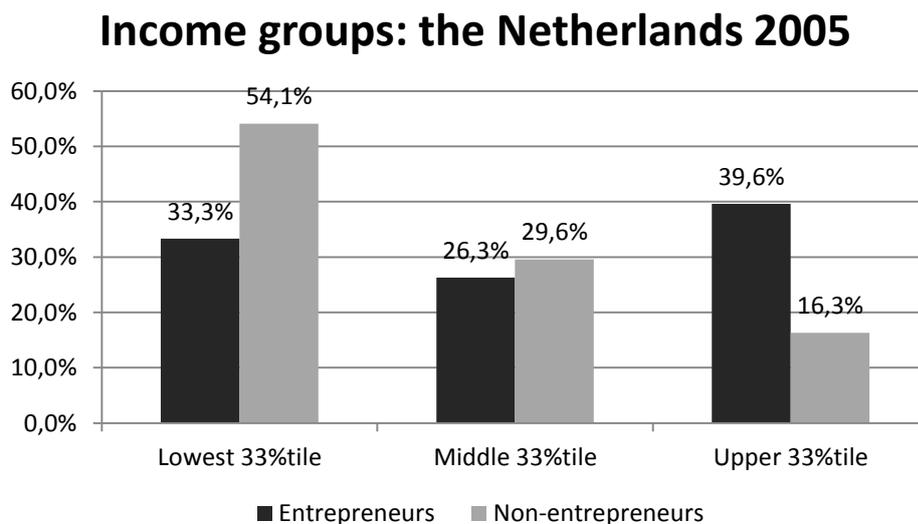


Figure 9: Income Dutch entrepreneurs and non-entrepreneurs 2005

As can be seen in the figure, the income divisions look very different. Where the income division for entrepreneurs is relatively evenly divided over the three groups, most of the non-entrepreneurs see themselves in the lower 33%. So overall, based on these figures, relatively more entrepreneurs are in the highest income groups, and relatively fewer in the lower income groups. Table 8 shows the results of a logistic regression between entrepreneurs and non-entrepreneurs. In this regression entrepreneurs are coded as 1 and the middle income group is taken as the control group.

	B	Sig.	Exp(B)
Intercept	-2.5452386	0.000	0.07845433
Lowest 33%tile	-0.3645513	0.031	0.69450823
Upper 33%tile	1.0076264	0.000	2.73909178
R-squared	0.044		
N	3139		

Table 5: Regression Income - the Netherlands 2005

The table shows that the differences found in figure 9 are significant for both the lower and higher income groups. The pseudo R-squared value of the model is 4.4%.

In the following figure, figure 10, the incomes for the Netherlands in 2012 are shown.

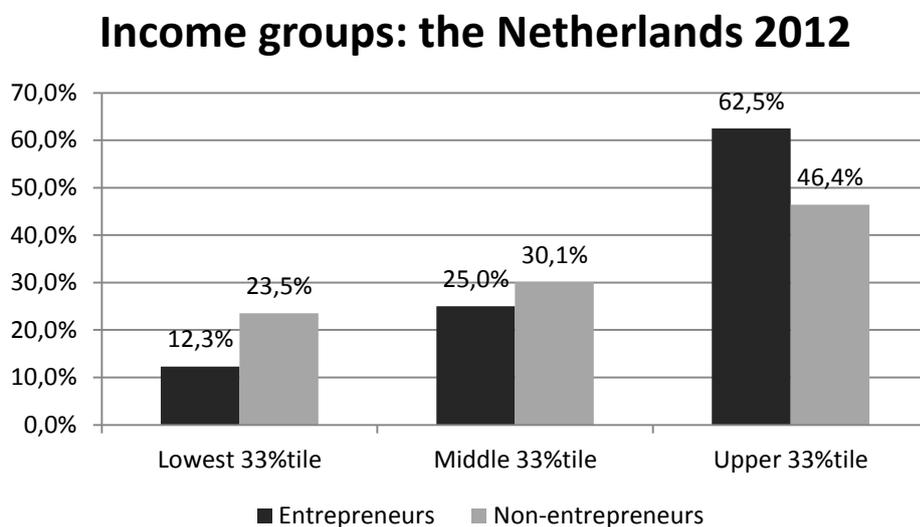


Figure 10: Income Dutch entrepreneurs and the rest of the population 2012

Remarkable is that for both the entrepreneurs and the rest of the population, the figure has completely changed. In 2005, the incomes of entrepreneurs were relatively evenly divided over the three groups, but in 2012 the main part of entrepreneurs is in the highest 33%tile, 62.5%. Only 12.3% is in the lowest 33%tile and 25% in the middle 33%tile. For the non-entrepreneurs, the lowest 33%tile was the largest group in 2005 and is the smallest group in 2012. The upper 33%tile is the largest group in 2012. In 2012, the income distributions of entrepreneurs and non-entrepreneurs look similar, but the differences between the different income groups are bigger for entrepreneurs.

The graphs suggest that entrepreneurs in the Netherlands in 2012 still have a higher income than the rest of the population. In order to check if these differences are significant, a regression analysis is done. Entrepreneurs are compared to the rest of the population and the middle income group is used as the reference group. The results of the analysis are shown in table 9.

	B	Sig.	Exp(B)
Intercept	-1.8504848	0.000	0.1571610
Lowest 33%tile	-0.4651297	0.005	0.6280536
Upper 33%tile	0.4829130	0.000	1.6207888
R-squared	0.019		
N	3120		

Table 6: Regression Income - the Netherlands 2012

Not being an entrepreneur is coded as 0 and being an entrepreneur is coded as 1. As can be seen in the table, there are significant differences between the groups. Indeed the likelihood for an entrepreneur to be among the highest income groups is larger than for someone who is not an entrepreneur. The exp B for the lowest 33%tile has changed little in comparison to 2005, 0.6 in 2012 against 0.7 in 2005. The differences in likelihood for the upper 33%tile has decreased from 2.7 in 2005 to 1.6 in 2012. The pseudo R-squared value of the model is also smaller than in the model of 2005, 4.4% in 2005 versus 1.9% in 2012.

Next, the German situation will be examined. In figure 11 the various income groups for German entrepreneurs and the rest of the population in 2005 are shown.

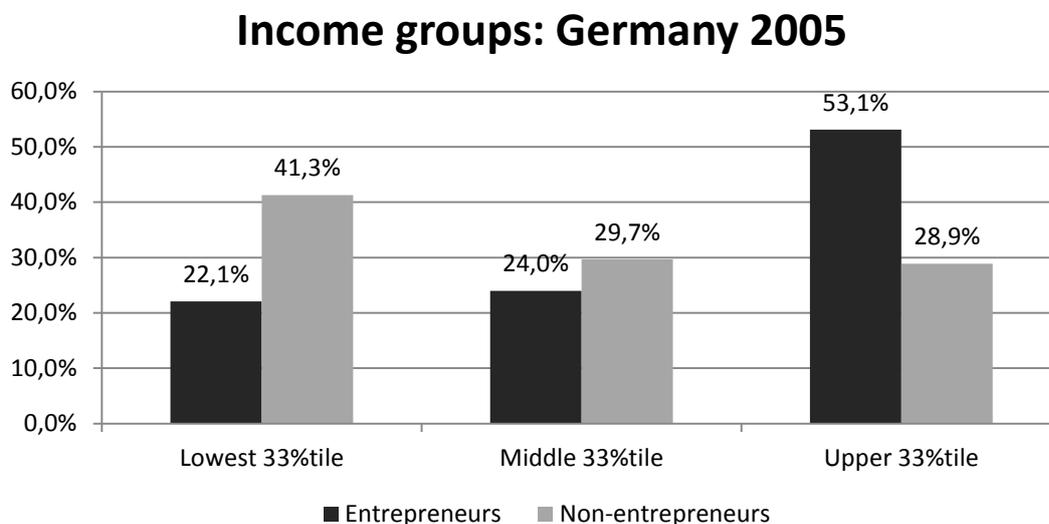


Figure 11: Income German entrepreneurs and non-entrepreneurs 2005

Figure 11 shows that the largest part of the entrepreneurs are in the upper 33%tile and the largest part of the rest of the population is in the lowest 33%tile. Table 10 shows the outcomes of a logistic regression between the incomes of entrepreneurs and non-entrepreneurs in Germany in 2005. Entrepreneurs are coded as 1 and the middle income group is taken as the reference group.

	B	Sig.	Exp(B)
Intercept	-2.219	0.000	0.109
Lowest 33%tile	-0.413	0.001	0.661
Upper 33%tile	0.817	0.000	2.266
R-squared	0.04		
N	5229		

Table 7: Regression Income - Germany 2005

The table shows that both the differences in the lowest 33%tile and the upper 33%tile are significant. The likelihoods are 0.7 and 2.3, meaning that, compared to non-entrepreneurs, it is less likely for entrepreneurs to be in the lowest 33%tile and more likely to be in the highest 33%tile.

The income distributions for Germany for 2012 are shown below in figure 12.

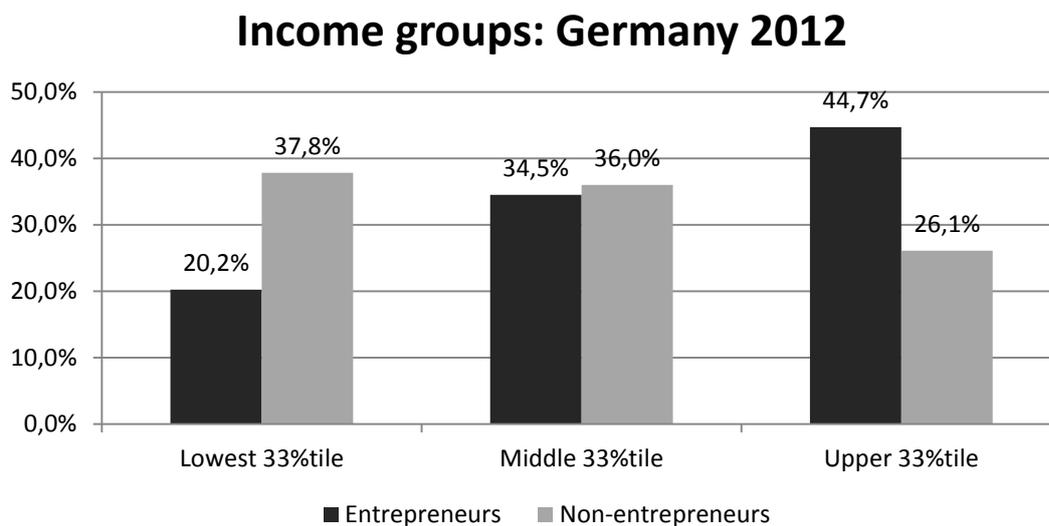


Figure 82: Income German entrepreneurs and non-entrepreneurs 2012.

Compared to 2005, the incomes of German entrepreneurs have shifted lightly. In 2005, the distribution for entrepreneurs was (from low to high) 22%, 24%, 53%. Compared to this, the lowest group has decreased slightly, the middle group has increased and the highest group has decreased. For the rest of the population, compared to 2005, the size of the lowest group has decreased with 3%, the middle group increased with 6% and the highest group decreased with 3%. Unlike the entrepreneurs, the incomes of the rest of the population still mainly lay in the lowest group, and the least incomes lay in the highest group. To check if these differences are significant, a logistic regression has been done, similar to regression for 2005. The results are shown in table 11.

	B	Sig.	exp(B)
Intercept	-2.0078607	0.00	0.134
Lowest 33%tile	-0.5818445	0.00	0.559
Upper 33%tile	0.5817601	0.00	1.789
R-squared 0.03			
N 3579			

Table 8: Regression income - Germany 2012

The pseudo R-squared value is similar to the model of the Netherlands. The table shows that the differences are significant, and with slightly larger values for the explanatory B value than the model of the Netherlands. This means that, based on these models, the differences in Germany are even slightly bigger than in the Netherlands. Since the changes in income between entrepreneurs and the rest of the population show relatively similar results in Germany and the Netherlands, it is unlikely that income plays a large role in the relative increase in the Dutch start-up rate.

### Self-employed or employees

A possible explanation for the relative increase in the start-up rate in the Netherlands compared to Germany, can also be an increase in the number of self-employed without employees. To check this, the “number of employees” variable from the GEM dataset has been used. Figure 13 shows the relative amount of business owners without employees in the Netherlands and Germany in 2003 and 2012.

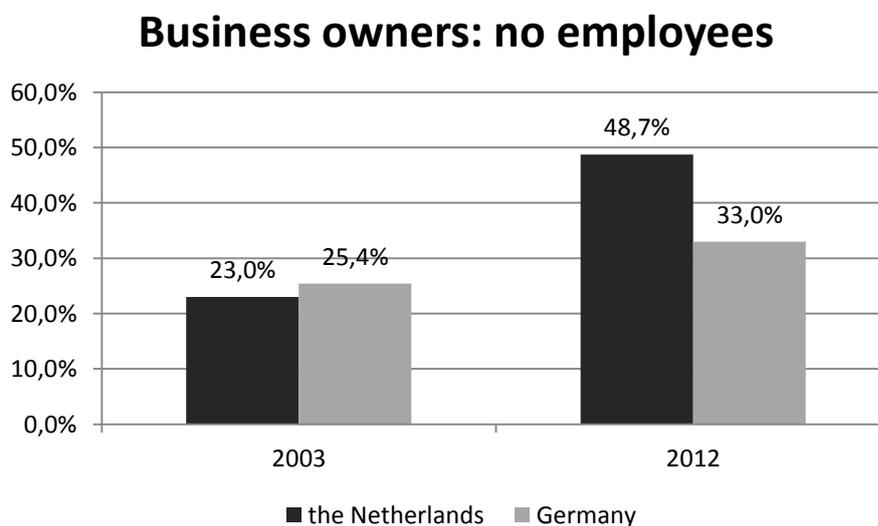


Figure 13: Percentage of business owners without employees.

The graph shows that the amounts of business owners without employees do not differ much between the two countries in 2003. The percentage of business owners without employees is slightly

higher in Germany than in the Netherlands but the difference is only 2.4%. There is a clear difference visible between 2003 and 2012. Compared to 2003, the relative number of business owners without employees has grown in Germany, from 25.4% to 33%. However, the increase in the Netherlands has been much higher, from 23% to 48.7%. In Germany in 2012, one third of the business owners are self-employed without employees, whereas in the Netherlands almost half of the business owners do not have any employees. A logistic regression is done to check if the difference between the Netherlands and Germany is significant. In the regression, having employees or not is taken as the dependent variable, and the country as the independent one. This tests if being from either the Netherlands or Germany has an influence on having employees or not. The results of the regression are shown in table 12. Having employees is coded as 0 and being self-employed without employees is coded as 1.

	<b>B</b>	<b>Sig.</b>	<b>Exp B</b>
Intercept	-0.05107493	0.58	0.9502075
Country (Germany)	-0.65794560	0.00	0.5179142
R-squared 0.019			
N 849			

Table 9: Logistic regression employees 2012

The table shows that there is a significant difference between the Netherlands and Germany. The odds of a business owner with no employees to be Dutch are twice as big as the odds to be German. The pseudo R-squared value is 1,9%. Since the model only includes two binomial variables, it is also not very unexpected that the pseudo R-squared value is low, especially for a situation which is as complex as this one. The fact that the outcome is significant and that the share of business owners without employees in the Netherlands has grown rapidly indicates that the increased start-up rate in the Netherlands is at least partly the result of an increase in self-employed without employees.

**Opportunity versus Necessity**

Another economic aspect is whether a start-up is born out of necessity or out of opportunity. In general, start-ups created out of opportunity are more innovative, contribute more to economic growth and are also more profitable for the entrepreneur (Naudé, 2010). In this sub-chapter the amount of necessity driven start-ups in the Netherlands and Germany are compared for 2003 and 2012. A relative increase in necessity driven start-ups can be a reason for the increased start-up rate in the Netherlands. However, this would be a negative development. In figure 14 the percentage of necessity driven start-ups are shown for the Netherlands and Germany in 2003 and 2012.

## Necessity-driven Entrepreneurship

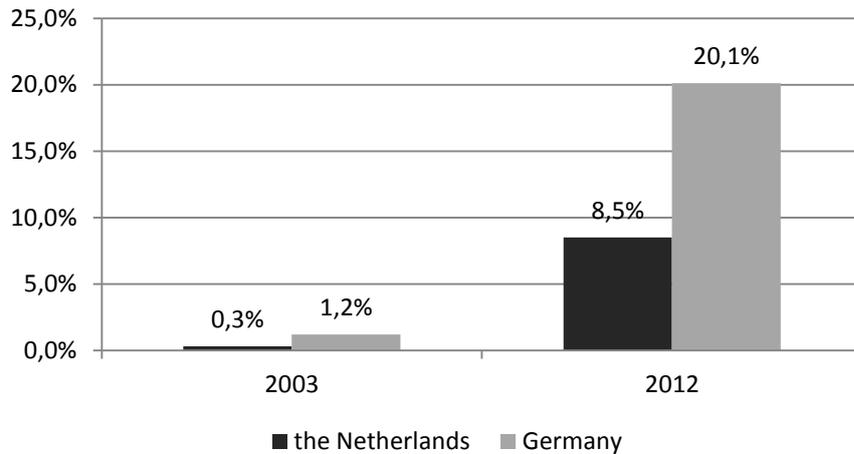


Figure 14: Percentage of businesses born out of necessity.

The figure shows that for both countries, there is almost no necessity entrepreneurship in 2003. Figure 14 shows a very interesting thing. Namely that the percentage of necessity entrepreneurship in 2012 has increased in both countries. This is likely the result of the economic crisis. The percentage of necessity entrepreneurship has increased more in Germany than in the Netherlands. So even though it is very interesting, it does not explain the relative increase in the Netherlands. If any, it would suggest an increase in Germany.

### 4.3. Physical Aspects

#### Internet accessibility

An important aspect of infrastructure on start-up activity is internet accessibility. In the current age, internet has taken an important place in doing business and in almost every sector it is essential to have good internet access. Insufficient access to internet can therefore be a barrier in starting up a new business.

The European Union has set EU-wide internet goals for 2020. These goals are:

- Everyone should have access to broadband with a speed of at least 30Mb per second or more.
- At least half of all households should have access to broadband with a speed of at least 100Mb per second.

Broadband internet includes coax, DSL, fiberglass cable, mobile networks and other wireless alternatives such as satellite-internet (Rijksoverheid, 2013).

In this chapter it will be discussed how the Netherlands and Germany perform relative to these goals and how the quality of the internet infrastructures of both countries perform relative to each other in order to determine if the conditions for starting up a business are similarly suitable in both countries or not.

The internet infrastructure in the Netherlands will be evaluated first. With regard to the 2020 goals of the European Union, the status of internet in the Netherlands is very good. The first goal, to have broadband access with a speed of at least 30Mb per second for the entire population, has already been reached for 97% in 2013. The second goal, 100Mb p/s broadband for at least half of all households, is already more than completely reached. In 2013 already 95% of the households has the possibility to use an internet connection of at least 100Mb p/s (Rijksoverheid, 2013). The EU goals for 2020 apply to the complete EU and it is therefore understandable that certain countries can reach these goals easier than others. Since the Netherlands has already reached these goals for a large share, the government joins to agree to these goals, but does not see them as the end goal (Rijksoverheid, 2013). The objective that the government set for themselves is that the broadband network in 2020 fits to the wishes of consumers and suppliers of that time (Rijksoverheid, 2013). Though there is 30Mb p/s broadband access virtually everywhere in the Netherlands, the government is helping to improve more rural areas to improve the speed of their internet. This is also happening in cooperation with private groups and organizations (Samen snel internet, 2014; SallandGlas, 2013)

The internet accessibility in Germany is not as high as in the Netherlands. Figure 15 shows a map of Germany with the percentage of households with access to 30Mb per second internet in 2013. Compared to the first 2020 goal of the EU, 30Mb p/s internet access nationwide, only the areas around Hamburg and Berlin have a coverage of over 95%. Apart from Hamburg and Berlin the regional coverage varies between 50% and 95%. Figure 15 also shows a strong division between the south/west of Germany and the east. It can clearly be seen that the southern and the western parts of Germany have a higher coverage of 30Mb internet than the eastern part of Germany. This can be related to the history of the region and the division of the country during the cold war, since the regions with a lower coverage largely overlap with the former East-German provinces. Further investigation on this matter however lies beyond the scope of this research. What can be said is that, especially in those areas with a lower coverage, it is necessary to invest in digital infrastructure in order to improve the suitability for entrepreneurship in the region.

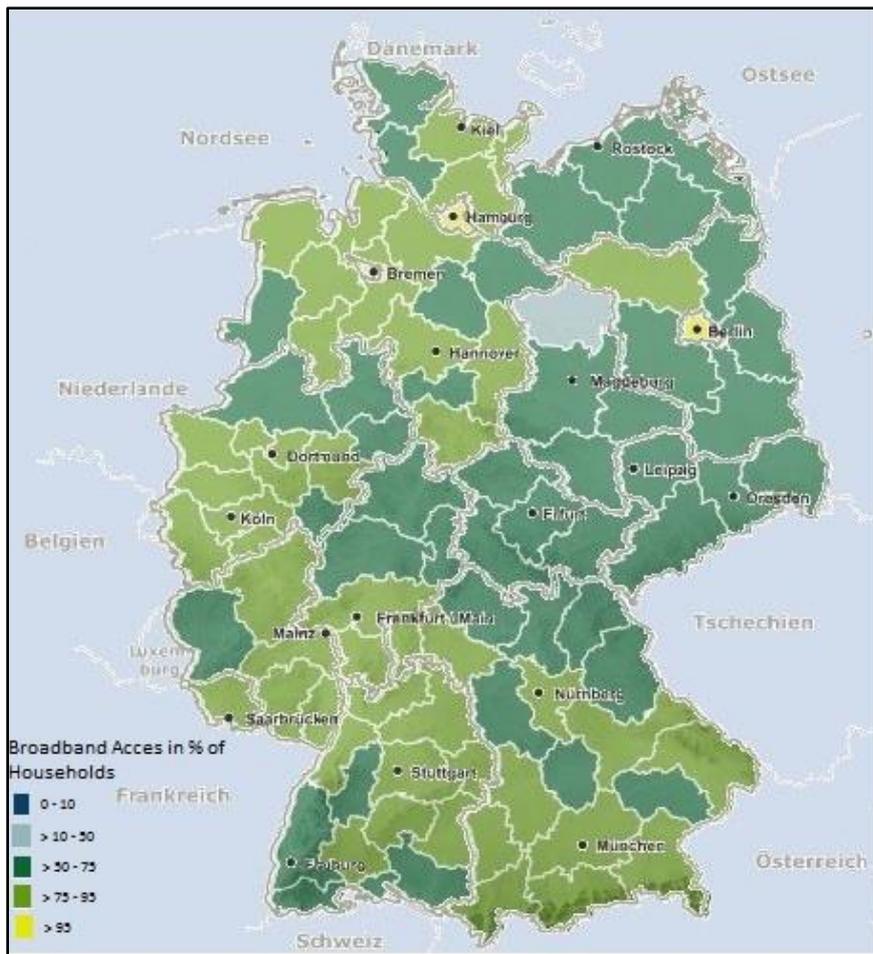


Figure 15: Internet access in Germany 2013 - 30Mb p/s

source: BMVI, 2016

The extent to which Germany reaches the second EU internet goal for 2020, 100Mb p/s internet access for at least half of the households, is hard to tell, since the internet dataset of the German ministry of traffic and digital infrastructure is limited to data on a level of 50Mb p/s (BMVI, 2016). However, the fact that there is no data on internet speed above 50Mb gives an indication that there is probably no widespread coverage with double this speed; 100Mb per second. Figure 16 shows a similar map as figure 15, but this time for broadband access of at least 50Mb per second. The map shows that there are no regions in Germany with a coverage higher than 95%. This is quite remarkable when it is kept in mind that there is a countrywide 95% coverage of 100Mb p/s broadband in the Netherlands. Most German regions have a coverage between 50% and 95% but there are also some that are below 50%.

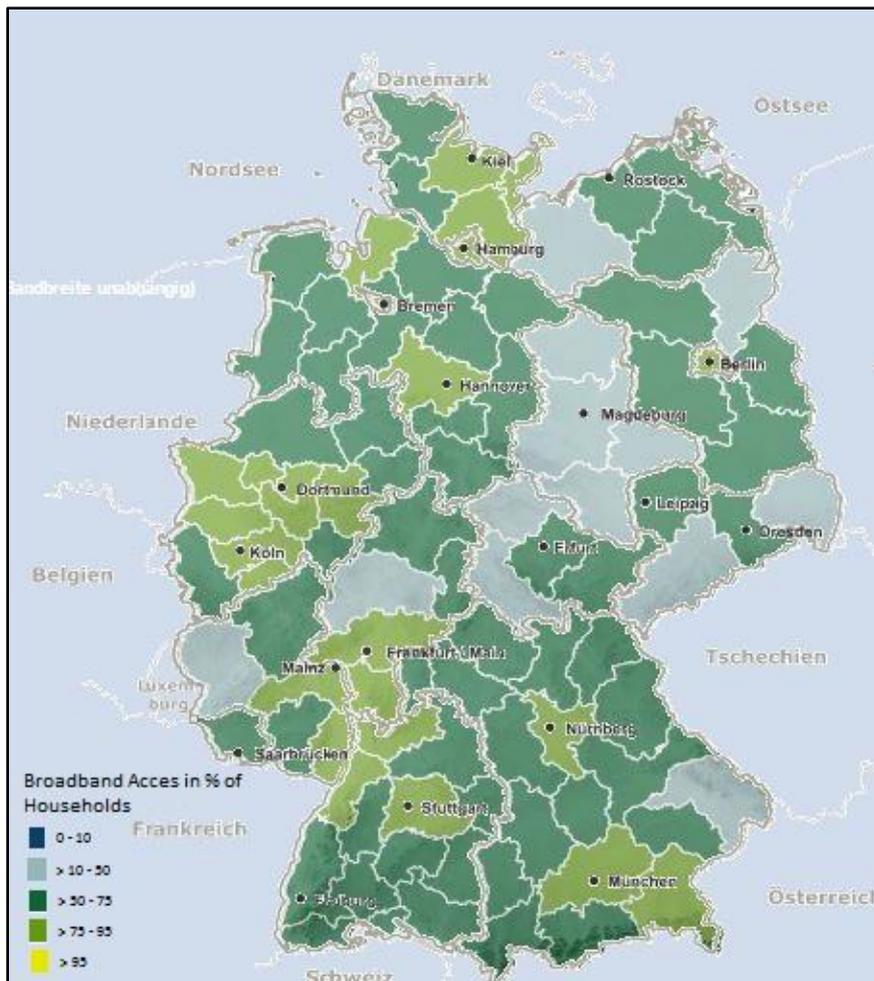


Figure 169: Internet access in Germany 2012 - 50Mb p/s

source: BMVI, 2016

The relatively low accessibility to fast internet can limit the efficiency of for example working at home or on the way. This can thus be a limitation for potential entrepreneurs who want to have flexible workplaces, start a home based business or their own office space. One of the reasons to engage in entrepreneurship is to increase ones freedom, a limitation on this freedom in the form of unsatisfying internet accessibility can have a decreasing effect on the incentive to start as an entrepreneur. In order to tackle this limitation, investment in an improved internet accessibility is required. However, the size and population density of the country also play a role in the ease of this. Unfortunately, this data on internet coverage is not available for the earlier years of the research period, thus it cannot help explain the change in the start-up rate. On the other hand, internet accessibility is important for many business and a good accessibility can contribute to a strong regional production milieu (Johansson & Wigren, 1996). Although the earlier years of the research period are not examined, the current state gives reason to believe that the internet accessibility in the Netherlands contributes to a suitable environment to start a new business in, and could partly explain the higher start-up rate. Especially because of the large and fast increase of internet applications for businesses, for example online businesses, online marketing, social media and many more applications, a good internet connection could have increased in importance over the study period. Nevertheless, this can only be stated as an assumption which needs further research to verify.

### Size and infrastructure

Germany is a larger country than the Netherlands, both in area and population. With a population of over 80 million against 17 million in the Netherlands, the German population is more than four times as large as the Dutch one. However, the population density in Germany is lower than the density in the Netherlands, with just over 230 people per square kilometre in Germany against around 500 people per square kilometre in the Netherlands throughout the whole study period (World bank, 2017). This difference can indirectly also play a role in the different start up rates. As said, the internet accessibility is lower in Germany than in the Netherlands. But since the population density is lower, the costs per person of providing a good internet connection are higher. Larger areas need to be covered in order to reach the same amount of people as would live in a smaller area in the Netherlands. Resulting in larger material, construction and maintenance costs per person. The same holds for the national road- and railroad networks. Larger distances have to be bridged in Germany than in the Netherlands to connect people. Although, figures of The Global Economy and World Economic Forum (2016) show that there is not much difference between the quality of the Dutch and German road and railroad network. Figure 17 shows the quality of the road and railroad network for both countries for all years that data is available.

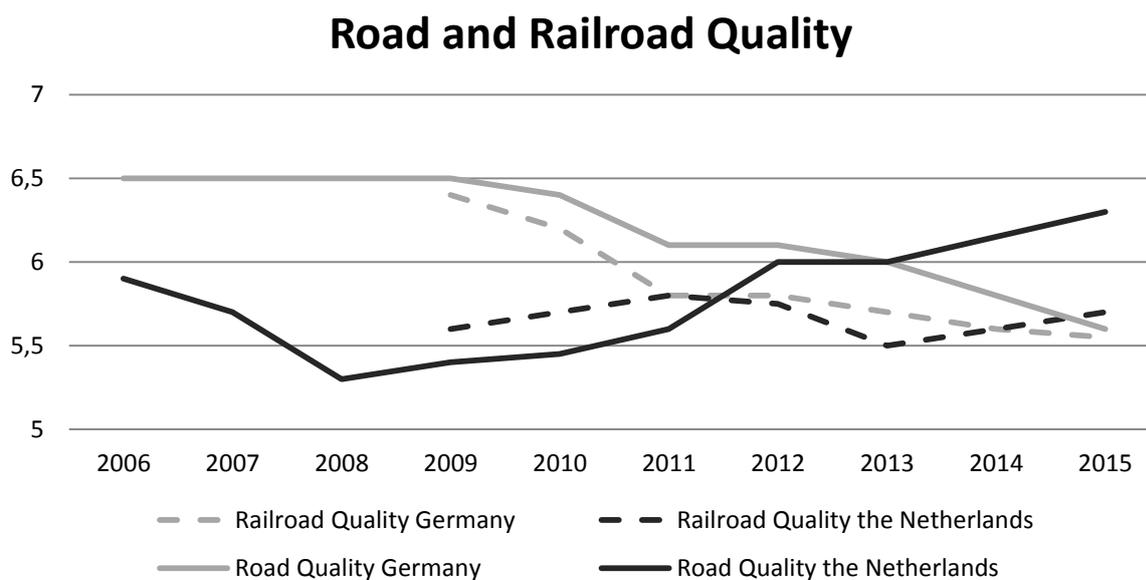


Figure 17: Road and Railroad quality (1 = low, 7 = high). source: The Global Economy & World Economic Forum, 2016.

The scores for both road- and railroad quality were higher for Germany than for the Netherlands in the earlier years of the figure, but by 2012 the scores for both countries were the same. The difference seems relatively large but at the largest point it is only one point difference on a seven-point-scale.

The GEM also developed a variable named '*Physical and services infrastructure*'. This variable is defined as the '*ease of access to physical resources, communication utilities, transportation, land or space at a price that does not discriminate against SMEs*' (GEM, 2016c). The available values for this variable are shown in figure 18.

## Physical and services infrastructure

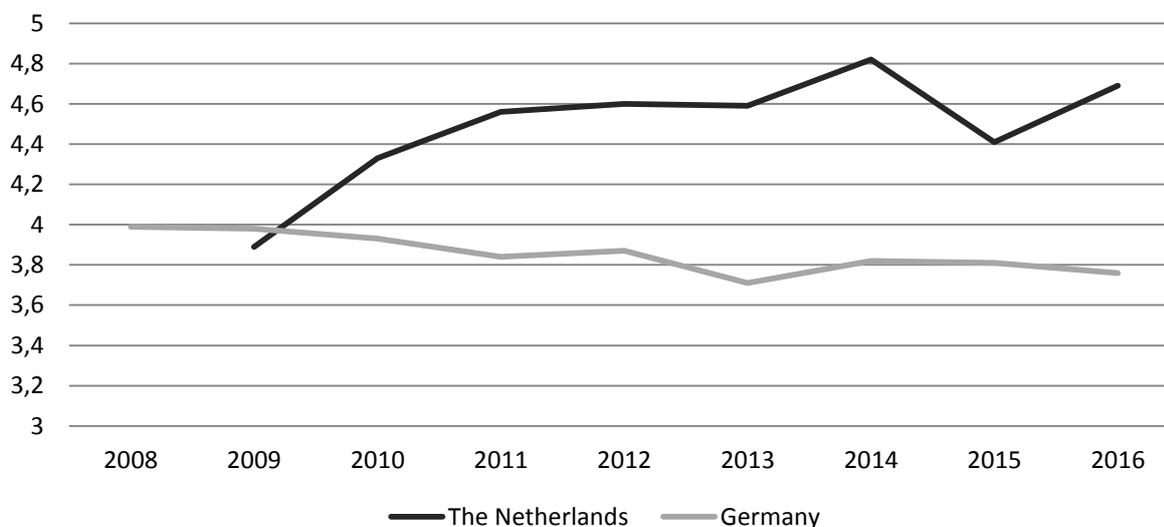


Figure 18: Physical and services infrastructure: 1 (low) – 5 (high) Source: GEM, 2016c

Unfortunately, this variable is not available before 2008 for Germany and 2009 for the Netherlands. Still, an increase from 2009 to 2012 can be seen for the Netherlands, whereas Germany slightly decreased. As well in the variable of figure 18, as the variables in figure 17, the infrastructural rating of the Netherlands has increased relative to the German rating.

Next to the difference in infrastructure costs, the difference in population size and density also have other influences. Especially for those who plan to operate on a national scale. When operating on a national scale, German entrepreneurs will have a larger market to operate in, which would give them a relative advantage over Dutch entrepreneurs in a relatively smaller national market. Figure 19 shows that the vast majority of business owners in both the Netherlands and Germany operate mainly on a national scale.

## Export levels in 2012 (%)

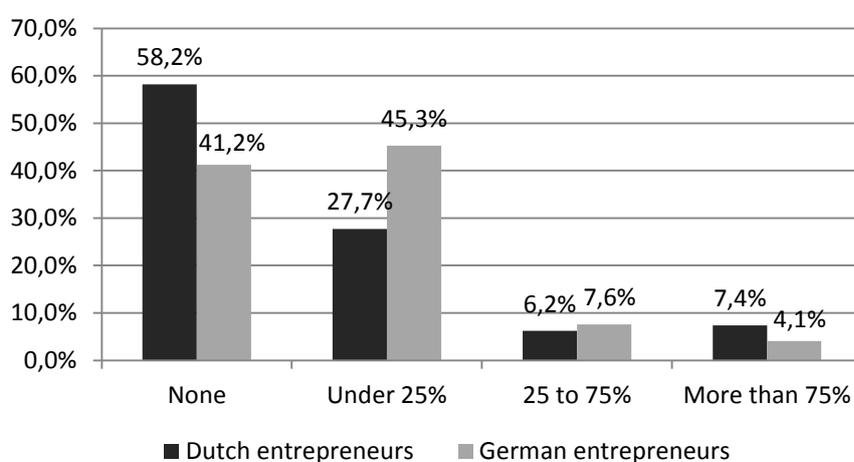


Figure 19: Export levels entrepreneurs 2012

The figure shows that only 10-15% of the entrepreneurs exports more than 25% of their goods and services. So it can be concluded that most entrepreneurs sell their goods within their own country. This suggests that the advantage of a larger national market for German entrepreneurs than for Dutch entrepreneurs applies to the majority of entrepreneurs. On the one hand, due to the larger population, German entrepreneurs have a larger national market. But on the other hand, due to the much higher population density in the Netherlands (500 p/km<sup>2</sup> versus 230 p/km<sup>2</sup>), the Dutch entrepreneur in general has a larger local market to operate in because in general more people will live in a smaller area. However, it has to be kept in mind that the population density is not uniform over the country, and for example German cities also have a higher population density. All in all, relative to each other, the Netherlands and Germany both experience certain positive effects from either their population size or population density. Mainly due to the fact that the countries sizes, population sizes and population densities have varied none to very little over the years, it can be stated that this cannot be seen as an explanation for the change over time.

## 4.4. Institutional aspects

### Employment protection

One institutional aspect that has an effect on the decision to start an own business is the level of job security. What would be an optimal level of job security or employment protection is a difficult topic without an unambiguous answer. There are many pros and cons for both more or less job protection and for a large part, personal preferences play a role in this as well. In this article it will not be discussed whether employment protection is positive or negative as a whole. The only aspect that is taken into account is the influence it can have on the creation of start-ups. As mentioned in the theoretic framework, in general it can be said that a higher level of employment protection can have a negative influence on the start-up rate due to both increased opportunity costs of leaving a job and increased difficulty of firing employees in times of economic downturn.

Employment protection is a broad concept that includes various elements. For example, the maximum allowed overtime worked, protection against dismissal or the amount of severance payment are included (Bouri & van Ours, 2008; OECD, 2015a). For the comparison between the Netherlands and Germany, data on employment protection from the OECD has been used. Employment protection has been split up into four main indicators here, all built up by 4 – 12 variables. Table 13 shows the values for the four employment protection indicators for the years 2003 – 2012.

#### The OECD indicators on Employment Protection Legislation

Scale from 0 (least restrictions) to 6 (most restrictions)

	Protection of permanent workers against individual and collective dismissals		Protection of permanent workers against (individual) dismissal		Specific requirements for collective dismissal		Regulation on temporary forms of employment	
	Netherlands	Germany	Netherlands	Germany	Netherlands	Germany	Netherlands	Germany
2003	2,92	2,95	2,88	2,68	3,00	3,63	0,94	1,50
2004	2,92	2,95	2,88	2,68	3,00	3,63	0,94	1,00
2005	2,92	2,95	2,88	2,68	3,00	3,63	0,94	1,00
2006	2,92	2,95	2,88	2,68	3,00	3,63	0,94	1,00
2007	2,92	2,95	2,88	2,68	3,00	3,63	0,94	1,00
2008	2,92	2,95	2,88	2,68	3,00	3,63	0,94	1,00
2009	2,87	2,95	2,82	2,68	3,00	3,63	0,94	1,00
2010	2,87	2,95	2,82	2,68	3,00	3,63	0,94	1,00
2011	2,87	2,95	2,82	2,68	3,00	3,63	0,94	1,00
2012	2,87	2,95	2,82	2,68	3,00	3,63	0,94	1,00

Table 10: Employment Protection Indicators

Source: OECD, 2015b

The first column in table 13 shows the most broad ‘overall’ variable for employment protection. The value for the Netherlands has decreased from 2,92 to 2,87. This is lower than the value of 2,95 for Germany. However, the difference for both the decrease in the coefficient for the Netherlands as well as for the difference between the Netherlands and Germany is really small. Also for the other variables in table 13 the difference is very small. The only relatively big difference is between the specific requirements for collective dismissal in the Netherlands and Germany (0,63 points

difference). Table 13 shows that there was almost no change between 2003 and 2012 in any of the variables. It is improbable that this small difference in strictness of employment protection has any influence on the creation of start-ups.

**Bureaucracy**

An institutional aspect that can also have an influence on the creation of start-ups is the bureaucratic effort that goes paired with it. A long, unclear, or complicated process can keep away interested people from starting their own business. This bureaucratic effort does not necessarily have to be at the start-up moment, but can for example also be related to the application for subsidies, the payment of taxes or requesting patents. In this chapter, the (difficulty of the) process of starting a business in Germany will be compared to the process in the Netherlands.

The GEM National Expert Survey includes an indicator on taxes and bureaucracy. This indicator contains the extent to which public policies support entrepreneurship and the extent to which taxes or regulations are either size-neutral or encourage new and SMEs. The values for both the Netherlands and Germany are shown in figure 20.

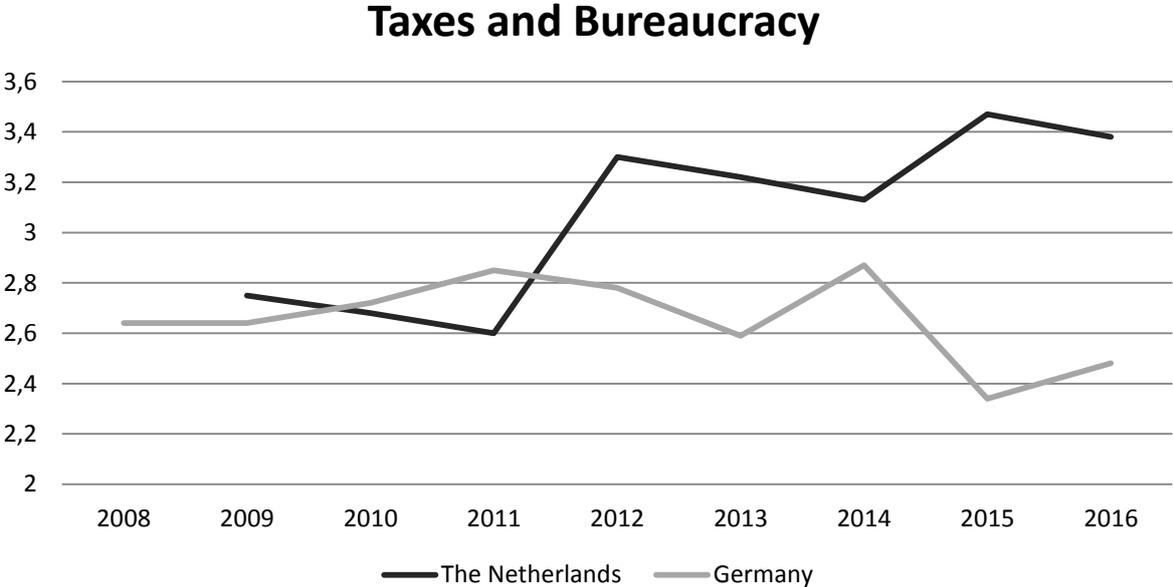


Figure 20: Taxes and Bureaucracy indicator: 1 (low) – 5 (high) source: GEM, 2016c

Unfortunately, the indicator is only available from 2008 or 2009. What can be seen in the figure is that during the study period, up until 2012, there is almost no difference between the value for Germany and the Netherlands. However, from 2012 onwards the quality in the Netherlands has improved relative to Germany. Because the years in the study period show similar outcomes and are relatively stable, it is, based on this data, unlikely that the reason for the increased start-up rate in the Netherlands is a result of lower bureaucratic requirements.

Another way to compare the Netherlands and Germany in this research, it through the Worldwide Governance Indicator “Regulatory Quality”. Regulatory quality captures perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development (World Bank, 2015). This is broader than only the level of bureaucracy but in order to create ‘sound policies that promote private sector development’, a lower level of bureaucracy is contributory. In table 16 the regulatory quality for the years 2002 to 2014 is

shown on a scale of -2,5 to 2,5 and as a percentile rank for all countries with 0 as the lowest and 100 as the highest.

<b>Regulatory Quality</b>				
	Netherlands (-2,5 - 2,5)	Germany (-2,5 - 2,5)	Netherlands Percentile Rank	Germany Percentile Rank
2002	1,9	1,5	99	93
2003	1,7	1,5	98	92
2004	1,8	1,5	98	91
2005	1,7	1,5	99	92
2006	1,7	1,6	97	94
2007	1,8	1,6	98	95
2008	1,8	1,5	97	92
2009	1,7	1,5	97	94
2010	1,7	1,6	97	94
2011	1,8	1,6	97	93
2012	1,8	1,5	96	92
2013	1,8	1,5	96	92
2014	1,8	1,7	96	94

Table 11: Regulatory Quality

Source: World Bank, 2015

Table 16 shows that over the years, both the level and the percentile rank of the regulatory quality in the Netherlands and Germany have had very little fluctuations. In the most recent year (2014) the difference was only 0,1 point and 2 points in the percentile rank. It is very unlikely that this small difference in regulatory quality has an influence on start-up creation, especially when kept in mind that the number of start-ups in the Netherlands has grown over the years relatively to Germany, even though the regulatory quality of Germany has slightly increased relatively to the Netherlands.

### **Government financing and support**

Mister van der Sel said that financing usually comes in the form of a loan. However, he says that (starting) business owners can also benefit from subsidies, credits, surety and a number of fiscal arrangements. In the Netherlands there are various forms of subsidies for starting businesses and business owners. As some examples he mentions the (in Dutch:) ‘ondernemersaftrek’, ‘kleinschaligheidsinvesteringsaftrek (KIA)’, ‘innovatiekrediet’, ‘vroegefasefinanciering (VFF) and ‘Borgstelling MKB Kredieten’. These are all subsidies or discounts that companies can apply for in certain situations. Depending on the kind of business and various other factors, the profit of these arrangements can differ very much, so it is not possible to give a fixed number on how much “an entrepreneur in general” receives. The existence of all these arrangements show that there are various possibilities for starting entrepreneurs to get some financial aid. Mister Deuschel told in his interview that also in Germany there are arrangements which help (starting) business owners financially. For example, someone who starts a business after having worked for a company before can, in certain cases, get a subsidy which assures a part of the previous salary while the new business is in the starting phase and likely does not make much profit yet. Such a subsidy can for example be two third of the previous income plus a fixed amount of 200-400 euros per month for the first year

and only that fixed amount for the second year. But again, these amounts can differ very much from case to case.

As said, the situation in the Netherlands is relatively similar to the German situation. As in Germany, also in the Netherlands there has been no major change in these regulations throughout the study period. Mister van der Sel states that the increase of the amount of new companies, especially since 2004, is not attributable to a specific financial or legal stimulus. He states that the laws and regulations concerning starting an own business have not encountered notable changes over the period of study and that this is thus not the main reason for the increase in the start-up rate and that the increased start-up rate is more likely due to different causes. The data from GEM support the statement regarding financial support. Figure 21 shows an indicator of GEM which rates the availability of financial resources – equity and debt – for small and medium enterprises (SMEs), including grants and subsidies. Throughout the study period, until 2012, the values for the Netherlands and Germany are very similar, and only from 2014 onwards the value for the Netherlands improves relative to the German one. Based on this information government financing for business starters is not a reason for the relative increase in the start-up rate in the Netherlands over the start-up rate in Germany.

### Financing for Entrepreneurs

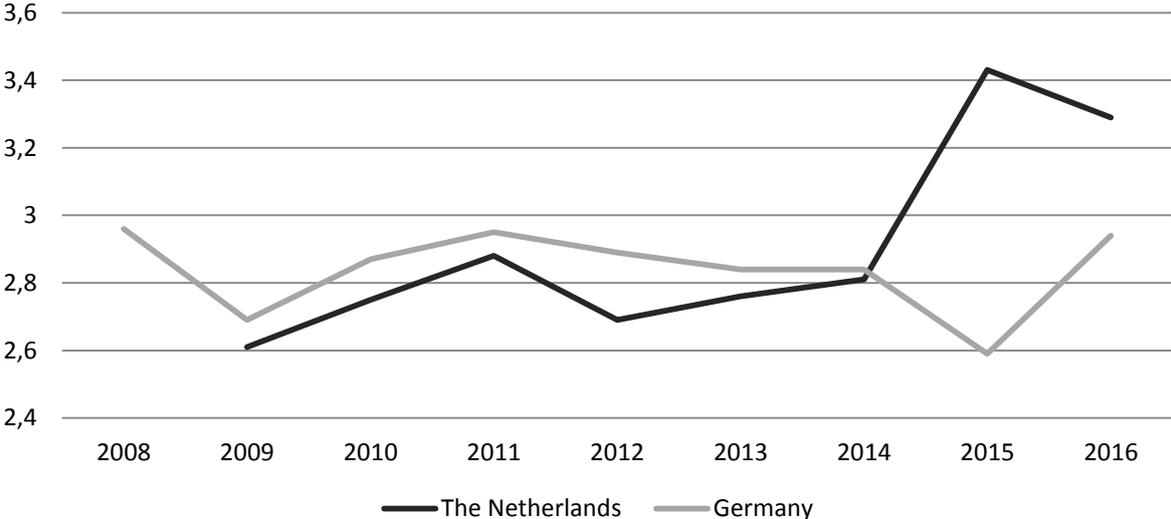


Figure 2110: Entrepreneurship financing indicator: 1 (low) – 5 (high) source: GEM, 2016c

Figure 22 also shows a GEM indicator related to the institutional quality of the countries. This indicator relates to the extent to which public policies support entrepreneurship and see entrepreneurship as a relevant economic issue. In this figure it can be seen that the values for Germany were a lot higher than for the Netherlands up until 2012. From there on the value for the Netherlands started to increase and the value for Germany started to decrease. The increase in the Netherlands started in 2011 and also the decrease in Germany started a bit before 2012 already. However, the increase and decrease before 2012 are minimal, and it is only from 2012 onwards that a bigger change arises. Since this change came after 2012 and until 2012 the situation was relatively stable, it is improbable that differences in governmental support are a reason for the relative increase in the Dutch start-up rate compared to the German start-up rate up until 2012.

## Government support and policies

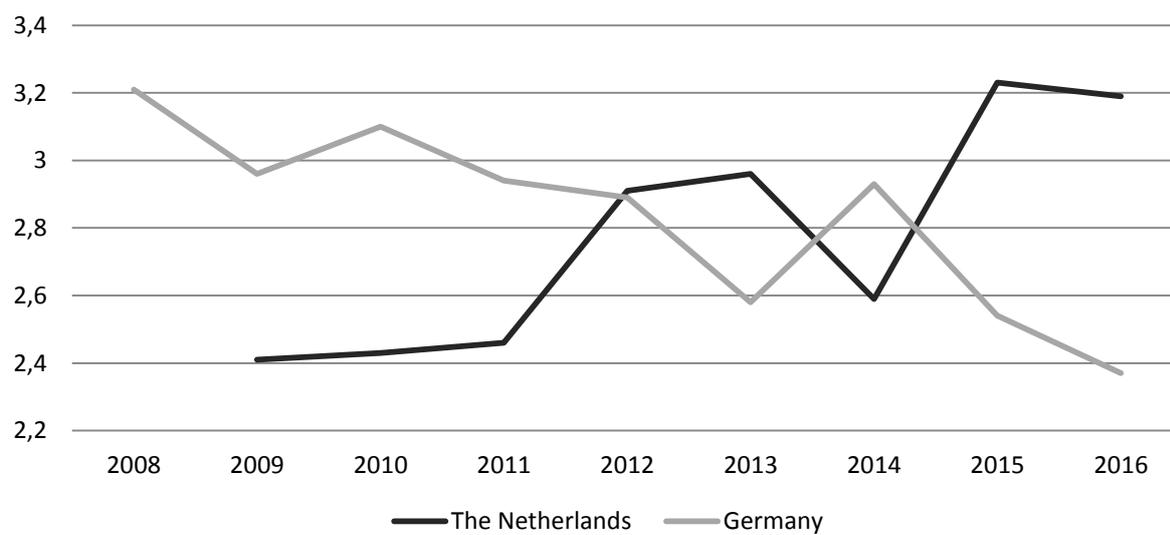


Figure 22: Government support and policies indicator: 1 (low) – 5 (high) source: GEM, 2016c

## 4.5. Educational aspects

This chapter will analyse if educational aspects might be part of the explanation of the difference in the start-up rate and entrepreneurial activity between the Netherlands and Germany. First of all the level of education of entrepreneurs in the Netherlands and Germany will be compared to the level of education of the rest of the countries populations. But not only the level of education will be analysed. Also the attention that is given to entrepreneurship within a countries education system will be looked at, as more attention to entrepreneurship can stimulate higher start-up rates. Finally, the age at which people engage in entrepreneurship is examined.

### Level of education

For this analysis the level of education of the entrepreneurs in a country is compared to one of the non-entrepreneurs in the country. The level of education has been recoded from the countries' local systems to uniform groups in order to get a uniform output for all countries. For the Netherlands it is recoded as following: None stands for no education, Some secondary for any education before middle school, Secondary for a middle school degree, Post-Secondary for a HBO or university Bachelor's degree and Graduate Experience stands for a university Master's degree or PhD (GEM, 2016b). For Germany it is recoded as following: None stands for no education, Some secondary for middle school degrees up until Realschule (equivalent of Have in the Netherlands), Secondary for Gymnasium or vocational training, Post-Secondary stands for Fachhochschulabschluss or a universities Bachelor and Graduate experience stands for a Master's degree or PhD (GEM, 2016b). Because the levels are not exactly the same in both countries, the levels of education of business starters are compared to the rest of their respective countries' populations instead of directly with each other. Figure 23 shows the education levels of the Dutch entrepreneurs and non-entrepreneurs in 2003.

### Education levels: the Netherlands 2003

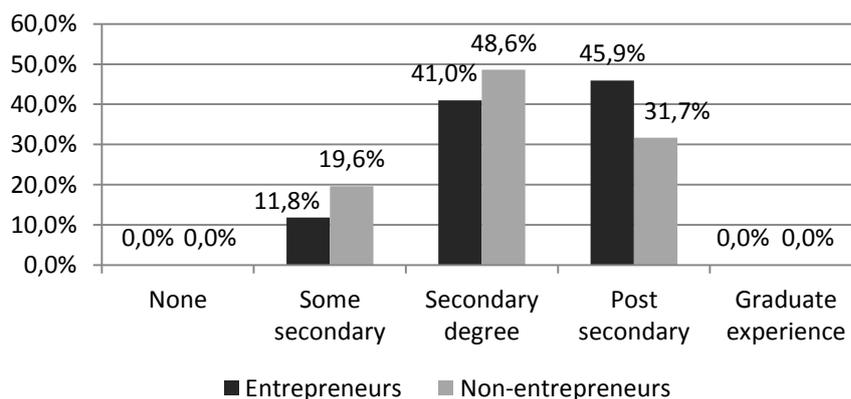


Figure 2311: Education levels - Netherlands 2003

As can be seen in figure 23, most Dutch entrepreneurs either have a secondary or post-secondary degree. In the dataset, there were no entrepreneurs with graduate experience or without any education. The rest of the Dutch population consists of relatively more people with some secondary or a secondary degree and relatively less people with a post-secondary degree. So, relatively

entrepreneurs more often have a post-secondary education than those who are not entrepreneurs. Again, there are no respondents without any education or with graduate experience. To test if the differences are significant between entrepreneurs and non-entrepreneurs, a logistic regression analysis is done. Since there are no respondents without education or graduate experience, these groups are not included in the regression. In the regression, entrepreneurs are coded as 1. The middle and overall largest group, secondary degree, has been taken as the reference group. The results of the analysis are shown in table 17.

	<b>B</b>	<b>Sig.</b>	<b>exp(B)</b>
Intercept	-2.8269359	0.000	0.05919395
Some secondary	-0.3386953	0.129	0.71269956
Post secondary	0.5368090	0.000	1.71053981

R-squared	0.013
N	3494

Table 12: Regression education - Netherlands 2003

In table 17 it can be seen that there is no significant difference between entrepreneurs and non-entrepreneurs regarding the group “some secondary education”. There is a significant difference though regarding post-secondary education. The odds that a person with a post-secondary education is an entrepreneur are 1.7 times higher than that this person is a non-entrepreneur. The pseudo R-squared value of the model is 1.3%.

The Dutch case for 2003 is described above. The following figure and table will show the case for 2012 to see if the influence of the level of education has changed. Figure 24 shows the education level of Dutch entrepreneurs and non-entrepreneurs in 2012.

## Education levels: the Netherlands 2012

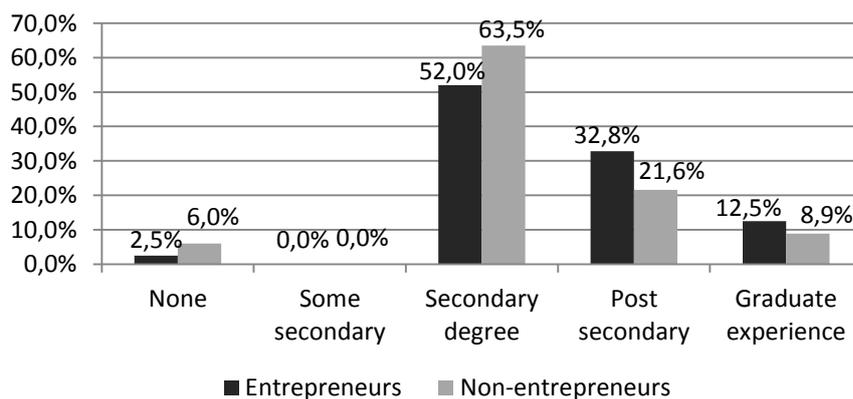


Figure 212: Education levels - Netherlands 2012

Figure 24 shows a very different pattern for 2012 than the pattern for 2003 in figure 23. The group “some secondary education” has disappeared completely. Furthermore, the group with a secondary degree has increased, the post-secondary group has decreased, there are a few entrepreneurs and non-entrepreneurs with graduate experience and some without any education.

Compared to the entrepreneurs, the groups with post-secondary education and graduate experience for the rest of the population are relatively smaller than the group with a secondary degree. Meaning that there are relatively more entrepreneurs with a post-secondary education or graduate experience. To test if this difference is significant, a logistic regression has been done, similar to the one for 2003 (table 17). Being an entrepreneur has been coded as 1 and “secondary degree” has been selected as the reference group. The results are shown in table 18.

	<b>B</b>	<b>Sig.</b>	<b>exp(B)</b>
Intercept	-1.8627.427	0.000	0.1552463
No education	-0.6743497	0.018	0.5094876
Post-secondary	0.6186038	0.000	1.8563.345
Graduate experience	0.5390839	0.000	1.7144.356
R-squared 0.017			
N 3501			

Table 13: Logistic regression education - Netherlands 2012

Table 18 shows that there is a significant difference between entrepreneurs and the rest of the population regarding the group with no education. This means that the odds for a person without education to be an entrepreneur are only half as big as for being a non-entrepreneur. The other two groups, post-secondary and graduate experience, have a significant positive outcome in the regression. For both of these groups, the odds that a person is an entrepreneur is higher (1.86 and 1.71 ratios) than that that person is not an entrepreneur. The models’ pseudo R-squared value is 1,7%.

The following paragraph shows the same analysis for Germany, starting with 2003. Figure 25 shows the education levels of entrepreneurs and non-entrepreneurs in Germany in 2003.

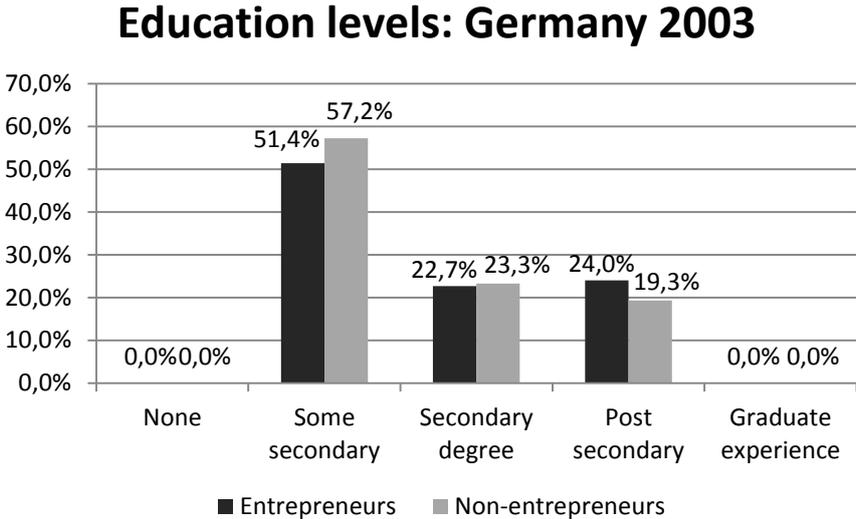


Figure 135: Education levels - Germany 2003

As for the Dutch case in 2003, there are no respondents without any education and also none with graduate experience. A notable difference is that the group with some secondary education is

relatively larger than in the Netherlands. The groups with a secondary degree and a post-secondary degree for entrepreneurs are at a similar level but relatively lower than in the Netherlands in 2003. Figure 25 shows that there is very little difference in Germany between the education levels of entrepreneurs and the rest of the population. The amount of people with a post-secondary degree is relatively lower than for the entrepreneurs. To find out if there are any statistically significant differences, the same logistic regression is done as was done for the Dutch case. The results are shown in table 19.

Germany 2003	B	Sig.	exp(B)
Intercept	-2.238	0.000	0.107
Some secondary	-0.083	0.390	0.920
Post-secondary	0.242	0.033	1.274
R-squared 0.002			
N 7529			

Table 14: Regression education - Germany 2003

In the table it can be seen that there is no significant difference for some secondary education, but there is a significant difference for the post-secondary education group. Compared to secondary education, the odds for someone with post-secondary education to be an entrepreneur are 1.3 times higher than for someone without post-secondary education. The pseudo R-squared value of the model is 0,2%.

Figure 26 shows the levels of education of the German entrepreneurs and non-entrepreneurs in 2012.

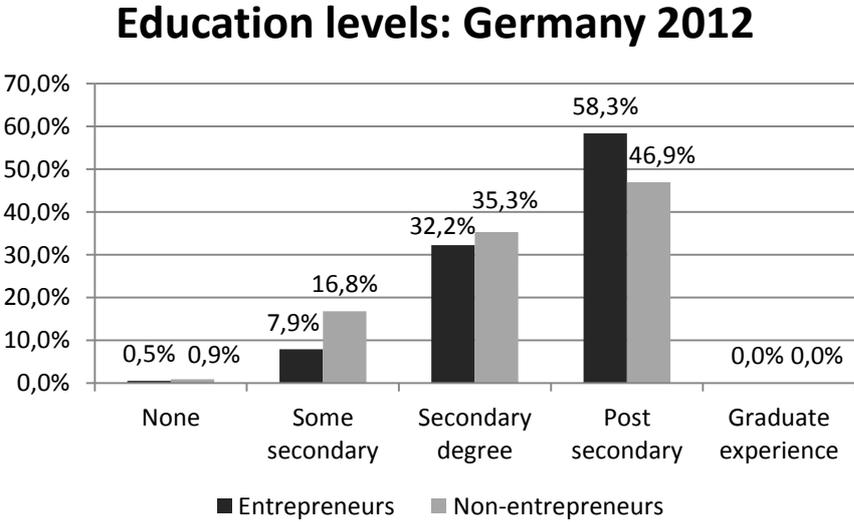


Figure 26: Education levels - Germany 2012

Compared to 2003, the figure has almost been turned around. This is a very remarkable change. The reasons for this lies without the scope of this research. The large group with some secondary education has disappeared and the group with post-secondary has grown vastly. Compared to the Netherlands in 2012, the relative amount of post-secondary educated people is higher, but the

relative amount of people with a secondary degree or with graduate experience is lower. Again, to check for statistically significant differences a logistic regression was done. Secondary degree has been chosen as the reference group. The results of the regression are shown in table 20.

Germany 2012	B	Sig.	exp(B)
Intercept	-2.0050057	0.000	0.1346595
No education	-0.4227425	0.487	0.6552473
Some secondary	-0.6651252	0.000	0.5142091
Post-secondary	0.3097065	0.002	1.3630250
R-squared 0.013			
N 4247			

Table 15: Regression education - Germany 2012

The table shows that there is a significant difference for the post-secondary group, with an odds ratio of 1.36. This means that it is 1.36 times more likely for someone with post-secondary education to be an entrepreneur than for someone with secondary education. The pseudo R-squared value of the model is 1,3%. As for the Netherlands, also in Germany there are some significant differences between the different levels of education of entrepreneurs and not entrepreneurs, but for both cases the explanatory value of the models is limited.

### Attention for entrepreneurship in education

Not only the level of education was tested, but also the attention for entrepreneurship in education. When more attention is given to entrepreneurship in education, more people might come to the idea to start their own business. The Global Entrepreneurial Monitor has data on this subject, gained from their National Expert Survey (NES). Because the NES dataset is not a large survey, but based on a more select group of experts, no regression analysis is done. Since the variable is only available from 2008/2009 onwards, it does not match to the study period completely, which makes it harder to draw conclusions, especially since the effect is more likely be lagged rather than direct. GEM has split the attention in education into two parts; Basic school entrepreneurial education and training, and Post school entrepreneurial education and training. The first variable can be described as *'the extent to which training in creating or managing SMEs is incorporated within the education and training system at primary and secondary levels'* (GEM, 2016c). The second variable is described as *'the extent to which training in creating or managing SMEs is incorporated within the education and training system in higher education such as vocational, college, business schools, etc.'* (GEM, 2016c). A good example of the attention for entrepreneurship in Dutch post school education is the University of Groningen. At this university there is the University of Groningen Centre for Entrepreneurship (UGCE), which researches entrepreneurship and educates and supports students with their entrepreneurial activities. The UGCE was founded in 2013 and basically consists of three pillars. An applied research centre, an entrepreneurship college, and business support (Rijksuniversiteit Groningen, 2017). The research centre does research on different forms of entrepreneurship in order to give sound research based advice for real life problems. The Entrepreneurship College educates students on entrepreneurship in different forms and intensities, from an evening course in a semester, to an entrepreneurship minor to even complete master programmes such as 'Small Business and Entrepreneurship' (Rijksuniversiteit Groningen, 2017). The University of Groningen is one example of an institution of higher education that supports students with their entrepreneurial

ideas. Although, there are many other institutions in the Netherlands that also offer support for students with entrepreneurial ideas (Universiteit van Amsterdam, 2016; Universiteit Utrecht, 2016; Venturelab International, 2016) However, this phenomena does not only occur in the Netherlands. Also many German institutions of higher education offer support and opportunities for students with entrepreneurial intentions. For example the Technical University of Munich offers support and education to students and alumni through TUMentreprenurship and UnternehmerTUM GmbH (Technical University of Munich, 2016). Also other universities offer similar support (Friedrich-Alexander Universität Erlangen-Nürnberg, 2016; Technische Universität Berlin, 2017) The GEM created variables to rank the attention for entrepreneurship in education with a scale from 1 to 5. The values of GEM for both the level of attention in basic school education and post school education are given in table 21.

Year	Attention in basic school education		Attention in post school education	
	<i>The Netherlands</i>	<i>Germany</i>	<i>The Netherlands</i>	<i>Germany</i>
2008	-	1.87	-	2.77
2009	2.37	1.98	3.00	2.67
2010	-	2.07	-	2.83
2011	2.88	1.92	3.21	2.68
2012	3.07	2.07	3.45	2.88
2013	3.05	1.94	3.34	2.59
2014	2.85	2.13	3.17	2.81
2015	2.96	1.65	3.39	2.49
2016	3.28	1.70	3.57	2.59

Table 16: Attention for entrepreneurship in education: 1 (low) – 5 (high)

source: GEM, 2016c

To have a better overview of the trend, the numbers are also depicted graphically. Figure 27 shows the attention for entrepreneurship in education in both countries.

### Attention for entrepreneurship in Education

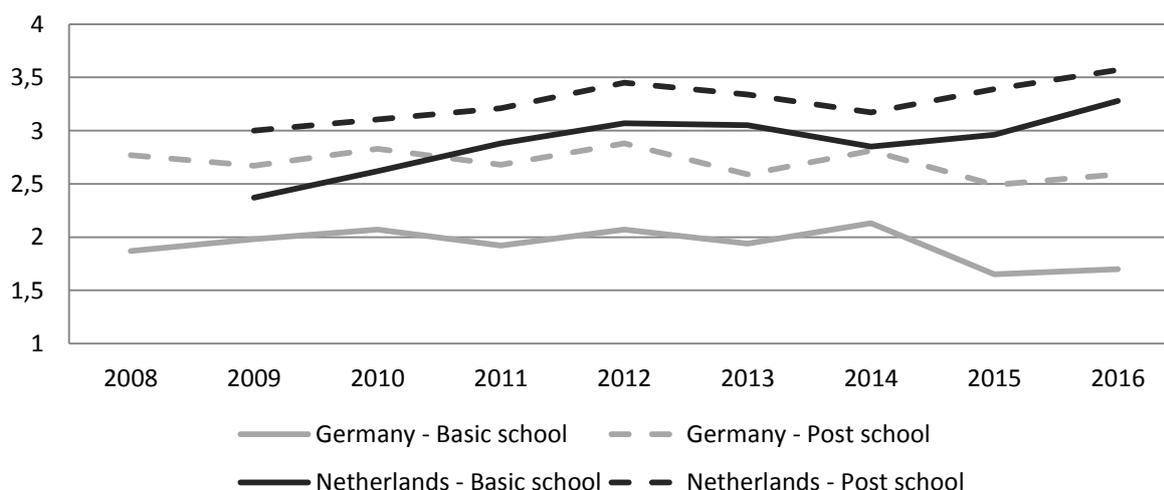


Figure 27: Attention for entrepreneurship in education: 1 (low) – 5 (high)

source: GEM, 2016c

In the figure it can be seen that the level of attention in Dutch basic education is higher than in German basic education for the entire period. With an exception for 2014, the level of attention in the Dutch basic school education has also increased relatively to the German basic school education. In total, the difference between the Netherlands and Germany has grown from 0,4 points to 1,6 points on a 5-point-scale. Especially when taking into account the study period, until 2012, the level of attention for entrepreneurship in Dutch education is increasing. The relative increase in the level of attention for entrepreneurship in Dutch basic school education might contribute to the relative increase in the entrepreneurial activity in the Netherlands. The level of attention for entrepreneurship in the Netherlands is not only higher than in Germany in basic school education, but also in post school education. Albeit that the difference is smaller in post school education than in basic school education. Also for the attention for entrepreneurship in post school education, the Netherlands shows a slightly increasing line, where Germany fluctuates around a relatively constant level and even shows a slight decrease. The relative increase in attention for entrepreneurship within education, both basic school and post school, can be an indication for the relative increase in the Dutch start-up rate.

**Age**

Both Mister Belian of the German chamber of commerce and Mister van der Sel of the Dutch chamber of commerce mentioned that most starting business owners do not come straight from school or university, but rather have at least some years of work experience already. Mister van der Sel mentioned that, even though he did not have exact numbers on this matter, he saw an increase in young starting business owners over the years, which could well be caused by the increased attention to entrepreneurship in Dutch education as discussed in the last subchapter. Figure 28 shows the age of starting business owners in the Netherlands and Germany in 2003 and in 2012.

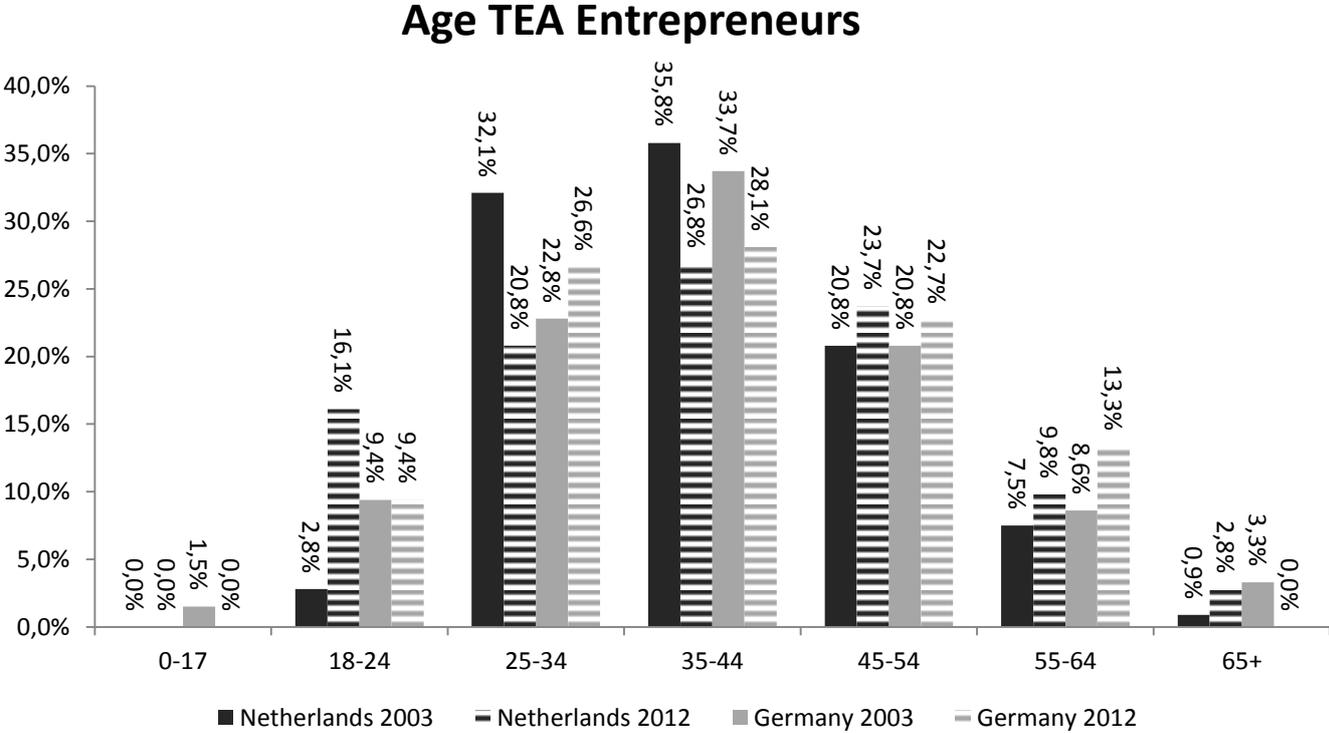


Figure 14: Age of business starters.

The figure shows that for the Netherlands in both years, the most starting entrepreneurs are between the ages of 35 and 44. After that the ages 25 to 34 and 45 to 54 are most common. There has been a little increase in the TEA of 'older' entrepreneurs of 55+ but most remarkable is the increase in young entrepreneurs from the ages 18 to 24. This group increased from 2.8% to 16.1%. As well as in the Netherlands, also in Germany the most represented age group is the group from 35 to 44 for both 2003 and 2012. There are slightly more 'older' entrepreneurs in Germany than in the Netherlands in 2003 as well as in 2012. What is remarkable when comparing the German entrepreneurs and the Dutch ones, is that there has been a large increase in the Netherlands for entrepreneurs aged 18 to 24, but in Germany it has stayed the same. The group 0 to 17 has even decreased for Germany, where there was no change for the Netherlands. Unfortunately, a time series analysis is not possible since there are different respondents for different years. So instead, a regression has been done between the age of Dutch and German entrepreneurs for both 2003 and 2012. Because we are interested in the increase of young entrepreneurs, a binomial dummy variable is created with the values 0 (age 25+) and 1 (age 0-24). In the regression, the Netherlands is coded as 0 and Germany as 1. The results for 2003 are shown in table 22.

Age - 2003	B	Significance	Exp(B)
Intercept	1.228902	0.000	3.417476
Young entrepreneurship (0-24)	1.433686	0.018	4.194129
R-squared 0.02			
N 573			

Table 17: Regression Age 2003

Table 22 shows that there is a significant difference between the countries concerning young entrepreneurship. In 2003, the odds that an entrepreneur between 0 and 24 is German are 4 times higher than for that entrepreneur to be Dutch. The pseudo R-squared value of the model is 2%.

Table 23 shows the results of the regression for 2012.

Age - 2012	B	Significance	Exp(B)
Intercept	-0.1367589	0.128	0.8721805
Young entrepreneurship (0-24)	-0.6170129	0.019	0.5395538
R-squared 0.01			
N 501			

Table 18: Regression age 2012

The tables show that over the years, the relative situation has completely changed. Where in 2003 it was still significantly 4 times more likely for a young entrepreneur to be German, in 2012 this turned around to a two times higher likelihood of that young entrepreneur to be Dutch. The pseudo R-squared value is 1%. Keeping in mind these results, and the values in figure 28, it can be concluded that the relative amount of young entrepreneurs in the Netherlands has grown substantially over the years as oppose to in Germany.

## 5. Conclusion

This chapter will draw conclusions on the findings from the analysis part. For the various different aspects, a number of conclusions can be drawn. These conclusions will be discussed in accordance to the defined main and sub questions. Also, a discussion and reflection is done on the conclusions, the analysis and the research process itself. Finally, a number of recommendations for further research are made.

### 5.1. Conclusions

#### Cultural aspects

In this paragraph the conclusion on the first sub question is discussed. The first sub question is: *What are the cultural influences on start-up rates and entrepreneurial activity?* Related to this question the following hypothesis was made: *Personal and societal views on business start-ups influence the start-up rate in a country.*

The analysis shows that there are five significant cultural variables which help explain the relative increase in the Dutch start-up rate over the years. These variables are 'personally knowing an entrepreneur', 'positive media attention', 'seeing entrepreneurship as a desirable career choice', 'expecting to start a business in the next 3 years' and 'meaningfulness of the current job'. All other variables were either insignificant or did not contribute to the relative increase in the Dutch start-up rate compared to the German start-up rate. This means that the hypothesis is partly true; a number of personal and societal views influence the start-up rate, but not all.

By knowing an entrepreneur it is easier to acquire first-hand information about entrepreneurship, which can help people who are thinking about starting a business with overcoming certain obstacles they might have. Also knowing an entrepreneur might inspire someone to engage in entrepreneurship as well. The same goes for positive media attention. Positive media attention can inspire people and bring them on the idea of also engaging in entrepreneurship whereas without this attention they might not have considered the opportunity. However, both these variables are not only a cause of increased entrepreneurship but also a result, as more entrepreneurship will increase the amount of people who know an entrepreneur as well as the amount of media attention. These variables can be part of a self-reinforcing process and are both a cause and a result. Based on this analysis, no conclusion on the causality can be drawn. Seeing entrepreneurship as a desirable career choice and expecting to start a business in the next three years also significantly influence the relative increase in the Dutch start-up rate. A larger amount of people seeing entrepreneurship as a desirable career choice or even expecting to start-up a business in the next years means that there is a larger amount of potential entrepreneurs. When the conditions are right and no obstacles are met, these potential entrepreneurs can engage in entrepreneurship and increase the start-up rate. The last cultural variable which has a significant influence is the perceived meaningfulness of ones' own job. Noticeable is that Dutch entrepreneurs significantly find their job more meaningful than German entrepreneurs, but for the rest of the population German employees significantly consider their job more meaningful than Dutch employees do. A possible explanation of this effect on the increased start-up rate can be through Dutch people changing from their original job to their own business in order to do the work that they really like and find meaningful.

## **Economic aspects**

In this paragraph the conclusion on the second sub question will be discussed. The second sub question is: *What are the economic influences on start-up rates and entrepreneurial activity?* Related to this question the following hypotheses were made:

*Entrepreneurs are more likely to have a high income than non-entrepreneurs.*

*The Dutch start-up rate increased relative to the German start-up rate through a relative increase in the number of self-employed in the Netherlands.*

*The Dutch start-up rate increased relative to the German start-up rate through a relative increase in the number of necessity driven entrepreneurs in the Netherlands.*

The analysis shows that the incomes of entrepreneurs are significantly higher than the incomes of the rest of the population. Entrepreneurs are more often in the higher income groups and less often in the lower income groups. This means that the first hypothesis is true. Even though this can be seen as a reason to engage in entrepreneurship, there are two reasons why this is not an explanation of the relative increase of the Dutch start-up rate compared to the German start-up rate over the years. The first reason is that the difference in income has not been created over the time of the study period but was already present in the beginning, when the start-up rates of the Netherlands and Germany were still similar. The second reason is that the significant difference between the incomes appears in both the Netherlands and Germany, so this does not explain why the start-up rate in the Netherlands increased while the German start-up rate stayed at a stable state.

The second hypothesis is also true; the analysis showed a significant increase in the number of entrepreneurs without employees in the Netherlands. In Germany the percentage of entrepreneurs without employees grew as well, from 25% in 2003 to 33% in 2012. However, in the Netherlands this increase has been much larger, from 23% in 2003 to 49% in 2012. This increase has significantly contributed to the relative increase in the Dutch start-up rate. One possible explanation of the increase in entrepreneurs without employees is the already mentioned meaningfulness of ones' job. An increasing amount of people have started a small business by themselves, without employees. Their main goal is not to have a large firm with many employees, but can be for example to have the freedom to do what they want and like. The third hypothesis is false. The percentage of necessity entrepreneurs has increased in the Netherlands. However, the relative increase in the Dutch start-up rate compared to the German one is not a result of increased necessity entrepreneurship because even though the percentage of necessity entrepreneurs in the Netherlands has increased over the study period, this increase has been larger in the German start-up rate.

## **Physical aspects**

In this paragraph the conclusion on the third sub question will be discussed. The third sub question is: *What are the influences of the physical environment on start-up rates and entrepreneurial activity?* Related to this question the following hypothesis was made: *The quality of physical infrastructure (internet, roads, railroads) influences the start-up rate.*

Based on the analysis, the hypothesis cannot be seen as true. Small differences in the quality of road and railroad infrastructure are found. However, these differences are only minimal and are unlikely to play a role in the relative difference in start-up rates. Also, the population density and size of both countries have stayed the same throughout the study period and cannot be concluded to have an

influence on the relative increase in the Dutch start-up rate. The analysis does show a difference in the quality of internet speed and coverage in the Netherlands and Germany. The analysis shows that the Netherlands has a higher coverage of fast internet than Germany in 2013. Unfortunately, no data was available for earlier times so it cannot be concluded that this has influenced the relative increase in the start-up rate in the Netherlands. However, this data on internet quality, combined with the growing use and importance of the internet over the years do suggest that this could be possible.

### **Institutional aspects**

In this paragraph the conclusion on the fourth sub question will be discussed. The fourth sub question is: *What are the institutional influences on start-up rates and entrepreneurial activity?* Related to this question the following hypotheses were made:

*The Dutch start-up rate increased relative to the German start-up rate through lower levels of employment protection in the Netherlands.*

*The Dutch start-up rate increased relative to the German start-up rate due to lower levels of bureaucracy in the Netherlands.*

*The Dutch start-up rate increased relative to the German start-up rate due to higher levels of government financing and support in the Netherlands.*

The institutional aspects in both countries show little differences in levels of employment protection, bureaucracy and taxes, the start-up process, government support and availability of subsidies. Also no major changes in laws and regulations regarding the attractiveness of starting an own business have occurred over the study period. This means that all three hypotheses are false. The analysis shows that it is unlikely that the relative change in start-up rates is the result of institutional changes in either one of the countries.

### **Educational aspects**

In this paragraph the conclusion on the fifth sub question will be discussed. The fifth sub question is: *What are the educational influences on start-up rates and entrepreneurial activity?* Related to this question the following hypotheses are made:

*Entrepreneurs have higher levels of education than non-entrepreneurs.*

*There is more attention for entrepreneurship in education in the Netherlands than in Germany.*

The first hypothesis is true. The analysis shows that for both 2003 and 2012 the level of education of entrepreneurs in Germany and the Netherlands were overall higher than the level of education of non-entrepreneurs. Since this was the same in both countries, this does not suggest an influence on the relative increase in the Dutch start-up rate compared to the German one. The second hypothesis is also true. The analysis also shows that the attention for entrepreneurship within education has increased in the Netherlands over the years, but not in Germany. This increase in the Netherlands is present in both basic and post school education. Also, the analysis shows a large increase in the amount of young entrepreneurs in the Netherlands over the study period. Where in 2003 only 3% of the entrepreneurs were younger than 25, this has grown to 16% in 2012. In Germany this percentage has decreased from 11% in 2003 to 9% in 2012. The relative increase in the Dutch start-up rate can for a part be attributed to the increasing amount of young entrepreneurs. Since the attention for entrepreneurship in education also increased, it is likely that this attention contributed to the increasing Dutch start-up rate through an increase in the amount of young entrepreneurs. However, the influence of attention for entrepreneurship in education, particularly basic school education, is

mainly a lagged effect because those in education will most likely not engage in entrepreneurship immediately but rather after they finish their education. The fact that the increase in attention for entrepreneurship in education goes on until the end of the study period, combined with the knowledge that this effect is mainly a lagged effect, gives reason to believe that the amount of young entrepreneurs in the Netherlands can grow even further in the future.

### **Positive or negative?**

In this paragraph the conclusion on the sixth sub question will be discussed. The sixth sub question is: *Is the increased start up rate in the Netherlands a positive development?* This sub question does not directly describe an influence on the start-up rate but can rather be seen as a valuation of the trend of an increasing start-up rate in the Netherlands.

Whether or not the increase in start-up rate is a positive development depends mainly on three factors: the economic and innovative outputs of the start-ups, the economic situation of entrepreneurs and the reasons why companies are started up.

For the first factor, regarding innovation, no conclusion can be drawn because the GEM definition of entrepreneurship includes the starting of all new businesses, not only innovative ones. Regarding economic outcomes a conclusion can be drawn, especially when looking at the effects on employment creation. Many of the new start-ups are businesses without any employees. This means that the only effect that these start-ups have on employment creation is for the entrepreneurs themselves, so this is only a small effect. Even then, this job creation effect is only valid if the entrepreneur did not have another job before but comes from the pool of unemployed. Since the amount of necessity entrepreneurs is very low, it is likely that most entrepreneurs either had a job already or could have found a job elsewhere as well. Based on this, it can be concluded that the impact of the increase in the Dutch start-up rate on employment creation is minimal.

Regarding the second factor, the economic situation of entrepreneurs, the increased Dutch start-up rate is also not a negative development. The analysis shows that the incomes of entrepreneurs did not change relatively to the incomes of non-entrepreneurs throughout the study period. The analysis also shows that in general entrepreneurs were more often among the higher income groups, so this is rather a positive development.

For the third factor, the reasons for starting up, it can be concluded that the relative increase in start-up activity in the Netherlands over Germany is not a negative development in the Netherlands, since the amount of necessity entrepreneurs in the Netherlands has grown less than in Germany. Regarding meaningfulness, significant results were found showing that Dutch entrepreneurs more often find their job meaningful than Dutch non-entrepreneurs. Also, overall the German population finds their job more meaningful than the Dutch population. If more Dutch people start their own business because they do not find their job meaningful, this can perhaps be seen as a negative development, since that could be a sign that the “regular” labour market is getting less interesting or attractive. However, the higher meaningfulness can also come from a large number of young entrepreneurs who know what they want to do and decide to do exactly that after their education, partly due to the attention for entrepreneurship in that education. In that case it can be seen as a positive development.

## **Final Conclusion**

In this paragraph the conclusion on the main question will be discussed. The main question is: *How can the increasing difference in the start-up rates between the Netherlands and Germany be explained?*

As expected, a large variety of factors play a role in explaining the start-up rate. The main factors that have proven to influence the relative increase in the start-up rate in the Netherlands over Germany are personally knowing an entrepreneur, positive media attention, seeing entrepreneurship as a desirable career choice, expecting to start a business in the next 3 years, increased meaningfulness of a job, good internet accessibility and an increase in attention for entrepreneurship in education. The start-up rate in the Netherlands mainly increased through an increase in the amount of entrepreneurs without employees and an increase in the amount of young starters. Important note is that the factors mentioned above together do not explain the start-up rate completely but are the factors that have been found to contribute to the increase in this case. Business start-ups are a very complex topic and next to various objective factors such as some of the factors mentioned above, also many subjective personal factors can play a role. Due to the complex nature, it was also not expected to find a complete explanation.

Noticeable in the results is that institutional factors did not seem to play a large role in the increase of the Dutch start-up rate. The factors with the largest influence mainly come either from society or are part of a self-reinforcing process. The only factors where the government has a direct influence are internet accessibility and attention for entrepreneurship in education. Concerning the internet accessibility, the goal of improving internet quality was not to increase the start-up rate but this was rather a side effect of a more general measure. The increased attention for entrepreneurship in education is focused on entrepreneurship but only fulfils an informing role. This analysis suggest that in order to increase the start-up rate, a government does not need to directly invest large amounts of money into this or change laws to make starting up businesses more favourable. For governments, rather taking a facilitating role by providing enough information and knowledge about entrepreneurship and investing in general purposes where more sectors benefit can be an effective way of facilitating a higher start-up rate.

## **5.2. Discussion and reflection**

This research has focused on start-up rates, a very complex topic. In order to analyse this topic, many different factors have been taken into account. However, a complex topic such as the start-up rate can never be fully explained, because many personal aspects can also play a role. To tackle this, a number of personal aspects have been included in the analysis by including certain cultural views of the population on starting up a business. Even though this research has taken a broad perspective in order to give an as complete as possible overview, when interpreting the results of this research it is important to keep in mind that they show certain objective and personal influences on the increased start-up rate in the Netherlands, but do not fully explain the phenomenon.

In this research, many of the used explanatory variables were ordinal or binomial and there was little possibility to use ratio variables. For example income was given as an ordinal variable with three levels, many cultural aspects were given as yes/no questions and age was aggregated to age groups instead of individual ages. Because of this, the explanatory values of the models were lower than they perhaps could have been when ratio variables would have been available.

The ideal way to analyse the change in a phenomenon over time based of various variables is to perform a time series analysis over these variables. However, in order to do a time series analysis, the respondents need to be the same respondents in every year. In the used dataset, different respondents were surveyed every year, so performing a time series analysis was not possible. Instead, logistic regressions were done. Due to the facts that different data sources were used and certain variables were not available for every year, the decision was made to perform separate logistic regressions for every sub question. The disadvantage of this is that fewer explanatory values were included in the single analyses, combined with the complex nature of start-up rates and the fact that most variables were either binomial or ordinal variables, this resulted in low R-squared outcomes. These low R-squared outcomes again show that even though the results were often significant, influences on start-up rates are very complex and were not explained completely. Although the R-squared values were low, performing separate analyses made it possible to use the most appropriate data and most meaningful way of analysis for every variable.

The research took a mainly quantitative approach, and few in-depth interviews were conducted in a supporting role. If the research would have taken a mainly qualitative approach, the outcomes might have been different. More insights in the personal choices of the starters might have been found, but on the other hand nationwide trends and statistical significance might have been lost.

## **5.3 Recommendations**

### **Recommendations for policy makers**

The main reason for the increase in the Dutch start-up rate between 2003 and 2012 has been found to be an increase in independent entrepreneurs without employees and an increase in young starters, likely due to more attention in the education system. In order for policy makers to help increase the start-up rate, these two groups are also the most important to focus on. First of all, an increase in attention within education can prepare young people for engaging in entrepreneurship. Especially within higher education levels this can help stimulate the increase of innovative start-ups. When more younger people start an own company this can also contribute to the self-reinforcing process where an increase in entrepreneurs leads to more people getting to know an entrepreneur. Apart from this increase in attention within education it is important to provide a good environment, both physical and regulatory. Creating a good environment, with for example fast internet, support with organizational work and a reduction of bureaucratic processes, obstacles that can prevent some from engaging in entrepreneurship get removed. However, most of all it is important to keep a facilitating role. One thing that this research has shown is that the individual factors and influences only have a very small explanatory effect, that the reasons for people to engage in entrepreneurship are very complex and that personal views play a large role. It should not be expected that investing in one single aspect will results into a large increase in the start-up rate. Also, an increased start-up rate does not have to be the end goal. It is rather a way to reach economic growth and innovation. Instead of investing in a single aspect to try and increase the start-up rate, it is better to invest in the overall environment, where entrepreneurs can also profit from. When there is enough facilitation and the conditions for entrepreneurship are good, the economic growth and increase in innovation from start-ups can grow as well.

### **Recommendations for further research**

As has been mentioned, a number of variables were only available for the last part of the study period. Amongst these were internet coverage and the attention in education. In the future, when this data is available for a longer time period, it can be interesting to do additional analysis on the effects of good internet infrastructure, as well as on the direct and lagged effect of attention on entrepreneurship in education. Also the future developments after this study period might be an interesting topic for future research. It can show if the increase continues, if the levels stay the same or if the increase in start-up rates was only an incident and will decrease again over time. Further, a suggestion to enable future research is creating a dataset with the same respondents in continuous years, this will make it possible to do a time series analysis. Finally, this study has been a case study. Further analysis in different countries can be done to see if other situations follow a similar pattern or if this was a specific case.

## Literature

Acs, Z. J., & Szerb, L. (2007). Entrepreneurship, economic growth and public policy. *Small business economics*, 28(2-3), 109-122.

Andersson, M. & Koster, S. (2011). Sources of Persistence in Regional Start-Up Rates - evidence from Sweden. *Journal of Economic Geography* 11 (1), 179-201.

Arthur, B. W. (1994). Increasing Returns and Path Dependence in the Economy. *Michigan: Michigan University Press*.

Audretsch, D. B., Keilbach, M. C., & Lehmann, E. E. (2006). Entrepreneurship and economic growth. *Oxford University Press*.

Bank for International Settlements (2005). International Convergence of Capital Measurement and Capital Standards; A Revised Framework. Visited on 28-07-2016, through <http://www.bis.org/publ/bcbs118.pdf>

Bank for International Settlements (2010). Basel III: A global regulatory framework for more resilient banks and banking systems. Visited on 28-07-2016, through <http://www.bis.org/publ/bcbs189.pdf>

Baumol, W.J. (1990). Entrepreneurship: Productive, Unproductive, and Destructive. *Journal of Political Economy* 98: 893-921

Begley, T. M., & Tan, W. L. (2001). The socio-cultural environment for entrepreneurship: A comparison between East Asian and Anglo-Saxon countries. *Journal of international business studies*, 32(3), 537-553.

Beugelsdijk, S. (2007). Entrepreneurial culture, regional innovativeness and economic growth. In *Journal of Evolutionary Economics* (pp. 129-154). Springer Berlin Heidelberg.

Boeri, T., & Van Ours, J. (2008). The economics of imperfect labor markets. Princeton University Press.

Boettke, P. J., & Coyne, C. J. (2003). Entrepreneurship and development: Cause or consequence?. In *Austrian economics and entrepreneurial studies* (pp. 67-87). Emerald Group Publishing Limited.

Boschma, R. & Iammarino, S. (2009). Related variety, trade linkages, and regional growth in Italy. *Economic geography*, 85(3), 289-311.

Bosma, N. S., Stam, F. C., & Wennekers, A. R. M. (2010). Intrapreneurship: An international study.

Bosma, N.S. & Schutjens, V.A.J.M. (2011) Understanding regional variation in entrepreneurial activity and entrepreneurial attitude in Europe. *Annals of Regional Science* 47: 711–742.

Bundesministerium für Verkehr und digitale Infrastruktur (BMVI) (2016). Breitband vor Ort: Breitbandatlas. Visited on 01-08-2016, through [http://www.zukunft-breitband.de/Breitband/DE/Breitbandatlas/BreitbandVorOrt/breitband-vor-ort\\_node.html](http://www.zukunft-breitband.de/Breitband/DE/Breitbandatlas/BreitbandVorOrt/breitband-vor-ort_node.html)

CBS (2016). De religieuze kaart van Nederland, 2010–2015.

Coleman, J. S. (1990). *Foundations of Social Theory*. Cambridge, MA: Belknap Press of Harvard University Press.

Debitoor (2016). Gewerbetreibender - Wer ist Gewerbetreibender? Visited on 28-07-2016 through: <https://debitoor.de/lexikon/gewerbetreibender>

Deutscher Industrie- und Handelskammer (2016). DIHK-Innovationsreport 2015/2016: Mittelstand fällt zurück.

Djerf-Pierre, M. (2012). When attention drives attention: Issue dynamics in environmental news reporting over five decades. *European Journal of Communication*, 27(3), 291-304.

European Union (2016). EU member countries. Visited on: 15-05-2016, through: [http://europa.eu/about-eu/countries/member-countries/index\\_en.htm](http://europa.eu/about-eu/countries/member-countries/index_en.htm)

Friedrich-Alexander Universität Erlangen-Nürnberg (2016). Gründen: Der Schritt zum eigenen Unternehmen. Visited on 25-07-2017, through <https://www.fau.de/patente-gruendung-wissenstransfer/gruenden/>

Fritsch, M., & Weyh, A. (2006). How large are the direct employment effects of new businesses? An empirical investigation for West Germany. *Small Business Economics*, 27(2-3), 245-260.

Gaglio, C. M., & Katz, J. A. (2001). The psychological basis of opportunity identification: Entrepreneurial alertness. *Small business economics*, 16(2), 95-111.

Gartner, W.B. 1989. Who is an entrepreneur? Is the wrong question, *Entrepreneurship Theory and Practice* 13, 47-68.

GEM (2015a). Global Entrepreneurship Monitor - Adult Population Survey Measures, 2015. Visited on 26-04-2016, through <http://www.gemconsortium.org/data/key-indicators>

GEM (2016a). 2015/16 Global Report.

GEM (2016b). GEM Wiki: How GEM Defines Entrepreneurship. Visited on 05-08-2016, through <http://www.gemconsortium.org/wiki/1149>

GEM (2016c). The entrepreneurial ecosystem; *Measured via the GEM National Expert Survey (NES)*. Visited on 01-08-2017, through <http://www.gemconsortium.org/data/key-nes>

The Global Economy & World Economic Forum (2016). Compare countries using data from official sources. Visited on 30-07-2017, through <http://www.theglobaleconomy.com/compare-countries/>

Graham, P. (2012). Startup is growth. Visited on 12-07-2016, through <http://www.paulgraham.com/growth.html>

Harada, N. (2003). Who succeeds as an entrepreneur? An analysis of the post-entry performance of new firms in Japan. *Japan and the world economy*, 15(2), 211-222.

Holmes, T.J. and J.A. Schmitz Jr. (1990). A theory of entrepreneurship and its application to the study of business transfers, *Journal of Political Economy* 98, 265-294.

Industrie- und Handelskammer (2015). Erfolgreich Gründen; *Ratgeber der bayerischen IHK*.

Johansson, B. & Wigren, R. (1996). Production milieu and competitive advantage. In *D. Batten*,

Kamer van Koophandel (2016). Bijeenkomsten en webinars. Visited on 10-07-2016, through <https://www.kvk.nl/bijeenkomsten>

Kauffman (2016). The Kauffman Index; Entrepreneurship Series. Visited on 02-08-2016, through <http://www.kauffman.org/kauffman-index>

Kirzner, I. (1973). Competition and Entrepreneurship. *Chicago: University of Chicago Press*.

Kirzner, I. (1979). Perception, Opportunity, and Profit. *Chicago: University of Chicago Press*.

Kirzner, I. (1985). Discovery and the Capitalist Process. *Chicago: University of Chicago Press*.

Klepper, S. (2001). Employee startups in high-tech industries. *Industrial and Corporate Change*, 10(3), 639-674.

Konig, E., & Van der Auwera, J. (2013). The Germanic Languages. *Routledge*.

Koster, S. & Rai, S. K. (2008). Entrepreneurship and Economic Development in a Developing Country A Case Study of India. *Journal of entrepreneurship*, 17(2), 117-137.

Koster, S. & van Stel, A. (2014) The relationship between start-ups, market mobility and employment growth: An empirical analysis for Dutch regions. *Papers in regional Science*, 93(1): 203-217.

Lumpkin, G.T. & Dess, G.G. 1996. Clarifying the entrepreneurial orientation construct and linking it to performance, *Academy of Management Review* 21 (1), 135-172.

McCann, P. (2013). *Modern urban and regional economics*. Oxford University Press.

Nationale ombudsman (2013). Ombudsman in jaarverslag 2012: 'Bureaucratie nekt financieel zwakkere'. Visited on 08-01-2016 through:

<https://www.nationaleombudsman.nl/nieuws/2013/ombudsman-jaarverslag-2012-bureaucratie-nekt-financieel-zwakkere>

Naudé, W. (2010). Entrepreneurship, developing countries, and development economics: new approaches and insights. *Small business economics*, 34(1), 1-12.

Nauta, F. (2008): Het innovatieplatform. Innoveren in het centrum van de macht, *Den Haag: SDU uitgevers*

North, D.C. (1990). Institutions, Institutional Change and Economic Performance. Cambridge: Cambridge University Press.

OECD (2015a). Germany. Visited on 25-07-2016 through <http://www.oecd.org/els/emp/Germany.pdf>

OECD (2015b). OECD Indicators of Employment Protection. Visited on 25-07-2016 through <http://www.oecd.org/employment/emp/oecdindicatorsofemploymentprotection.htm>

Raub, W., Buskens, V., & Van Assen, M. A. (2011). Micro-macro links and microfoundations in sociology. *The Journal of Mathematical Sociology*, 35(1-3), 1-25.

Rijksoverheid (2013). Rijksoverheid ondersteunt groei breedband. Visited on 24-07-2016 through <https://www.rijksoverheid.nl/onderwerpen/telecommunicatie/inhoud/rijksoverheid-ondersteunt-groei-breedband>

Rijksuniversiteit Groningen (2017). UGCE explained. Visited on 25-07-2017, through <http://www.rug.nl/society-business/centre-for-entrepreneurship/ugce-explained>

Robehmed, N. (2013). What is a startup? Visited on 12-07-2016, through <https://www.forbes.com/sites/natalierobehmed/2013/12/16/what-is-a-startup/#95a036b40440>

SallandGlas (2013). Glasvezel Buitenaf. Visited on 27-07-2016 through <http://www.sallandglas.nl/glasvezel-buitenaf/>

Samen snel internet (2014). Overal in Nederland snel internet. Visited on 27-07-2016 through <https://www.samensnelinternet.nl/>

Schumpeter, J.A. (1912) Theorie der wirtschaftlichen Entwicklung: *Eine Untersuchung über Unternehmengewinn, Kapital, Kredit, Zins und Konjunkturzyklus*. Duncker & Humblot, München

Schumpeter, J.A. (1942). Creative destruction. *Capitalism, socialism and democracy*, 82-5.

Shane, S. & Venkataraman, S. (2000). The promise of entrepreneurship as a field of research. *Academy of management review*, 25(1), 217-226.

Shane, S. 2003. A General Theory of Entrepreneurship; The Individual-Opportunity Nexus, Cheltenham: Edward Elgar.

Singh, T., & Hill, M. E. (2003). Consumer privacy and the Internet in Europe: a view from Germany. *Journal of Consumer Marketing*, 20(7), 634-651.

Sørensen, J. B. (2007). Bureaucracy and entrepreneurship: Workplace effects on entrepreneurial entry. *Administrative Science Quarterly*, 52(3), 387-412.

Stam, E., Bosma, N., van Witteloostuin, A., de Jong, J., Bogaert, S., Edwards, A., & Jaspers, F. (2012). Ambitious entrepreneurship: a review of the state of the art, *StudieReeks 23. Vlaamse Raad voor Wetenschap en Innovatie*.

Statistische Ämter des Bundes und der Länder (2014). Zensus 2011. Visited on 25-07-2016 through [http://www.statistik-portal.de/Statistik-Portal/Zensus\\_2011\\_Bevoelkerung.pdf](http://www.statistik-portal.de/Statistik-Portal/Zensus_2011_Bevoelkerung.pdf)

Technische Universität Berlin (2017). Centre for Entrepreneurship: Masterprogramme & Qualifizierung. Visited on 25-07-2017, through [http://www.entrepreneurship.tu-berlin.de/menue/masterprogramme\\_qualifizierung/](http://www.entrepreneurship.tu-berlin.de/menue/masterprogramme_qualifizierung/)

Technical University of Munich (2016). Entrepreneurship at TUM. Visited on 25-07-2017, through <https://www.tum.de/en/tum-business/entrepreneurship/>

Veciana, J. M., Aponte, M., & Urbano, D. (2005). University students' attitudes towards entrepreneurship: A two countries comparison. *The International Entrepreneurship and Management Journal*, 1(2), 165-182.

Verheul, I., Wennekers, S., Audretsch, D., & Thurik, R. (2001). *An eclectic theory of entrepreneurship: policies, institutions and culture* (No. TI 01-030/3).

Universiteit Utrecht (2016). Entrepreneurship. Visited on 25-07-2017, through <https://students.uu.nl/en/leg/economics-and-business-economics/entrepreneurship>

Universiteit van Amsterdam (2016). Pilot Venture Lab Humanities. Visited on 25-07-2017, through <http://www.uva.nl/shared-content/faculteiten/nl/faculteit-der-geesteswetenschappen/nieuws/2016/07/humanties-lab.html>

Venturelab International (2016). Wat wij doen. Visited on 25-07-2017, through [www.venturelabtwente.nl](http://www.venturelabtwente.nl)

Wagner, J. (2006). Nascent entrepreneurs. In *The life cycle of entrepreneurial ventures* (pp. 15-37). Springer US.

World Bank (2015). Worldwide Governance Indicators. Visited on 01-08-2016 through <http://data.worldbank.org/data-catalog/worldwide-governance-indicators>

World Bank (2017). Database: World Development Indicators. Visited on 30-07-2017, through <http://databank.worldbank.org/data/reports.aspx?source=world-development-indicators>

## Appendices

### Appendix A: List of variables 2003

Variable Frequencies 2003	The Netherlands Population	Germany Population	The Netherlands Entrepreneurs	Germany Entrepreneurs
<b>Total</b>	<b>3505</b>	<b>7534</b>	<b>226</b>	<b>730</b>
<b>Age</b>	3505	7534	226	730
Knowing an entrepreneur	1890	4661	221	727
Starting a business is a desirable career choice	1709	4347	218	706
Media attention	1671	4354	214	711
Successful entrepreneurs have a high level of status and respect	1737	4390	214	706
Seeing opportunities in next 6 months	1495	4209	191	663
knowledge and skills to start a business	1873	4586	221	726
Fear of failure	1833	4578	222	721
Gender	3505	7534	226	730
Income ( <i>data from 2005 used</i> )	2884	4609	253	615
TEA: current number of jobs	73	123	69	114
TEA: Export intensity	104	368	82	240
Entrepreneur (yes/no)	3502	7520	226	730
Involved in Opportunity Entrepreneurial Activity early-stage	3505	7534	226	730
Involved in Necessity Entrepreneurial Activity early-stage	3505	7534	226	730
Education (GEM)	3494	7529	226	729
Expects start-up in 3 years	3419	7446	214	725
Education (GEM)	3494	7529	214	725

## Appendix B: List of variables 2012

Variable Frequencies 2012	The Netherlands Population	Germany Population	The Netherlands Entrepreneurs	Germany Entrepreneurs
<b>Total</b>	<b>3501</b>	<b>4278</b>	<b>557</b>	<b>538</b>
<b>Age</b>	3501	4278	557	538
I can decide myself how to do my work	2472	1827	548	261
Satisfied with my income	2471	1828	550	259
My work is meaningful	2469	1830	549	261
Satisfied with my work	2468	1831	548	261
No excessive stress	2469	1828	547	261
Fear of failure	3339	4249	544	538
Income	3120	3579	495	438
Gender	3501	4300	557	543
Knowing an entrepreneur	3484	4297	555	541
Starting a business is a desirable career choice	3337	2754	543	526
Media attention	3217	2732	527	519
Successful entrepreneurs have a high level of status and respect	3313	2778	538	528
Seeing opportunities in next 6 months	2741	3722	478	487
Entrepreneur (yes/no)	3500	4294	557	543
New start-up (yes/no)	3501	4300	557	543
Involved in start-up (yes/no)	3501	4300	557	543
knowledge and skills to start a business	3448	4251	550	541
TEA: Export intensity	308	243	255	167
TEA: Nr of jobs	222	101	210	94
Education (GEM)	3501	4247	557	541
Opportunity or Necessity entrepreneurship	-	-	293	254

## **Appendix C: Summary Interview Erik Nijman**

### **- Wat doet jouw bedrijf precies?**

Ik ben een catering bedrijf begonnen. Eigenlijk dus vrij duidelijk, ik verzorg de catering op voornamelijk feestjes, meetings, bruiloften en dergelijke.

### **- Waarom ben je met je eigen bedrijf begonnen?**

Uit hobby is het bedrijf geboren. Ik was van jongs af aan al gek op koken, maar kon natuurlijk niet veel maken omdat ik het dan weg kon gooien. Vandaar dat ik besloten heb om producten te gaan verkopen en mijn recepten op die manier te delen.

### **- Heb je de intentie om ooit personeel aan te nemen? zo ja, hoeveel?**

Dit is afhankelijk van of ik door ga met het bedrijf. Als ik doorga, is mijn doel om zodanig te groeien dat ik zelf nog alles kan regelen en al mijn personeel persoonlijk te kennen. Naar mijn mening is mijn "span of control" 15-20 fte.

### **- Wat vonden je vrienden en familie ervan dat je een eigen bedrijf op ging starten?**

Ze waren erg enthousiast en meegaand. Mijn ouders hebben mij bijvoorbeeld alle vrijheid gegeven en altijd geholpen waar nodig. Ditzelfde geldt voor een aantal vrienden, die me graag hielpen (ook als ze er niks voor terugkregen).

### **- Was het makkelijk om een eigen bedrijf te beginnen? Wat waren de grootste struikelpunten?**

Een bedrijf beginnen is niet moeilijk. Het is echter niet makkelijk om een klantenbestand op te bouwen en te behouden. Zeker doordat eten en drinken letterlijk overal verkrijgbaar is en de concurrentie op de loer ligt. Dit was de grootste uitdaging. Het gaf me dan ook een goed gevoel als ik merkte dat iemand vaker dan één keer producten van mij af nam. De administratie etc. wat bij een bedrijf komt kijken is niet moeilijk, omdat er altijd wel iemand klaar staat om te helpen.

### **- Heb je financiële ondersteuning gekregen bij het opstarten van je bedrijf? Van bekenden en of van de staat?**

Nee eigenlijk niet echt. Ik heb aan het begin ook weinig kosten gemaakt omdat ik niet echt een pand hoefde te huren of elektronica aan hoefde te schaffen. Misschien dat ik wel ondersteuning van de staat had kunnen krijgen maar ik heb het eigenlijk nooit echt nodig gehad en dus ook niet aangevraagd. Wel hebben mijn ouders in het begin af en toe wat geld voorgesloten als er een grotere bestelling binnenkwam maar verder niet.

## Appendix D: Summary (online) Interview Bert van der Sel

- **Hallo meneer van der Sel. Bedankt dat u mij wilt helpen bij mijn masterscriptie. Mijn onderwerp is het starten van nieuwe bedrijven. Ik heb in een dataset gevonden dat het startup percentage tussen 2003 en 2012 van 5% naar bijna 10% is gestegen. Heeft u daar misschien een verklaring voor? Bijvoorbeeld dat er meer financiering beschikbaar is gekomen in die tijd of dat er bepaalde wetten of regelgevingen veranderd zijn die het gunstiger maken om een eigen bedrijf te beginnen? Zou u mij kunnen vertellen hoeveel financiering een startend ondernemer ongeveer kan krijgen?**

Over de financiering kan ik helaas niet concreet zijn. Hoeveel een (startend) ondernemer aan financiering kan krijgen is afhankelijk van een aantal factoren; wat en waarvoor is het nodig, in welke branche gaat men beginnen, wat is de mogelijke eigen inbreng/vermogen, wat is de levensvatbaarheid van het toekomstig bedrijf, welke zekerheden kunnen worden geboden, waar wordt financiering aangevraagd (bank, investeerder, microfinanciering...). In ieder geval zal bijna altijd wel om een ondernemingsplan worden gevraagd om de financieringsaanvraag te kunnen onderbouwen. Een financiering zal veelal in de vorm van een lening plaatsvinden.

De stijging van het aantal nieuwe bedrijven, met name dan sinds 2004, is mijns inziens niet toe te wijzen aan een specifieke financiële of wetstechnische prikkel. De beginjaren van 2000 kenmerken zich inderdaad door een steeds stijgend aantal startende ondernemers ( in 2003 waren het er 54.000, in 2004 65.000, in 2005 75.000 en in 2006 85.000; anno 2016 ruim boven de 190.000...), waarbij opvalt dat er sprake was en is van meer vrouwelijke ondernemers, meer allochtone ondernemers en meer part-time ondernemers (die nog een loondienstverband daarnaast hebben). Daarnaast is uiteraard ook een verschuiving op de arbeidsmarkt gaande; geen vaste arbeidscontracten meer, maar veel flexibiliteit waaronder ZZP'ers die zich verhuren voor een klus ipv in dienst te komen.

- **Ik begrijp dat u geen exact bedrag voor de financiering kunt noemen en dat het natuurlijk van veel verschillende factoren afhangt. Is er in bepaalde gevallen ook een financiering van de staat mogelijk? Bijvoorbeeld voor zzpers?**

Bij financieringsmogelijkheden (al dan niet voor ZZP'ers) door de overheid moet je met name denken aan vormen van subsidies, kredieten, borgstellingen en fiscale regelingen. Ik heb er een aantal op een rijtje gezet. Het is wel zo dat een aantal regelingen meer is weggelegd voor echt innovatieve bedrijven (innovatiekrediet b.v.) of bedrijven die een wat hogere financiering nodig hebben

(borgstellingskrediet MKB). De “gemiddelde ZZP’er” kan meer baat hebben bij fiscale voordelen (startersaftrek, kleine ondernemersregeling of eventueel een lening vanuit het Besluit Bijstand Zelfstandigen).

- **Hoe lang duurt het gemiddeld om een eigen bedrijf op te starten en hoeveel kost dit? Dat zal waarschijnlijk ook per bedrijfsvorm verschillen maar misschien zou u mij een paar voorbeelden kunnen geven? Bijvoorbeeld voor een zzper of een grotere bv?**

De vraag over duur en kosten van de oprichting is helaas ook niet specifiek te beantwoorden: een zzp’er die bijvoorbeeld als coach start en dit vanuit huis doet, zal normaliter minder kosten kwijt zijn dan een zzp’er die als meubelmaker start en bedrijfsruimte en machines nodig heeft. Hoe snel eea gaat is aan de ondernemer zelf (maar gemiddeld binnen een half jaar tijd is een zzp’er toch wel aan de slag). De BV zal (ivm oprichting bij notaris, inschakelen accountant) meer kosten dan een zzp’er die als eenmanszaak gaat starten (notaris circa € 500,-, accountant circa € 2000,-).

- **Heel erg bedankt voor uw antwoorden. Ik heb nog een laatste vraag wat betreft het starten van nieuwe bedrijven. Weet u of er veel bedrijven worden gestart door studenten/scholieren die net afgestudeerd zijn of zijn het vooral mensen met al meer werkervaring uit het bedrijfsleven? En is hier misschien een verschuiving in te zien? Ik weet niet zeker of u hier informatie over heeft maar het lijkt mij erg interessant om te weten.**

Ik heb er zo geen exacte aantallen bij, maar de laatste jaren is het starten naast of vanuit een studie wel populairder geworden! Dat heeft ook voor een groot deel te maken met de aandacht voor het aspect ondernemerschap binnen het onderwijs. De categorie “jongeren/studenten” overstijgen echter nog niet de ondernemers die op latere leeftijd beginnen (en dus, mag je aannemen, meer ervaring hebben op de arbeidsmarkt, niet perse opgedaan in het bedrijfsleven). Ook onder oudere startende ondernemers is een stijging waarneembaar. Misschien is het leuk daarover verder nog ons ondernemers-startersprofiel uit 2015 na te lezen.

- **Ten slotte, vindt u het goed als ik uw naam vernoem in mijn masterscriptie als informatiebron? Als u liever anoniem blijft is dat natuurlijk geen enkel probleem.**

Natuurlijk mag je mijn naam noemen in je masterscriptie, geen probleem. Ik zou het ook wel leuk vinden om je scriptie een keer te lezen zodra deze afgrond is! Veel succes daar verder bij.