Entrepreneurship: an essential contribution by the Austrian school of economics

Bachelor Thesis
Patrick Vestergaard Olsen
BSc(B) in Economics and Business Administration
Student number: 302565

Thesis supervisor:
Christian Bjørnskov
Department of Economics
Business and Social Sciences, Aarhus University

Submitted to:
Department of Economics and Business
Business and Social Sciences, Aarhus University
April 2014

Thesis contains:
92.177 characters excluding blanks
Abstract

The field of entrepreneurship is becoming increasingly popular and its importance is growing within economics as well as within management and finance. In spite of its popularity there is still not much agreement on the role of the entrepreneur and how the entrepreneur is included into an understanding of the economic world. Neoclassical theory is faced with great difficulty when trying to incorporate the entrepreneur in its worldview.

The first part of the thesis presents the problem of information and shows that Knightian uncertainty causes havoc for neoclassical theory. The problem is that the neoclassical framework only allows for Knightian risk and that is the basis on which neoclassical economists build their mathematical models and formulas in order to make future predictions. Knightian uncertainty cannot be measured and it cannot be calculated in a way that suffices for the usability of mathematical models. Frank Knight’s (1921) distinction of risk and uncertainty calls for a solution that neoclassical economics is not able to provide.

The Austrian school gives the entrepreneur a central role in the economy and has been doing that from the beginning with Carl Menger (1871). The entrepreneur is emphasized as the causal agent that generates economic change and is the driving force of the market. The most popular understanding of entrepreneurship comes from the Austrian economist Israel Kirzner’s analysis of the entrepreneur and his theory on discovery and alertness to profit opportunities. He solves the problem of information by saying that the introduction of Knightian uncertainty allows for profit opportunities to exist objectively. The entrepreneur discovers these entirely unknown profit opportunities by being alert. When an opportunity is taken advantage of it leads to better mutual knowledge and increased competition, which tends to push the markets towards equilibrium. Even within the Austrian school there are substantial differences in the understanding of the entrepreneur. In more recent times, Peter Klein has presented entrepreneurship as judgment, based on the latent concept of action.

Due to the strong link between economic growth and entrepreneurship, it is only natural to pursue economic policies that increase entrepreneurial activity. This thesis finds empirical evidence that entrepreneurial behavior is encouraged when institutions of freedom are structured such that entrepreneurs are allowed to handle Knightian uncertainty. Economic policies that limit the size of government will provide incentives for aspiring entrepreneurs and less public regulation will make it easier for entrepreneurs to exploit profit opportunities.
# Table of Contents

**ABSTRACT** ................................................................................................................................. 2

**1 INTRODUCTION** ...................................................................................................................... 5  
 1.1 ENTREPRENEURSHIP AND AUSTRIAN ECONOMICS ......................................................... 5  
 1.2 PURPOSE AND STRUCTURE .................................................................................................................. 6

**2 THE PROBLEM OF INFORMATION** .......................................................................................... 7  
 2.1 INTRODUCTION ................................................................................................................................. 7  
 2.2 TWO APPROACHES TO KNOWLEDGE .............................................................................................. 8  
 2.3 NEOCLASSICAL ECONOMICS .......................................................................................................... 9  
 2.4 THREE DIFFERENT TYPES OF PROBABILITIES .......................................................................... 11  
 2.5 RISK AND UNCERTAINTY .............................................................................................................. 15  
 2.6 HUMAN ACTION ............................................................................................................................. 17  
 2.7 PRACTICAL IMPLICATIONS ............................................................................................................ 18  
 2.8 CONCLUSION .................................................................................................................................. 19

**3 THE ROLE OF THE ENTREPRENEUR** ..................................................................................... 20  
 3.1 INTRODUCTION ............................................................................................................................... 20  
 3.2 KNOWLEDGE ...................................................................................................................................... 20  
 3.3 THE ENTREPRENEURIAL ROLE ..................................................................................................... 23  
 3.4 THE ROLE OF DISCOVERY ........................................................................................................... 25  
 3.5 RIVALROUS COMPETITION .......................................................................................................... 27  
 4.6 CRITIQUE OF KIRZNER ..................................................................................................................... 29  
 3.7 CONCLUSION .................................................................................................................................. 33

**4 THE EFFECT OF PUBLIC POLICY** ............................................................................................ 35  
 4.1 INTRODUCTION ............................................................................................................................... 35  
 4.2 INSTITUTIONS OF ECONOMIC FREEDOM AND ITS COMPONENTS ............................................. 36  
 4.3 DATA ................................................................................................................................................ 41  
 4.4 RESULTS ......................................................................................................................................... 42  
 4.5 EFFECT SIZES ................................................................................................................................. 44  
 4.6 CONCLUDING DISCUSSION ........................................................................................................... 45

**5 CONCLUSION** .............................................................................................................................. 48

**BIBLIOGRAPHY** ............................................................................................................................ 51
Tables

Table 3.1: Comparison of judgment and alertness-discovery view

Table 4.1: Size of government

Table 4.2: Regulations

Table 4.3: Agricultural entrepreneurship
1 Introduction

1.1 Entrepreneurship and Austrian economics

Entrepreneurship has become a hot topic during the last two decades in spheres ranging all the way from academics to policymaking and education. Business schools have become increasingly preoccupied with entrepreneurship and the study of entrepreneurship has become a standalone program. When people talk about entrepreneurship, they typically have a narrow category of small startups or high-growth companies in mind. Entrepreneurial is also used to describe a certain kind of behavior or way of thinking that could be described as being alert to opportunities, being creative, showing initiative and the like. The standard neoclassical theory has a hard time handling entrepreneurship because of, amongst other factors, its understanding of risk and uncertainty. On the concept of entrepreneurship there is one school of economic thought that differs sharply from the neoclassical view, which is the Austrian school of economics.

The Viennese professor, Carl Menger, and his followers are the authors of the Austrian school of economics, which emerged in the late 19th century. The “Austrian” tradition differs from the neoclassical school in use of methodology, the pricing process, the causes of economic fluctuations, and in a whole range of other areas. Austrian economists have generally relied on verbal, a priori reasoning to explain economic theory rather than by general equilibrium analysis. The Austrian school is no longer confined to Austria but has spread all over the world as interest in the school was revived when F.A. Hayek won the 1974 Nobel Prize.

The Austrian school of economics has always had the entrepreneur playing a central role in the economy. In contrast, modern economics find it hard to model the entrepreneurial role. Even though Kirzner’s analysis of entrepreneurial discovery, Schumpeter’s concept of innovation and Knight’s theory of judgment under uncertainty are perceived as interesting, they are too difficult, if not impossible, to mathematically model. Even though the entrepreneur has always been a central economic figure to the Austrian school, their interpretation of the entrepreneur has never won ground in the modern entrepreneurship literature.
1.2 Purpose and structure

The fundamental aim of this thesis is to show what the Austrian school of economics is capable of doing. If cut to the bone, the purpose is to discover what the Austrian theory can contribute and why their insights are of high value with regards to subject of entrepreneurship.

Firstly, the thesis sets out to carefully distinguish how the Austrian and the neoclassical view of information differ. The problem of information has to be dealt with one way or another and the manner in which this is done, has a significant affect on how the entrepreneur is perceived. Neoclassical economics, as the primary take on modern-day economics, rely on mathematical models to describe markets and predict human behavior. The Austrians use another theoretical framework that enables them to work around the limitations of mathematical models and formulas.

After defining the problem of information, the thesis sets out to explain how the Austrians attempt to solve the problem. This section will analyze what an entrepreneur is and what he does according to the most prominent Austrian within the subject, namely Israel Kirzner. Even within the Austrian tradition, economists have developed different concepts of entrepreneurship, such as alertness to profit opportunities and the concept of entrepreneurship as judgment. The purpose of this part is to understand how the Austrian definition of the entrepreneur allows him to solve the information problem and to see why it is challenging for the neoclassical economists to give an account for how the problem can be solved.

With a thorough understanding of the concept of entrepreneurship and the behavior of the entrepreneur, the thesis then turns to discuss the implications for public policy. This final part puts its focus on what incentives motivate entrepreneurs and what discourages entrepreneurial behavior. As entrepreneurship has won interest with politicians as well as with many others, governments desire to promote entrepreneurship in order to increase economic growth. The aim is to discuss the proper role of macroeconomic policy on the basis of empirical studies and how governments can increase the chances of entrepreneurial success.
2 The Problem of Information

2.1 Introduction

For economists, uncertainty has always been one of the most perplexing and interesting concepts within the economic world. Frank Knight (1921) was the first economist to systematically discuss the concept of uncertainty, which afterwards often is being referred to as “Knightian uncertainty” (Foss & Klein, 2012). Uncertainty is captivating for economists because inherent in the nature of economics is this forward-looking aspect that is striving to know what lies ahead and thereby being able to predict the future and to benefit from that prediction (Janeway, 2006). Uncertainty plays a major role when human agents try to acquire knowledge about the future and that is why it is important to understand the nature of uncertainty.

The problem of information has its genesis in our imperfect knowledge of the future. Hayek (1945) argues in his article “The Use of Knowledge in the Society” that the basis for economic problems is knowledge problems that spring from uncertainty. The world is characterized by change and uncertainty, which is a consequence of the fact that we only have imperfect knowledge of future events. We live only with knowledge of something about the future and this limited knowledge has its affects on our behavior. Knight (1921) writes that it is “our imperfect knowledge of the future, a consequence of change, not change as such, which is crucial for the understanding of our problem” (p. 198). We have neither complete and perfect information nor absolute ignorance, but only partial knowledge. Our rational behavior as humans is to strive for as little uncertainty as possible in order to obtain perfect foresight (Yu, 2002).

One of the benefits of a changing world is that it brings new opportunities for businesses to take advantage of and to make profit from. It is exactly because the future is uncertain and unpredictable, as well as the results of human action, that the opportunities for profit arise (Knight, 1921). This is one of the reasons, according to the Austrians, why it becomes interesting to talk about the role of the entrepreneur.
2.2 Two approaches to knowledge

The approach to knowledge can be contrasted between two methods. One is the traditional, scientific approach that is performed in the laboratory. The other guides our behavior based on beliefs or opinions and is not undertaken in the laboratory. In our day-to-day lives we rarely make our decisions based on the first method. Our daily affairs are not characterized by thorough analysis and exact measurements. Rather does subconscious mental processes predominantly guide our affairs. We generally base our decisions on unsophisticated estimates (Knight, 1921).

When we act to impact future conditions, we simply cannot take into account all possible factors, as they exist in an indefinitely large number. When we attempt to estimate what future situations will bring about and how we should behave according to those future situations, the way we go about is nonspecific. Knight (1921) describes the process by saying that “we are likely to do a lot of irrelevant mental rambling, and the first thing we know we find that we have made up our minds, that our course of actions is settled” (p. 211). It is as difficult to explain why we expect certain future outcomes as it is explaining how we go about recalling the forgotten name of an acquaintance. It is hard to argue that this internal process is one of logic in the scientific sense, but it is rather one of “common sense” or “intuition”.

Knight explains why we cannot merely observe in order to understand economics, but we have to see that our understanding springs from intuition:

Knight argues that the whole body of feelings, meanings, and intended actions constitutes the sphere of common sense. For Knight, economic understanding derives not from observation but from intuition. To understand human conduct, we must turn away from science and train our intuitive power. In Knight’s view, human beings act, not on the basis of fact and reality as such, but on the basis of opinions and beliefs about facts, which constitute human knowledge. In other words, we start from meanings and understanding of ourselves and of others. (Yu, 2002, p. 7)

This not to say that there is not any kind of analysis going on in the process, but rather that it is one of simple nature and of the same type as
when we are guessing distances, weights and the like. It is difficult to study and analyze the logic or psychology of ordinary behavior, since the processes of intuition or judgment are unconscious (Knight, 1921). These two approaches to knowledge seem to be uniform in nature, as they both strive to anticipate the future as well as the probability of the prediction. Yet, the distinguishing mark of our intuitive ability is the greater chance of mistake, even though it is necessarily using some kind of analysis or synthesis to achieve its judgment (Knight, 1921).

2.2.1 Consciousness

Knight uses the consciousness to explain how we try to look forward to adapt ourselves to the future. Knight argues that conscious life can “see things coming” as opposed to non-conscious life. This forward-looking aspect of the consciousness aims at attaining a full and comprehensive image of the future situation. The farther ahead the organism is able to envision, the more competently it can react before the predicted future comes into realization. Instead of merely living on the basis of what is seen in the present, people react to what they envision (Yu, 2002). What actually happens in our consciousness is that “we perceive the world before we react to it, and we react not to what we perceive, but always to what we infer” (Knight, 1921, p. 201). What our conscious behavior does is that it acts to change the future on the basis of how the present situation is inferred. This view of the consciousness plays a fundamental role in how Knight explains his theories on uncertainty and entrepreneurship, as we later shall see.

2.3 Neoclassical economics

Over the last couple of years the capabilities of computerized statistical analysis has become more and more powerful and sophisticated and is being used increasingly by theoreticians. The well-defined probabilities, what Donald Rumsfeld termed “known unknowns”, and our mastery of these has increased dramatically. How to manage risk and how it can be measured, is very important to the financial institutions, as it is a major part of their business. Modern economics tells us that we can rely on its market-based, risk management techniques – but in fact there is a whole other category of possible outcomes, that neoclassical economists do not know how to handle (Janeway, 2006).
Decades ago, mainstream economics started to convert the principles of economics into complex and sophisticated mathematics. Even “from the beginning, neoclassical economics has had formal and interpretative elements” (Koppl, 1994, p. 6), and neoclassical economists “were formalists who emphasized the use of mathematics”. This system, though, is not capable of taking into account the uncertainty, which Knight brought into economic theory, which he did even before people started to rely heavily on mathematical models.

Traditional decision theory finds it difficult to deal with Knightian uncertainty. Neoclassical economics is all about predictability and estimable risk. If it can be applied to a formula, the risk has a more or less known distribution. In this worldview, the entrepreneur cannot exist by definition. What the entrepreneur does, does not exist because it cannot be but into a formula. The approach of traditional decision theory is only valid if several factors are known and you are able to say what the “statistical” probability is. If, however, you enter a completely new market or you introduce entirely new products, you have to deal with “estimated” probability. Statistical and estimated are terms that both will be explained in greater detail below. If the case is such, you simply cannot know the probabilities. If you do not have the probabilities, how will you manage to put it on formula in order to calculate the expected return? For this you need another theoretical framework, a framework that the neoclassical economists do not have (Foss & Klein, 2012).

One Austrian, Israel Kirzner (1986, p. 87), describes the neoclassical view like this:

To the standard mainstream view in economics, since about 1930, the view of the world has been one in which the future is essentially known, in which the participants in the markets are in effect completely informed about the relative decisions made throughout the market by fellow participants. This is a world of equilibrium, a world in balance, a world in which quantitative economic predictions are entirely feasible. Austrian economics has a quite different view of the world, and a quite different view of the way in which economic relations can be grasped.
2.4 Three different types of probabilities

When Donald Rumsfeld in 2002 answered a question at a US Department of Defense News Briefing he was subsequently ridiculed for his answer, which was:

(...) there are known knowns; there are things we know that we know. There are known unknowns; that is to say, there are things that we now know we don’t know. But there are also unknown unknowns – there are things we do not know we don’t know (U.S. Department of Defense, 2002).

Yet, this answer of his is certainly an excellent distillation of a very complex issue. It is a good summary of how this world is structured and it helps us understand the complexity of what can be known (Janeway, 2006).

Famously, Knight made a distinction between decision-making under risk and under uncertainty. When decisions are made under risk, it is because the decision maker can assign probabilities to the range of outcomes of the actions that are available to them. Contrary to risk, when decisions are made under uncertainty, it is because there is insufficient information to assign numerical probabilities to the outcomes of the actions available to them. Less known, Knight divides the types of probability into three groups: “a priori”, “statistical” and “estimated”. The first two, a priori and statistical probability, relates to situations that represent risk, whereas estimated probability represents situations that involve uncertainty (Elliot & Dickson, 2012).

1) A priori probability

With a priori one can calculate the true probability. A priori probabilities can be attributed objectively by logical reasoning and without having to perform any experiments or trials. The a priori probability of the occurrence of any particular number on a die in a throw for example is always 1/6. The instances are completely homogeneous and identical. These are situations where probabilities can be determined in a purely deductive manner and where the possible outcomes are well defined (Foss & Klein, 2012). This judgment of probability is, in Knight’s view (1921, p. 224-225) “ultimately” inductions from experience” and “is on the same logical plane as the propositions of mathematics”, meaning that the
probabilities can be assigned on the basis of mathematical principles alone (Elliot & Dickson, 2012).

2) Statistical probability
Statistical probabilities are relative frequencies, like how many times the number 1 appears in $n$ throws of a die. This type of probability is based upon an empirical classification of instances. The outcomes are not homogeneous and equally probable, as with a priori probability. To be able to calculate statistical probability, you need to classify the events in question into classes, perform repeated experiments within each class, and finally record the frequency of various outcomes (Foss & Klein, 2012). We cannot, as with a priori, calculate the true probability in these types of situations (Knight, 1921).

Statistical probability applies to situations where it is possible to identify a class of instances that are “sufficiently similar” to which probabilities are assigned via empirical study. To illustrate, Knight uses an insurance company’s assessment of the probability of a house burning down. In order to determine this, the insurance company gathers statistics on the rate of fire amongst the class of all “sufficiently similar” houses¹ (Elliot & Dickson, 2012).

There exists an essential difference between a priori probability and statistical probability. The distinction is that with a priori probability the “chances” can be computed with general principles, whereas the only way to determine statistical probability is empirically.

3) Estimated probability
According to Knight (1921, p. 225) “there is no valid basis of any kind for classifying instances” with estimated probability and it presents to us the most difficult logical challenge. Estimated probability refers to situations where it is necessary to make a judgment of probability even with the knowledge that those estimated probabilities are very prone to be imprecise. That is because estimated probability, i.e., “true uncertainty” or “deep uncertainty”, is what we face when the events in question are too heterogeneous to be put in any meaningful classes. This is basically how

¹ It is not exactly clear when instances are "sufficiently similar".
man is wired, he rationally tries to enforce order into a less orderly world (Foss & Klein, 2012).

Estimated probability refers to situations where the instances are “sufficiently dissimilar” to all other known cases and therefore makes statistical study impossible. Yet, people still assign estimates, as a matter of practice, which could be represented as numbers between 0 and 1 or it could also be represented in terms of more vaguely defined categories, such as “negligible”, “likely”, and so on. The estimates people make may be based on anything from a gut feeling to a scientific study. Knight also emphasizes that people furthermore tend to assign likelihoods of the accuracy of the estimate. People can assign “statistics” to an estimate by, for example, studying how often their estimates have been accurate (Elliot & Dickson, 2012). Estimates are certainly liable to err and sometimes, though generally not, it is possible to make a valuation of the scale of this liability. To be able to value the estimate exactly, one can be only empirical and thereby it becomes statistical probability and is no longer estimated probability.

2.4.1 How statistical and estimated probability relates

Langlois and Cosgel (1993) argue that if “probability consists in a decision maker’s subjective assessment, then there is no state of the world whose probability cannot be articulated. By definition, all probabilistic situations are matters of risk” (s. 457). If that is true, it means that it is possible to ignore situations of uncertainty altogether. Langlois and Cosgel together argue against that understanding.

As mentioned in the introduction, we only have partial knowledge and that is what causes uncertainty. To Langlois and Cosgel, the meaning of partial knowledge reveals how Knight distinguishes between risk and uncertainty as it “has more to do with the initial classification of random outcomes than the (following) assignment of probabilities to the outcomes” (1993, p. 459). “The relevant similarity of cases”, Elliot and Dickson argue, “are not cut and dried, and hence whether there exists cases sufficiently similar to those of interest (so that statistical studies can be made) is not always a purely factual manner” (2012, p. 8). According to Knight, it is impossible to classify the cases objectively, because our knowledge about the future is incomplete. Knight (1921) argues that that it becomes “unnecessary to perfect, profitless equilibrium that particular occurrences be foreseeable,
if only all the alternative possibilities are known and the probability of the occurrence of each can be accurately ascertained” (p. 199). The distinction between risk and uncertainty therefore arises since “there is no valid basis of any kind of for classifying instances” (p. 225).

Initially, the decision maker looks for the likely effects of the action and is not primarily looking for a probability estimate. When facing a situation that Knight describes as in which “there is no valid basis of any kind for classifying instances”, the decision maker would start out by making an estimate of possible outcomes and then secondly attempt to estimate the probabilities of each of those outcomes. The first step is one of judgment and intuition and is not mathematical nor a statistical calculation. Yet, the second “estimate” is probabilistic. This distinction is as follows: first, an estimate of a qualitative nature and second, an estimate of probabilistic nature. Separating the process like that helps solve the misunderstanding of what it means when Knight argued that the decision maker can apply probabilistic calculation when facing uncertainty. Therefore, when Knight was accepting that probabilistic calculation as applicable, what he meant was that it is only partly applicable. To distinguish between statistical and estimated probability, Knight’s emphasis was on the situation prior to when the decision maker assigned probabilities, namely the first exercise of judgment. "The subjectivity, objectivity, or applicability or probabilities become of secondary importance once the categories are “estimated”” (Langlois & Cosgel, 1993, p. 460).

In conclusion, the difference between risk and uncertainty comes down to the classification of events rather than the probabilities that the decision maker assigns to the “estimated” classifications. Practically, in situations of risk it is possible to classify events such as “house burns down” or "house does not burn down”, which people can agree on amongst themselves. From these classifications markets can function well enough. The problem, a situation characterized by uncertainty, arises when the categories are unknown. That is what paralyzes the markets.

2.4.2 Summarization of probabilities

The probability distribution of the a priori probability is known per definition. With statistical probability it is known by statistical analysis of well-described empirical data. Through estimated probability the data cannot be used for statistical analysis (Janeway, 2006). Those situations where we have statistical probabilities, the decision-making is said to be
under risk, whereas those situations where we have estimates (numerically or not), the decision-making is said to be under uncertainty (Elliot & Dickson, 2012).

2.5 Risk and uncertainty

It was the last type of probability, estimated probability, which was of most interest to Knight as he engaged with the business world and in his pursuit of understanding what profit is. To Knight, it was of immense significance to know the meaning and importance of uncertainty in order to understand how the economic system works.

2.5.1 Risk

When Knight (1921) distinguished between risk and uncertainty, he termed them measurable and unmeasurable uncertainty. The distribution of outcomes in a group for measurable uncertainty, or risk, is known from a priori calculation or statistics from past experience and data. Since risk is a kind of uncertainty that has an objective probability, it is measurable and can therefore be insured against. Situations, or events, can be insured against if they are not of particular uniqueness or can be put into classes with relative ease. With risk the outcome is unknown, but the probability of future outcomes is known as it is with a games of chance like roulette or when throwing dies (Foss & Klein, 2012).

It is possible, according to Knight, to measure objective probability, like for example a weather phenomenon. On the basis of past weather observations, we are able to calculate the probability of rain on a given day. Since it is measurable, this kind of uncertainty can be insured against (Yu, 2002). Knight explains risk as those situations where we do not know the result of a given decision, but still are able to accurately measure what the odds of the given decision are (Dizikes, 2010). Risk evidently only applies to a limited number of circumstances.

2.5.2 Uncertainty

When Knight explains uncertainty he does so by saying that it relates to situations where we do not know the result of a given decision. Furthermore, it is not even possible to know the required information that is necessary to accurately measure the odds. When the situation has a high degree of uniqueness, it is not possible to form groups or classes and this is what Knight called unmeasurable uncertainty. Unmeasurable uncertainty, or “genuine uncertainty”, is not insurable because of its
subjective probability nature (Yu, 2002). Uncertainty is not probable risk. The situation is such that there is insufficient information to compute a mathematical distribution. It is possible to make estimations but not for an analyst to model it (Foss & Klein, 2012).

In Knight’s view there is a clear distinction between taking a known risk, which can easily be converted into effective certainty and on the other hand assuming a risk where the value of the risk is unknown. The latter type, true uncertainty, cannot, according to Knight, be measured with any accuracy. Peter Dizikes (2006) gives an example to explain the difference: An airline might be able to forecast that the risk of one of its airplanes crashing is exactly 1 per 20 million takeoffs. That is all very well. The problem then arises when the airline tries to make an economic outlook for 30 years from now. With that time frame there are too many unknown factors that cannot be accounted for and therefore the outlook is incalculable.

This kind of uncertainty has a subjective probability, is non-measurable and is non-insurable. This kind of uncertainty involves human action. This can be depicted with Yu’s (2002, p. 12) illustration of a man going to work at a post office:

(...) the man is very unhappy with his job. He wants a change. One morning, he simply takes a day off and becomes an ice cream vendor on the beach. Therefore, this action is unique and non-repeatable. In this case, hardly any past record can help to calculate the probability of his absence on that day. The action brings a surprise. This is essentially what we call Knightian uncertainty, which is the consequence of unpredictable human action. Obviously, when a man fails to turn up on a particular work day, it is not easy to identify as a whole whether the absence is due to objective uncertainty (due to physical phenomena) or subjective uncertainty (due to human creative thinking) because both are associated with the man’s absence on that day.

Along the same lines, Knight (1921, p. 231) explains uncertainty by saying, “business decisions, for example, deal with situations which are far too unique, generally speaking, for any sort of statistical tabulation to have any value for guidance. The conception of an objectively measurable
probability or chance is simply inapplicable.” This means that there are situations that are not possible, “simply inapplicable”, to use statistical probability and it is necessary to find a way to apply estimated probability. This is to say that there is no formal decision model for situations represented by uncertainty.

2.6 Human action

Ludwig von Mises (1949, p. 105), one of the founders of Austrian economics, writes, as what could just as well have been Knight, that: “If man knew the future, he would not have to choose and would not act. He would be like an automation, reacting to stimuli without any will of his own.” Human action is naturally unpredictable and it is this unexpected change that is the reason for “structural uncertainty” (Yu, 2002).

People face uncertainty in two ways in particular. One is associated with physical nature and the other is associated with the interaction between humans. It is especially human interaction that interests Knight and the Austrians. Mises (1949) believed that human action is at all times oriented towards other humans. It is when people act and the uncertainty thereby caused, that economic problems are created and therefore one cannot simply focus on one’s own actions. For an individual’s action to be successful, the plan that is to be carried out must adapt to the actions of others as the success is contingent on other agents.

The uncertainty associated with physical nature is, according to Knight, insurable and does not cause economic problems. On the other hand, human action brings uncertainty that causes problems that are not insurable. Even though we as human agents can, based on our experience, form valid opinions and assumptions to how people behave and act, the uncertainty arising from human action brings uncertainty in every situation. We are not able to make exact forecasts when human action is involved, as we cannot predict the actions of other human agents (Yu, 2002). According to Mises (1949) this inability to predict is mainly because of: 1) the complexity of the human mind, 2) the subjectivist assumption that each human being has an independent will, and 3) the large number of different people. As a result of the uncertainty arising from human action, Mises resolves that all action in the market is speculative.
2.7 Practical implications

There has been a substantial amount of work in decision theory since Knight’s distinction between decision-making in situations under risk and in situations marked by uncertainty. The work has been focusing on identifying satisfying strategies for decision-making under these two types of situations. What typically has been done under risk is that the decision maker assigns utilities to all possible outcomes and weights those utilities based on the probabilities that those outcomes will happen. Finally, the decision maker makes a decision based on what will maximize expected utility.

The situation becomes more complex when you have to make decisions under Knightian uncertainty and theorists have come up with several rules and guidelines for decision-making under such circumstances. Some focus on how to avoid worst-case scenarios, while others try to make decision makers feel minimal regret over lost opportunities. So has many others attempted to formulate rules and aims for decision-makers under uncertainty (Elliot & Dickson, 2012).

It may seem as a clear-cut distinction between decision-making under risk and under uncertainty. When quantitative information can be assigned probabilities it terms of the outcomes associated with decisions, the decision-maker has information that enables him to make a decision under risk. On the other hand, when decision-makers have insufficient information to assign statistical probabilities to the outcomes, their actions are based on estimates.

What makes it complicated, as has been discussed above, is that the judgment in classifying events so that statistical studies can be made, is not a purely factual matter and is often not straightforward. Sometimes there may be empirical data for just some of the probabilities that need to be estimated. At other times there may have to be additional subjective estimates in combination with the empirical data in order to get the needed probabilities. Furthermore, even though estimates can be numerically expressed, the estimated probabilities cannot be treated as statistical probabilities. There seems to be substantial evidence that points in a direction implicating that most decisions are made in situations under uncertainty rather than under risk, even if there is empirical data that can be used for estimating probabilities (Elliot & Dickson, 2012).
2.8 Conclusion

Knight’s distinction between risk and uncertainty is not just a quasi-philosophical question, but it is a practical problem among businesses and the subjective view of Knightian uncertainty really do matter (Dizikes, 2010). The difference between risk and uncertainty results in a problem that has to be solved one way or the other.

In a world characterized by Knightian uncertainty, the neoclassical framework falls short. If the realities where such that we face only what Rumsfeld termed “known knowns” and “known unknowns”, mathematical models and formulas might be all we needed to be able to make future predictions. The truth is that Rumsfeld presented a third category, which he called “unknown unknowns” and that is what causes havoc in the world of economics. In this category, where we primarily live our lives, we cannot use statistical formulas, as there are too many factors that we do not know that we do not know.

The problem is that uncertainty cannot be measured and it cannot be calculated. Neoclassical economists are having a real hard time solving this, but Austrian economics proposes some solutions that go beyond what mathematical models can accomplish. In attempting to solve this, Israel Kirzner has become the most well known Austrian economist with his theory on the entrepreneur.
3 The Role of the Entrepreneur

The following is based on Israel Kirzner’s article from 1997, “Entrepreneurial discovery and the competitive market process: An Austrian approach”, unless anything else is stated.

3.1 Introduction

One of the leading proponents of the Austrian school of economics is Israel Kirzner. His 1997 article, “Entrepreneurial discovery and the competitive market process: An Austrian approach”, can already be considered a classic. It was published in the Journal of Economic Literature and has been cited, according to Scopus, 671 times since its publication. Kirzner is one of the most influential individuals within the entrepreneurial academic literature and he is especially known for his concepts of discovery and alertness to profit opportunities. Even if articles on the topic of entrepreneurship do not cite him, the concepts, language and theories are often derived from his theory. In fact, Kirzner is so well known that for most people he becomes the first encounter with Austrian economics (Douhan, Eliasson, & Henrekson, 2007). His specific concept of entrepreneurial discovery has increasingly influenced both theorizing and empirical studies over the last two decades (Klein & Bylund, 2014).

Kirzner’s conviction is that the standard neoclassical school “fails to offer a satisfying theoretical framework for understanding what happens in market economics” (Kirzner, 1997, p. 61). Two of his main points of criticism are that 1) market phenomena cannot be treated strictly as equilibrium phenomena and 2) a theory of the market cannot begin with the assumption of an already-attained equilibrium, but necessarily needs an explanation of how equilibrating tendencies are set in motion from an initial set of non-equilibrium conditions.

3.2 Knowledge

Most of our ignorance is in the form of not knowing what we do not know. Some of our ignorance is rational, meaning we make a deliberate decision to not get to know something. We could look into a book that teaches how

---

2 http://www-scopus-com.ez.statsbiblioteket.dk
to speak Mandarin and after briefly looking through it, decide to not learn Mandarin anyway. The cost of learning the language is higher than the benefit we think we would get from it, so we decide to stay ignorant (Kirzner, 2011).

We do not know what we do not know and we do not know what the true cost is to get to know it and whether it is worthwhile getting to know. We live in a world of ignorance and we do not know what we might benefit from knowing. “In the neoclassical world, decision makers know what they are ignorant about. One is never surprised” (Kirzner, 1997, p. 64). There are no “unknown unknowns” and therefore individual decision-making is mechanical in a constrained maximization paradigm. In the neoclassical view, human action cannot be open-ended but is necessarily constrained. People make decisions on the basis of known probability functions and the decision-making is therefore not based on Knightian uncertainty, but rather on Knightian risk. This can only be possible through the neoclassical assumption of perfect information.

According to the Austrians, this portrayal of individual decision-making robs human action of its essential feature of being open-ended. It simply does not fit with the world we know. The Austrians are concerned with imperfect information and characterizes it as not being “known-to-be-available information which is costly to produce”, but as “previously unthought-of knowledge” (Kirzner, 1997, p. 65).

3.2.1 Equilibrium

In neoclassical theory, markets are in a state of equilibrium at all times and all the conditions for equilibrium are therefore perfectly fulfilled. For this kind of static equilibrium to exist, one has to assume complete mutual knowledge.

Neoclassical economics furthermore require perfect competition because it is the only kind of competition that is consistent with their fundamental premises, namely that we are always in a state of equilibrium. According to Frank Knight perfect competition requires, 1) perfect knowledge, 2) an infinite number of buyers and sellers, 3) that no buyer or seller can affect the price and 4) it requires that the products be homogeneous.

This claim is simply unacceptable to the Austrians. It cannot be, they say, that:
At each and every instant, the configuration of production and consumption decisions currently made, is one which could, in the light of the relevant costs, not possible have been improved upon. To claim that, at any given instant, all conceivably relevant available opportunities have been instantaneously grasped, is to fly in the face of what we know about the real world systems (Kirzner, 1997, p. 65).

One thing is the misleading picture of the markets in the effort of systematization. Another thing is to not offer an explanation of how things came to look that way. The Austrians do see some value in models of equilibration, but the problem is that neoclassical theory does not give an account for how the equilibrating process takes place. The neoclassical assumption is that we are in an already-attained equilibrium, but this assumption lacks a description of how these equilibrating tendencies were first set into motion. The criticism is not only from the Austrians, but from non-Austrians as well. "Nonetheless, the mainstream has proceeded by virtually ignoring these criticisms, and operating as if its core paradigm was, by and large, as relevant as ever" (p. 66). The Austrians, opposite to the neoclassical worldview, claim that one has not to be ignorant about this matter and they maintain that there is an available framework that provides an explanation of the equilibrating process.

Evaluating things in a Knight-uncertain world we know that there is an "aspect of... uncertainty inherent in every action" (p. 69). With Mises concept of human action, the implication is an open-ended framework where all individual decisions made have a speculative element. This is only possible if the constraints of the equilibrium state are disregarded, because in neoclassical theory, each and every decision "is made within a definitely known framework made up of a given objective function, a given set of resource constraints, and a given set of technologically or economically feasible ways of transforming resources into desired objectives" (p. 70). In the neoclassical equilibrium there is no Knightian uncertainty, as that would affect the character of how individuals make decisions as well as the outcome of these. The decisions present themselves "in the form of known probability distributions relating to the given elements of this known framework" (p. 70).
3.3 The Entrepreneurial Role

3.3.1 Constrained individuals

In neoclassical economics, individuals are constrained by what other people do. If you enter a classroom and someone sits on a chair, you will have to find another chair to sit on. You do not cross the street when there is a red light, because there is a certain percentage likelihood that you will be found guilty in breaking the law and would have to pay a fine. In those situations you are constrained by the actions of other individuals. The view of mainstream economics is that all actions are mutually constraining. Everybody's actions are constrained by the actions of others (Kirzner, 2011).

The market consists of agents that are successfully maximizing their decision in a way that fits together with the decisions made by everyone else. Every decision anticipates to perfection what maximizing agents simultaneously are deciding. In neoclassical economics the “constrained maximizer” is confronted with a given set of alternatives. Within these alternatives he has some goals he wants to achieve and it is a mathematical problem to reach those goals in the best way possible, given the resources he has at his disposal. In this economic world you do not have to stay up late at night, agonizing if you should get married or not or things like that. Rather, you simply take the information about your goals, constrains and resources, and put it into a computer that will do the calculations for you. Then you go for a cup of coffee and when return you will know what you have decided. It is simply a mathematical problem (Kirzner, 2011).

3.3.2 Human action

This is obviously not a picture of life as we know it. Contrarily, the unit of decision-making is the human actor according to Mises. There is an entrepreneurial element inherent in all human action. When you have to make a decision on whether to attend medical school you make several considerations. You are making a prediction at that point as to whether people are going to need doctors in the future. You make an estimate on whether you will be able make it through medical school and so on. These are issues of prediction in a world of unknown elements and that is what decision-making is all about. It is not merely mathematical.
If someone’s actions are not constrained, then it will cause serious problems to this system. You would have to leave out activity that is not constrained. Therefore, mainstream economics have no room for the entrepreneur. The entrepreneur is, no matter how you define it, someone who acts in a way, which is not directly constrained by what other people do. He acts in a way that is inconsistent with what people expects him to do. He creates a new product, enters a new market or the like. For mainstream economics to sustain their system, it is necessary to eliminate the entrepreneur.

3.3.3 Opportunity for pure profit pushes towards equilibrium

There is no such thing as pure profit. It simply does not exist. There cannot be since everybody knows everything. If everybody knows everything, prices are already equal. The tendency for prices to converge is not a tendency but an achieved result. For neoclassical economics, entrepreneurship is an analytical pest, since in their view of equilibrium there is no room for the entrepreneur. There is simply nothing for him to do since there is no scope for what is called pure profit. There exists no opportunity for the entrepreneur to sell his goods at a price that is higher than his costs.

When the neoclassical decision maker is operating, he makes his decisions on the basis of given price and output data. On the contrary, the Austrian decision maker, or entrepreneur, works to change price and or output data. The entrepreneur sees the supply shortage and in the face of uncertainty provides the demand with either a lower price or a higher quality. What create these opportunities, which will always exist in every market, are mistakes committed by entrepreneurs at an earlier stage. Mistakes which caused resources to be misallocated or caused shortage or surplus of goods. As soon as we move out of the neoclassical world of perfect equilibrium, there exist opportunities for entrepreneurs to pursue pure profit. When an entrepreneur is making a pure profit, he is correcting a wasteful arrangement in society. Kirzner (1997, p. 70) explains the process like this:

The daring, alert entrepreneur discovers these earlier errors, buys where prices are "too low" and sells where prices are "too high". In this way low prices are nudged higher, high prices are nudged lower; price discrepancies are narrowed in the equilibrative
direction. Shortages are filled, surpluses are whittled away; quantity gaps tend to be eliminated in the equilibrating direction.

This entrepreneurial process strengthens the mutual knowledge between the market participants and pushes the market towards equilibrium as entrepreneurs are lured by the prospects of profit, which in turn tends to lure more entrepreneurs into the competition to get a share of the profit. This tendency for entrepreneurs to enter markets with opportunities for profit also often leads to the profit to being competed away. As a result, the mutual knowledge leads to an equilibrating tendency. One has to recognize, nonetheless, that due to changes in preferences, tastes, and available resources and so on, the equilibrating tendency will never result in a complete equilibrium. The equilibrating tendency is not a guarantee, but only a tendency. Entrepreneurs are never guaranteed profit due to the uncertainty surrounding every decision.

Imagine a hill and at the bottom of that hill, potatoes are sold for 10 kr., and at the top of the hill, potatoes are sold for 20 kr. The people at the top of the hill do not know that at the bottom of the hill you can buy the potatoes for only 10 kr., and vice versa. One day someone finds out and he goes and buys potatoes at 10 kr. at the bottom of the hill and sells them for 20 kr. at the top of the hill and he makes a profit. This will tend to increase the price at the bottom and decrease the price at the top, as more and more people see opportunity for profit. There is a price convergence.

This is the fundamental aim of Kirzner's theory; that the activity of the entrepreneur tends to push in an equilibrating direction. All the various possibilities effectively taken advantage of by the entrepreneur, converges into a state of equilibrium (Kirzner, 2011).

### 3.4 The Role of Discovery

#### 3.4.1 Systematic process

According to Hayek, throughout the equilibrative market process, the participants of the market become better informed about the decisions and plans of other market participants. How in fact does that happen? First of all Kirzner explains that in the neoclassic world with a static equilibrium, "a chosen course of action, because it was pronounced mathematically to have been the optimal course of action within the given
decision framework, cannot fail” (p. 71). Since a decision cannot be truly mistaken, there is no need for a decision to be corrected.

The general Austrian approach is one where there also are systematic processes, but in contrast they require the entrepreneur to set the processes into motion. In fact, they depend on the entrepreneur and are generated by the entrepreneur. The Austrians stress that it is possible for entrepreneurs to make errors and that their plans may fail. It is these very mistakes that tend to be systematically eliminated as it is revealed to entrepreneurs that what has been done was infeasible and other, until then, unnoticed possibilities of profit are available. These possibilities are taken advantage of once discovered by the entrepreneurs who are alert, imaginative and who are able and willing to break out of societal routines. In the Austrian view of the world, there is room for a decision to be corrected when the entrepreneur discovers an earlier mistake and that is in fact fundamental for the Kirznerian view of the systematic tendency.

The circumstances that led to the discovery that there is more than one price for the potatoes and the conditions that inspire the entrepreneur to eliminate that price discrepancy, is that the price discrepancy constitutes a possibility for pure profit. The mistake, that the prices are not the same at the bottom and at the top of the hill, is what lures entrepreneurs to correct those mistakes. It is the direct consequence of the mistake that has been made that lures him. Not to forget, the mistake is a tragedy. The people at the top of the hill starve to death because they were not able to pay 20 kr. for the potatoes, but could only afford 15 kr. At the same time, the people at the bottom of the hill were happy to sell the potatoes at 15 kr., but there were no one to sell the potatoes to or at least so they thought. This is corrected by entrepreneurial discovery and is the basic meaning, according to Kirzner, of entrepreneurship (Kirzner, 2011).

3.4.2 Systematic search

Kirzner describes systematic search as a search for information known to be missing, which can only be sought for exactly because one possess at least some amount of knowledge of the missing information. The problem is that an opportunity for pure profit cannot be searched for in a systematic way. The reason why a profit opportunity has not been discovered and grasped is exactly that, it has not yet been discovered. There is simply no knowledge that the opportunity for profit even exists.
Then Kirzner explains what actually happens when an opportunity for pure profit is found (Kirzner, 1997, p. 71-72): "When one becomes aware of what one had previously overlooked, one has not produced knowledge in any deliberate sense. What has occurred is that one has discovered one's previous (utterly unknown) ignorance." This experience is characterized by surprise, in that you were not looking for anything in a deliberate sense and yet the profit opportunity "was right under my very nose!" (Kirzner, 1997, p. 72). One is completely surprised by the profit opportunity when it presents itself. It is systematic in the sense that former failures tend to stimulate other entrepreneurs to discover these failures and discover profit opportunities that they subsequently grasp. One can say it is systematic without any deliberate intention of being so.

The discovery is not due to pure good luck, but is a result of the entrepreneur being naturally alert both to opportunities for profit as well as to the possible dangers of failure. The entrepreneur is at all times searching for the unnoticed without knowing what he is actually looking for, which is the reason that it cannot be a deliberate search. Since the world is characterized by uncertainty, it requires boldness and imagination on the part of the entrepreneur to seize the profit opportunity. The Kirznerian entrepreneur really is found somewhere in the spectrum between deliberate search and pure luck.

3.5 Rivalrous competition

The neoclassical view of perfect competition is an understanding that really allows for no rivalry. This is the highest level of competition. In this definition of competition all the market participants are faced by the exact same prices. Hayek says that this "competitive equilibrium" is build on the assumption that all individuals are fully aware of what everyone else is doing and planning to do. They need to have the data that is fully adjusted to all the other participants. The problem is that neoclassical theory does not explain how it is adjusted and made available. In perfect competition there is no need to outstrip each other, because everybody knows everything. No buyer or seller can affect the price and so you cannot get ahead by cutting price or improving quality (because then the product would no longer be homogeneous). Simply, there is no way to compete in a world of perfect competition.

The entrepreneurial process that drives the market is only possible if entrepreneurs are able to compete with each other by being free to enter
markets where they see profit opportunities. According to Kirzner, competition basically means that there is freedom of entry. If you are making a good profit, there is nothing from stopping others to enter that market and beating your profit down by charging a lower price. In fact, when someone is making a comfortable profit, it is an open invitation for others to enter that market. With no institutional blockages against entry, there is competition and that is what a dynamic market requires. Freedom of entry keeps everybody alert because you cannot afford to overlook any opportunity for improving your product or to cut your price (Kirzner, 2011).

The competition Kirzner has in mind is drastically distinct from the neoclassical notion of perfect competition, where prices are identical as well are the products. The essence of the market, according to Mises, is the competitive process. The competitive process is one where "the sellers must outdo one another by offering better or cheaper goods and services and that the buyers must outdo one another by offering higher prices (p. 68)." One can say that this definition of competition by Mises is the exact opposite of the neoclassical definition. The neoclassical notion of competition is really one that is absent of competition and is basically static. Whereas the Austrian notion is one where competitors constantly have to be on their toes and that causes the market to very dynamic. It is because of competition that unknown, unnoticed information sees the light of day as entrepreneurs discovers that goods can be made of a better quality or at a cheaper price to win consumers and make a profit. It is the prospect of pure profit that lures the entrepreneur to act boldly and sets this entire rivalrous competition in motion.

Competition is essential to the equilibrating process. In a world of Knightian uncertainty, every company can be approached; even a monopolistic company can have no rest. The character of competition in the market process is important. This character is one where "market participants can become better aware of one another's attitudes and plans. Only a process of competition can achieve this (Kirzner, 1997, p. 69)." Once again, the process is not characterized by "known unknowns" or "known ignorance", that is information which is known to be there, only limited by high costs. "Unknown unknowns" or “unthought-of-knowledge” that one was ignorant of characterizes the discovery process and the knowledge
gained by the discovery is met by surprise. Competition is entrepreneurial and entrepreneurship is competitive.

4.6 Critique of Kirzner

There is absolutely no doubt that the Kirznerian perspective on the entrepreneur for a long time has been how the economic world understood entrepreneurship. It has been “the” position generally accepted not only within Austrian economics but also in the wider economic society. According to Klein & Bylund (2014), Kirzner’s opportunity-discovery approach has been challenged in the last decade and Kirzner is not the only one within the Austrian school who has formed a theory on entrepreneurship. In fact, there are several other different perceptions of entrepreneurship, some of which are of substantial difference. Peter Klein, who stands on the shoulders of the former giants such as Cantillon, Knight and Mises, promotes one of these views that define entrepreneurship as judgment. Peter Klein is an Austrian economist whose interests are within managerial and organizational issues.

3.6.1 An alternative Austrian view of entrepreneurship

This approach is based on judgment, which emphasizes that entrepreneurship is “judgmental decision making under conditions of uncertainty. Judgment refers primarily to business decision making when the range of possible future outcomes, let alone the likelihood of individual outcomes, is generally unknown (what Knight terms uncertainty, rather than mere probabilistic risk)” (Klein, 2008, p. 177).

Judgment is distinct not only from discovery-alertness, but also other suggested entrepreneurial characteristics such as boldness, innovation, alertness and leadership. When reacting to existing opportunities, one is being alert, whereas if one has a belief about a new opportunity, one is exercising judgment. Being alert is a state of mind and tends to be passive, while judgment is active (Bjørnskov & Foss, 2008). The likeminded Joseph Salerno (1993) says that entrepreneurs:

(... are those who seek to profit by actively promoting adjustment to change. They are not content to passively adjust their [...] activities to readily foreseeable changes or changes that have already occurred in their circumstances; rather, they regard change
itself as an opportunity to meliorate their own conditions and aggressively attempt to anticipate and exploit it (p. 123).

This understanding of entrepreneurship is essentially decision making under uncertainty, but it can also involve imagination, creativity, leadership and other related factors. Again, this is just one view out of quite a few various Austrian conceptions on entrepreneurship. There are many other relevant aspects of the phenomenon of entrepreneurship that are covered with them, but this view of judgment, led by Peter Klein, has gained ground in recent years. Here follows some critique of the Kirznerian entrepreneur as presented by Klein.

3.6.2 Three points of critique

1) Kirzner’s focus is not on the entrepreneur as such

Kirzner and Klein offer somewhat different perspectives on the entrepreneur. That is mostly due to different starting points and different interests with regards to the entrepreneur. Kirzner uses the entrepreneur as part of the explanation of how markets function and therefore he is interested in what consequences of the entrepreneurial activities are. According to Klein & Foss (2010), Kirzner’s main concern is whether or not there are equilibrating tendencies in the market. In Kirzner’s view, the entrepreneur is an equilibrator who functions to “push real-world, disequilibrium prices towards long-run, equilibrium prices” (Klein & Foss, 2010, p. 6). Entrepreneurs are the agents who tend to bring the markets closer to the state of equilibrium, even though we will most likely never reach it. Klein, on the other hand, is not interested in the equilibrating consequences. Coming partly from a management background, he is more interested in the entrepreneur himself, what the entrepreneur does and how he does it.

“Kirzner’s aim is not to characterize entrepreneurship per se, but to explain the tendency for markets to clear” (Klein, 2008, p. 180). This is what, according to Klein, is often misunderstood by economists trying to adopt the Kirznerian entrepreneur. The function of entrepreneurship is purely instrumental. Since it is a metaphor, Kirzner suggests no way of how to identify opportunities, but simply says that the opportunities for profit are “out there” and tends to be both discovered and exploited by entrepreneurs who are alert. Basically, Kirzner labels the cause for markets to equilibrate “entrepreneurial discovery”. The fundamental
problem, not necessarily to blame on Kirzner, is that the literature has "transformed the concept into something tangible that does not strictly make sense in within the Kirznerian framework" (Klein & Bylund, 2014, p. 22).

2) Losses
To Kirzner, the entrepreneur is characterized by “performing” discovery and is not involved with the function of any kind of investment. They only have to be alert to opportunities for profit and should not be concerned about owning capital or about investing. As “they own no assets, they bear no uncertainty and, hence, they cannot earn losses” (Klein, 2008, p. 177). As the entrepreneur goes around being alert to profit opportunities, his biggest possible failure or loss would be to fail to discover an opportunity for profit. He cannot lose anything, as he has not invested anything.

Klein criticizes Kirzner for not offering a satisfying explanation to how an entrepreneur can incur losses. As an entrepreneur, in Kirzner’s formulation, you can either make a profit or break even. Trying to give an account for how the entrepreneur can receive losses, Kirzner is not able to explain barely in terms of discovery but has to explain it by using actions: “Mistaken actions by entrepreneurs mean that they have misread the market, possibly pushing price and output constellations in directions not equilibrative” (Kirzner, 1997, p. 77). The only way to suffer losses is if the entrepreneur has invested resources in his misreading of the market conditions. Yet, some would argue that there may not be an accounting loss, but the entrepreneur would always incur an opportunity cost no matter what he decides to do or not to do.

3) The unit of analysis
Originally, Kirzner used the concept of opportunity as a metaphor for explanatory reasons. It was meant to explain the equilibrative tendencies in the market, and not, as it has often been misinterpreted, to be used literally as the object of analysis (Klein, 2008).

Klein (2008) argues that the unit of analysis, in Kirzner’s perspective of the entrepreneur, is opportunities. Kirzner figuratively argues that opportunities exists objectively and are lying around just waiting to be discovered by the alert entrepreneur. Metaphorical because, according to Klein (2008, p. 180), Kirzner does not necessarily mean that “opportunities
are, in some fundamental sense, objective – but merely using the concept of objective, exogenously given, but not yet discovered opportunities as device for explaining the tendency for markets to clear.” The question becomes if that is the form that opportunities take or how they otherwise are characterized most precisely.

If opportunities exist objectively they can be modeled as discovered or created, meaning that some discover profit opportunities that are exogenously discovered and others establish them by working creatively. In Klein’s opinion, these are both metaphorical. Klein (2008, s. 176) puts it like this: “Opportunities are essentially subjective phenomena. As such, opportunities are neither discovered nor created, but imagined.” If opportunities were created, they would exist objectively, like a work of art, and there would be nothing uncertain about its existence. The only place where the opportunity exists, according to Klein, is in the mind of the agent making the decision. This means that opportunities are created as entrepreneurs take action based on what they subjectively believe to be the future.

In fact, Klein is not that interested in opportunities be the unit of analysis, when opportunities tend be perceived as some kind of black box anyway. Focus should rather be on action and what Knight describes as putting together resources in the present, in anticipation of future, uncertain reward. It should not be opportunity as the focus of entrepreneurial research, but rather action (Klein & Bylund, 2014).

**Table 3.1: Comparison of judgment and alertness-discovery view**

<table>
<thead>
<tr>
<th></th>
<th>Judgment</th>
<th>Alertness-discovery</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Opportunities exist</strong></td>
<td>In the mind of the entrepreneur</td>
<td>Objectively</td>
</tr>
<tr>
<td><strong>Functions</strong></td>
<td>Actively</td>
<td>Passively</td>
</tr>
<tr>
<td><strong>Interest</strong></td>
<td>The <em>action</em> of the entrepreneur</td>
<td>The <em>consequence</em> of the entrepreneur</td>
</tr>
<tr>
<td><strong>Perspective</strong></td>
<td>To characterize the entrepreneur</td>
<td>To explain the equilibrating tendency in the market</td>
</tr>
<tr>
<td><strong>Entrepreneurial price</strong></td>
<td>Profit or loss</td>
<td>Profit, break even or opportunity cost</td>
</tr>
<tr>
<td><strong>Unit of analysis</strong></td>
<td>Action</td>
<td>Opportunity for profit</td>
</tr>
</tbody>
</table>
3.7 Conclusion

Klein & Bylund (2014, p. 21) put words to how the Austrian school of economics has profoundly influenced the economists understanding of the economic world: “Kirzner’s influence (...) shows that Austrian insights are seen as valuable to scholars not trained in the Austrian tradition, even if these insights continue to be neglected among the neoclassical economists that Austrians often want to reach.”

The problem of information makes it relevant to look beyond neoclassical economics to find a solution to the problem that Knightian uncertainty causes. The neoclassical school offers no solution with its mathematical models and that is exactly why it becomes interesting to ponder “fluffy” concepts such as alertness and judgment.

Kirzner presents to us what Austrian economics is capable of when he explains the effects that the Austrian version of the entrepreneur has on the markets. Kirzner argues that opportunities exist per se and bold and imaginative entrepreneurs pursue these as they are lured by profit. The only way for entrepreneurs to discover these opportunities is by being alert. They have to be alert since the nature of the knowledge is not known-to-be-knowable, but quite oppositely is unthought-of knowledge. The discovery of unthought-of knowledge is accompanied by an element of surprise in a world of Knightian uncertainty. The result is better mutual knowledge, as Hayek argues, and increased competition that in turn tends to push the market towards equilibrium. “Success, in this view, comes not from following a well-specified maximization problem, but from having some insight that no one else has, a process that cannot be modeled as an optimization problem” (Klein, 2008, p. 177).

It is not that neoclassical economics is necessarily wrong, but only that it lacks some aspects. Aspects, which the Austrians offer with their version of the entrepreneur and a more psychological and behavioral economics approach to the world. It all comes down to two different views of the problem of information and what can be known. If all we need to consider is a world with “known knowns” and “known unknowns”, there is really no need for anything else than the neoclassical methodology. Whereas, if we also have this third category of “unknown unknowns”, it becomes highly relevant to find an agent that can solve the problem of uncertainty for us. That is what the Austrian school of economics offers and Kirzner suggests
one version of this type of agent. Peter Klein shows that there are substantial differences even within the Austrian school and this is mainly due to different aspects, viewpoints and interests.
4 The Effect of Public Policy

The following is based on the 2012 chapter by Christian Bjørnskov and Nicolai Foss, “How institutions of liberty promote entrepreneurship and growth”, and the 2008 article by Kristina Nyström, “The institutions of economic freedom and entrepreneurship: evidence from panel data”, unless otherwise stated.

4.1 Introduction

The thesis has until now been trying to show that entrepreneurship is something different and why it can be quite challenging to understand what an entrepreneur actually accomplishes. It is not easy to model the function of the entrepreneur. Neither is it easy to define what encourages entrepreneurial behavior or to measure the effects of entrepreneurial activity (Bjørnskov & Foss, 2012). One reason for the difficulty is the tension and difference between risk and uncertainty. A world characterized by uncertainty requires an agent who knows how to operate in spite of, as well as to benefit from, “unknown unknowns”. Israel Kirzner, here representing the Austrian school of economics, offers a description of such an agent and explains what tends to happen when he acts entrepreneurially.

Kirzner has provided us with a theory and an understanding of the entrepreneur. The agent he presents for us needs to have flexibility and opportunities to handle Knightian uncertainty. If laws are complex, rules are many and regulations tight, it will result in taking away options from the entrepreneur and there will simply be things he is not allowed to do and things he is not permitted to do entrepreneurial experiments with. In order to function and work most effectively, the entrepreneur needs to be able to handle uncertainty, but there are several ways he can be deprived of this necessary freedom. The consequence is less entrepreneurship.

Less entrepreneurship is not a desired outcome for any government or society. The reason is that entrepreneurship is a key driving force for the growth of the economy, which most people agree on is a good thing. Nyström says, “about one-third to one-half of the differences in national growth rates can be explained by variations in entrepreneurship rates” (2008, p. 269). Many of the essential aspects of the growth process, such as
new products, process and ways of organizing are aspects that entrepreneurs bring about (Bjørnskov & Foss, 2012). This is what motivates economists, researchers and policymakers to try to understand what entrepreneurship is and how it can be encouraged.

It is interesting for those who are responsible the structuring of institutions of economic freedom to know about entrepreneurship, because “institutions are highly influential for the incentive structure in a society and hence affect economic performance” (Nyström, 2008, p. 270). When institutions have a big impact on the incentives that are in society, it can instinctively be linked to the effect that institutions have on individual people who consider engaging in entrepreneurial activities. The greater incentive provided by these institutions, the higher level of entrepreneurial activity can be expected. From that it can be derived that institutions have a great effect on economic performance, since entrepreneurship has a great effect on economic performance. It has been proven in the literature that the quality of institutions plays a vital role when it comes to how a society is showing economic growth. Naturally it grabs our attention as to which institutions that specifically influence entrepreneurship and in turn how they affect economic growth.

It is no recent development to look at the intuitional setting in terms of economic freedom, as economic freedom has been perceived as a foundation for economic growth for quite some time. This understanding dates back to Adam Smith (1776) and David Ricardo (1821) who both found economic freedom to be essential for economic development. Nyström and Bjørnskov & Foss look into how economic freedom affects entrepreneurship and offers a theory that relates to this.

4.2 Institutions of economic freedom and its components

Bjørnskov & Foss argues that economic freedom, in its most basic form, centers at property rights and the security and extent of these. Obviously, there are a wide variety of components of economic freedom and the economic freedom index, published by Fraser Institute, provides five such components that measure institutional quality. These components are: 1) size of government, 2) property rights, 3) sound money, 4) openness to international trade and investment and 5) public regulation. Each of these components consists a number of sub-components and this thesis will look into two sets of sub-components. This is in fact what Nyström suggested
for further research “in order to elaborate more specifically on which institutions are more or less influential on entrepreneurial activities” (2008, p. 280). Therefore this thesis will take a deeper look into the subcomponents of size of government and public regulation.

4.2.1 Size of government

Size of government is a measure of the degree of government intervention “in the economy through consumption, redistribution through transfer schemes, public investments, and marginal taxation” (Bjørnskov & Foss, 2008, p. 317).

4.2.1.1 Overall

As one of the most significant measures of economic freedom, size of government is expected to link, at least to some extent, with entrepreneurship. Before taking a closer look at the subcomponents of size of government, it would be beneficial to see what previous literature has to say about how size of government affects the supply of entrepreneurship. Both Nyström and Bjørnskov & Foss list several reasons for why researchers have been interested in how the size of government influences entrepreneurship.

The primary, and perhaps most noticeable reason that government size is influencing entrepreneurship, is that it may shrink the market for entrepreneurs and aspiring entrepreneurs to engage in. When the government takes charge over economic activities, it tends to reduce the opportunities for entrepreneurs to engage in those particular industries or sectors. When the government nationalizes economic activities and enters into competition with the private sector, it makes it practically impossible for entrepreneurs to compete in that particular sector. That is a way for the government to exercise direct control, but the government can also exercise indirect control by creating barriers to entry for entrepreneurs through e.g. licensing.

When the government is associated with high levels of publicly financed services, large government discourages entrepreneurship in two ways. First of all, if the social security system is generous, it will diminish the incentive to become an entrepreneur, as the reservation wage is virtually assured and is rather high. Secondly, it can also disable entrepreneurship because it discourages individuals from forming wealth. This leads to two
limiting circumstances for individuals who would engage in non-necessity entrepreneurship. One is that it will make it harder, as a consequence of a heavy tax burden, to finance the start-up phase that most often is financed by the individual himself. Another destructive limitation is that potential investors will think that the entrepreneur has a low degree of commitment if he himself pledges only very little personal capital. If the entrepreneur has a weak commitment, it would be hard for investors to believe that the entrepreneurial venture is worth their money, if he is not willing to put in his own money.

4.2.1.2 Subcomponents

After looking at one of the five main components of the economic freedom index, namely size of government, it now becomes interesting to look at what this component consists of. Size of government is divided into four separate parts, specifically government consumption, transfers and subsidies, government enterprises and investment and top marginal tax rate.

One would expect that high government consumption would make it difficult for entrepreneurs to enter a market. First of all the range of possible opportunities for profit may be lowered because the alert entrepreneur is not able to engage in a sector where the government is present. That could make the existing opportunities less desirable, if they even would be profitable. It may also be expected that government enterprises and investment would affect entrepreneurship negatively, especially if it results in nationalization of industries and creation of monopolies that entrepreneurs would not be able to compete with. Transfers and subsidies would also be anticipated to take away some initiative from the entrepreneur, as a generous social security system would make it less attractive for the not so daring entrepreneur to engage in entrepreneurial activities. The opportunity cost would simply be too high when shifting from employment to self-employment. On the other hand, it might make it safer to take the risk, since in case of failure there is a strong safety net in place.

With regards to the tax subcomponent, it brings us to an interesting connection with Kirzner’s theory of the entrepreneur not being a capital owner. To Kirzner, the entrepreneur does not necessarily own significant capital and is not necessarily a big company owner. That determines how the entrepreneur makes his money. Instead of earning a capital income, he
receives an employee salary, which is normally taxed at a higher rate. Therefore one would expect tax to have an influence on entrepreneurship.

These sub-components most likely do not have the same effect on entrepreneurship and it would be interesting to take a look at which ones are of most significance.

4.2.2 Public regulation

Public regulation is a measure that consists of three sub-components that deals with the regulation of labor markets, financial markets and business markets. Respectively they consist of:

(1) the impact of minimum wages, hiring and firing practices, the share of the labor force with wages set in centralized bargaining, the generosity of unemployment benefits, and the use of conscript military personnel; (2) the percentage of deposits held in privately owned banks, bank competition, percentage of credit extended to the private sector, and the extent of interest rate controls; and (3) price controls, administrative procedures that are obstacles to business, time spent with the bureaucracy, the ease of starting new businesses, and the necessity of irregular payments. (Bjørnskov & Foss, 2008, p. 317)

4.2.2.1 Overall

Entrepreneurs function well and are encouraged when regulations are helpful, meaning they are well defined and foreseeable in their structure. Regulation, when disproportionate, makes it more difficult to maneuver for not only entrepreneurs, but for all firms. For entrepreneurs particularly, it is a burden as they can be met by excessive regulations as they try to get their business of the ground.

Nyström mentions a whole array of factors that determine the prevalence of entrepreneurial activity. Some of the factors that tend to have a negative effect on entrepreneurship are, for example, requirements to the level of capital needed to start a business. The regulations of the labor market can also result in lower entrepreneurship rates if they give high unemployment benefits, protects employees to a great extent or if labor unions are allowed to have a great amount of power. High barriers to entry has a negative effect on entrepreneurship in regards to new firm formation in fast moving industries with constant technological change.
and the increasing demand all around the globe. Some studies also indicate that if it is difficult to get access to credit, it tends to prevent people from engaging in entrepreneurial activities.

4.2.2.2 Subcomponents

Public regulation can be divided into three parts, which are *credit market regulations, labor market regulations* and *business regulations*. It is expected that public regulation has an effect on entrepreneurship, but these various subcomponents may be of different significance and they do not necessarily have to have the same impact on entrepreneurship.

Credit market regulations could possibly affect entrepreneurship with regards to financing the entrepreneurial venture. If the financial sector is heavily regulated, one would expect that it would be difficult for the entrepreneur to have his new firm funded and that would lead to less entrepreneurship. It may also be presumed that if the business regulations are very strict, it would lead to market conditions where the entrepreneur is not able to do anything. The entrepreneur could have good ideas in abundance, but if regulations are limiting he would never be able to implement them since he is simply not allowed to do so. If that were the case it would most likely lead to less entrepreneurship. The same goes for labor market regulations, that if the relative advantage of being employed is higher than being self-employed due to strong regulation, it will make it less favorable to start entrepreneurial ventures as self-employed. It may also make in more expensive and complicated to hire and fire employees, again reducing entrepreneurship.

If the entrepreneur is characterized, as suggested by Kirzner, of being alert to profit opportunities, it is of no advantage if he is not allowed to seize the opportunity for profit he has discovered. If the regulations are such that they hinder the entrepreneur in undertaking that opportunity he has found from being alert, we would think that it would discourage entrepreneurial behavior.

4.2.3 Agricultural entrepreneurship

Agricultural entrepreneurship is entrepreneurial activity in a very traditional profession, namely agriculture. This type of entrepreneurship should not be driven by the same factors as those that drive entrepreneurial activity in modern professions. If Kirzner’s theory of the entrepreneur is right, we would expect modern and agricultural
entrepreneurship to be different. The problem of information is central to the Austrian understanding of entrepreneurship in the modern professions. With agricultural entrepreneurship the problem of information is not something as significant. In general, people in the agricultural sector have a fairly good idea of what is going on and there is not much uncertainty present. Farmers generally have good information to what technology and capital is needed. Therefore we would expect agricultural entrepreneurship to be determined by something completely different than what drives non-agricultural entrepreneurship, since there is not much of a problem of information within the agricultural industry.

In order to confirm that Kirzner is on the right track with his definition of entrepreneurship, a regression is analyzed with agricultural entrepreneurship as the dependent variable. This is what economists call a placebo test. That is, some results have been obtained with non-agriculture entrepreneurship as the dependent variable and then the same test will be done with agricultural entrepreneurship where it is expected that we will not reach the same results. Obviously there would be serious explanation problems if the same results were achieved.

4.3 Data

The data used to perform the statistical analysis is the same data used by Bjørnskov & Foss from the annual reports of the Fraser Institute in Economic Freedom of the World. Non-agricultural, self-employment is used as the measure of entrepreneurship even though it excludes the potential entrepreneurial behavior in existing firms. Yet, that does not complicate matters too much since entrepreneurship can essentially be defined as “deploying resources to new uses in pursuit of the profit under uncertainty” (Bjørnskov & Foss, 2012, p. 256) as Kirzner also suggests. By using this measure it is assured that only real economic activity is used. The data is panel data, is observed in six intervals between 1980 and 2005 and it consists of 25 countries.

I have added the same control variables as Bjørnskov & Foss, which are a post-communist dummy, openness to trade, investment prices and a measure of international information flows. Investment prices takes into account the costs of starting an entrepreneurial venture, whereas international information flows captures the information that the entrepreneur can receive from the rest of the world. Furthermore, are
openness, a post-communist and Asia dummy, a variable that accounts for the share of population employed in agriculture, and all the period dummies included. The control variables are added to entrepreneurship as the dependent variable in the regressions. To reach the results presented I have used the general to specific method.

4.4 Results

4.4.1 Size of government

By using the general to specific method, where the least significant variable is deleted one at the time until only factors that are significant at a level of 10% are left, I end up with agricultural employment and two subcomponents of size of government, namely government consumption and transfers and subsidies. Agricultural employment is negatively associated with entrepreneurship, but has virtually no effect on entrepreneurship. The two government subcomponents indicate that where government is active and engaged in the economy, it will have a negative impact on entrepreneurship, if it is in the form of pure consumption or transfers and subsidies.

<table>
<thead>
<tr>
<th>Table 4.1: Size of government</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Legal quality</td>
</tr>
<tr>
<td>Sound money</td>
</tr>
<tr>
<td>Freedom of trade</td>
</tr>
<tr>
<td>Regulatory freedom</td>
</tr>
<tr>
<td>Post communist</td>
</tr>
<tr>
<td>Openness</td>
</tr>
<tr>
<td>Price of capital</td>
</tr>
<tr>
<td>Information flows</td>
</tr>
<tr>
<td>Agricultural employment</td>
</tr>
<tr>
<td>Asia</td>
</tr>
<tr>
<td>Government consumption</td>
</tr>
<tr>
<td>Transfers and subsidies</td>
</tr>
<tr>
<td>Government enterprise</td>
</tr>
<tr>
<td>Tax burden</td>
</tr>
<tr>
<td>Period dummies</td>
</tr>
<tr>
<td>No of observations</td>
</tr>
<tr>
<td>R-squared</td>
</tr>
</tbody>
</table>
4.4.2 Regulations

Looking at the results in table 4.2, it is notable that the size of government is very significant and has a big impact on entrepreneurship. It tells us that when government intervenes in the economy it has a damaging effect on entrepreneurial activity as both Bjørnskov & Foss and Nyström suggests. Labor market regulations are also positively associated with entrepreneurship. Agricultural employment shows yet again to have only a negligible effect on entrepreneurship. In that the business regulation variable has been observed only much later, nearly one third of the observations disappear and therefore the variable is not included in the tests.

<table>
<thead>
<tr>
<th></th>
<th>General</th>
<th>Specific</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coefficient</td>
<td>Significance</td>
</tr>
<tr>
<td>Size of government</td>
<td>0.60126</td>
<td>0.002</td>
</tr>
<tr>
<td>Legal quality</td>
<td>0.12299</td>
<td>0.633</td>
</tr>
<tr>
<td>Sound money</td>
<td>0.14295</td>
<td>0.386</td>
</tr>
<tr>
<td>Freedom of trade</td>
<td>-0.03826</td>
<td>0.870</td>
</tr>
<tr>
<td>Post communist</td>
<td>0.41743</td>
<td>0.851</td>
</tr>
<tr>
<td>Openness</td>
<td>-0.00304</td>
<td>0.729</td>
</tr>
<tr>
<td>Price of capital</td>
<td>-1.1618</td>
<td>0.626</td>
</tr>
<tr>
<td>Information flows</td>
<td>-0.00423</td>
<td>0.883</td>
</tr>
<tr>
<td>Agricultural employment</td>
<td>-0.04912</td>
<td>0.482</td>
</tr>
<tr>
<td>Asia</td>
<td>2.78489</td>
<td>0.325</td>
</tr>
<tr>
<td>Credit market</td>
<td>-0.00644</td>
<td>0.964</td>
</tr>
<tr>
<td>Labor market</td>
<td>0.2907</td>
<td>0.094</td>
</tr>
<tr>
<td>Period dummies</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>No of observations</td>
<td>132</td>
<td></td>
</tr>
<tr>
<td>R-squared</td>
<td>0.3868</td>
<td></td>
</tr>
</tbody>
</table>

4.4.3 Agricultural entrepreneurship

I find that information flows have no real effect on agricultural entrepreneurship whatsoever. It is interesting that agricultural employment is positively associated with agricultural entrepreneurship, but that the effect is fairly small. The same can be said about sound money, yet the effect is bigger compared to agricultural employment when taking the standard deviation into account. If it is easy to anticipate the future relative prices and if sound policies are in place there will be more entrepreneurial activity.
Furthermore I find that freedom of trade and price of capital are both negatively associated with agricultural entrepreneurship. If there is a low degree of openness to international trade and investment, it will result in fewer potential entrepreneurial ventures being pursued. The most influential component is undeniable price of capital, which means that if capital is high-priced it is very expensive to start up a firm and that reduces entrepreneurial activity.

Table 4.3: Agricultural entrepreneurship

<table>
<thead>
<tr>
<th></th>
<th>General</th>
<th></th>
<th>Specific</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coefficient</td>
<td>Significance</td>
<td>Coefficient</td>
<td>Significance</td>
</tr>
<tr>
<td>Size of government</td>
<td>0.08054</td>
<td>0.391</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Legal quality</td>
<td>-0.10114</td>
<td>0.414</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sound money</td>
<td>0.14496</td>
<td>0.072</td>
<td>0.14201</td>
<td>0.062</td>
</tr>
<tr>
<td>Freedom of trade</td>
<td>-0.26262</td>
<td>0.015</td>
<td>-0.33924</td>
<td>0.001</td>
</tr>
<tr>
<td>Regulatory freedom</td>
<td>-0.1303</td>
<td>0.300</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post communist</td>
<td>0.93847</td>
<td>0.213</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Openness</td>
<td>-0.00523</td>
<td>0.164</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Price of capital</td>
<td>-6.24804</td>
<td>0.000</td>
<td>-5.74788</td>
<td>0.000</td>
</tr>
<tr>
<td>Information flows</td>
<td>0.05216</td>
<td>0.000</td>
<td>0.04735</td>
<td>0.000</td>
</tr>
<tr>
<td>Agricultural employment</td>
<td>0.37782</td>
<td>0.000</td>
<td>0.38481</td>
<td>0.000</td>
</tr>
<tr>
<td>Asia</td>
<td>-0.30512</td>
<td>0.732</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Period dummies</td>
<td>Yes</td>
<td></td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>No of observations</td>
<td>136</td>
<td></td>
<td>136</td>
<td></td>
</tr>
<tr>
<td>R-squared</td>
<td>0.8721</td>
<td></td>
<td>0.3986</td>
<td></td>
</tr>
</tbody>
</table>

4.5 Effect sizes

In order to give the reader a better idea of how large these effects are, Denmark and New Zealand will be compared with regards to how the various elements of economic freedom affect entrepreneurial behavior. The two countries are quite similar and have a few of the same cultural characteristics and the institutions look alike in several ways.

The total difference that can be explained on the basis of the size of government is just short of 20% between Denmark and New Zealand, meaning that almost 20% of the difference in entrepreneurship between the two countries can be attributed to the size of government. In addition, a one-point improvement in the overall size-of-government index is associated with 0.6 percentage points additional activity, or 44% of a standard deviation, which is quite significant. Splitting the index into sub-
components, there are two components that show to be significant. Transfers and subsidies represent 27% of a standard deviation, whereas government consumption stands for almost 18% of a standard deviation and a one-point increase in these sub-components leads to a 0.4 percentage increase in both instances.

On the opposite, public regulations count for almost nothing of the difference when comparing the two countries. Furthermore, the only sub-component found to be significant was labor market regulations. A one-point increase in labor market regulations brings almost a 0.3 percentage points increase and measures 11% of standard deviation, which is something, but not anything weighty.

Looking at agricultural entrepreneurship and comparing Denmark with New Zealand, more than 80% of the difference in entrepreneurial activity can be explained by the price of capital. A one-point increase in price of capital causes a significant 6.2 percentage point decline. Freedom of trade presents a decline of 0.3 percentage points in entrepreneurship when that is increased one point (28% of a standard deviation).

4.6 Concluding discussion

Building on the foundation of Bjørnskov & Foss and Nyström, I have discovered some new nuances of how institutions of economic freedom affect entrepreneurial activity by taking a look at some of the sub-components. The data consists of observations covering 25 countries in the period of 1980 to 2005, divided in intervals of five years. The purpose was to see if Kirzner’s theory of entrepreneurship is also what we can observe in the world. To that purpose I have added agricultural entrepreneurship to compare it with modern entrepreneurship.

The empirical findings confirm what both Bjørnskov & Foss and Nyström found regarding how the size of government affects entrepreneurial activity. I find that if the size of government is small, it tends to increase the supply of entrepreneurship. Breaking the component down into four sub-components I find two components to be driving the effect of the size of government. Transfers and subsidies make it less desirable to pursue entrepreneurial ventures as the social system can prove to be too generous and take away the incentive for aspiring entrepreneurs. It seems obvious that if the government spends a lot on unemployment benefits
and other public goods, that necessity entrepreneurship is less necessary to engage in for individuals. Government consumption has a negative effect on entrepreneurship, as Bjørnskov & Foss (2012) also find. When the government actively engages with the economy, especially through pure consumption, it limits entrepreneurial activity. Yet, it is interesting that Bjørnskov & Foss (2012) find government enterprises significant instead of transfers and subsidies. The reason for that most likely is that they use a 2SLS estimate to take into account the complexity of causality. I have not done that, but according to their studies, as well as the research done by Nyström, it shows that there are no significant problems with causality.

Turning to the effect of regulations, it is evident that labor market regulations have an effect on entrepreneurship. It comes as no surprise that the more difficult and complicated it is to hire and fire people, the harder it will be to start up a company. One would also think that a heavily regulated financial market will make it unnecessarily difficult to start a company, but the empirical findings do not find the sub-component significant. Furthermore, the business regulations component had to be omitted due to too few observations in the dataset.

Finally, looking at agricultural entrepreneurship we see that it is, as expected, driven by other components than modern entrepreneurship. Freedom of trade has great importance. The more open the country is to trade, the less entrepreneurship in the field of agriculture. This seems at odds with Kirzner’s theory that open and free competition is attractive to aspiring entrepreneurs, but that may be due to the different nature of agricultural entrepreneurship compared to modern entrepreneurship. The price of capital weighs heavy on agricultural entrepreneurship. If the capital goods are expensive it will hinder entrepreneurship, as capital goods are fundamental for business within agriculture. The more expensive capital goods are, the less entrepreneurial activity in that sector. It is also evident that the greater employment in the sector, the more entrepreneurial activity is present. As expected, the affect of information flows is very little on agricultural entrepreneurship. Finally, opposite of modern entrepreneurship, we did not expect for size of government to have affect on agricultural entrepreneurship and that was confirmed by the empirical findings.
All in all, it can be concluded that the institutions of economic freedom definitely are related to entrepreneurship and that the empirical findings indicate that the greater the welfare state, the less entrepreneurial activity. I find the paradox that Bjørnskov & Foss present in their (2012) chapter very interesting, that “although entrepreneurial ventures as activities are limited by the rise of the welfare state, they at the same time protect welfare states from falling too far behind in terms of productivity in the private sector that necessarily finances welfare spending” (p. 263). The freedom that the entrepreneur needs, according to Kirzner, can be limited by the government and the result is that entrepreneurial activity is lessened to the disadvantage of any society.

Governments should concentrate on how to create a society through economic policies that make it attractive for individual entrepreneurs to engage and easy to operate in the market (Kreft & Sobel, 2005). One way to achieve that is to give entrepreneurs the required freedom by limiting regulations on the labor market and limiting the government size, especially with regards to government consumption and transfers and subsidies. These are just a few empirical findings that this thesis suggests for increasing the likelihood of entrepreneurial success and thereby increase economic growth.
5 Conclusion

Neoclassical economics is unquestionably useful in situations with “known knowns” and “known unknowns” and its use of mathematical formulas is a valuable tool for estimating risk. Where it falls short is when the category of “unknown unknowns” is introduced. When Knightian uncertainty is brought into the mathematical equation, it causes serious problems for the neoclassical framework. The problem is that there simply is no room in their economic system for this category. The neoclassical worldview has not taken into account that there could be things we do not know that we do not know, that is Knightian uncertainty. This view of the world basically excludes the entrepreneur since the very nature of entrepreneurship cannot be put on a formula. He performs the unexpected. When Knight distinguishes between risk and uncertainty it becomes evident that true uncertainty cannot be correctly measured or calculated.

Exactly due to this limitation it is interesting to turn to the Austrian school of economics for a solution. Since mathematical formulas and models are insufficient for decision making in a world of uncertainty, there is a need for another type of solution. The Austrians have another understanding of how the economic world functions and has adopted a view which can accommodate Knightian uncertainty. Israel Kirzner and other Austrian economists offer the entrepreneur as the agent who can operate in this challenging environment.

Kirzner is the most well known Austrian economists on the topic of entrepreneurship and his theory of entrepreneurial discovery and alertness is the most prominent theory in both management and entrepreneurship literature. In his article from 1997, “Entrepreneurial discovery and the competitive market process: An Austrian approach”, he questions the neoclassical understanding of the economic world concerning a number of issues. Kirzner disagrees with the assertion that we are in a world of an already-attained equilibrium. In Kirzner’s view, there is no explanation by the neoclassical economists on how this state is reached, yet he himself will argue for equilibrating tendencies in the market, which are in fact driven by the entrepreneur. He disagrees with the claim that we have perfect knowledge and argues that we only have imperfect knowledge and by simply observing the world we live in, one
can easily see this. Kirzner reasons that people are not constrained individuals that have to fit perfectly together in an interrelated relationship. The entrepreneur does the exact opposite, as he is an agent that does what nobody expects him to do. He does the unpredicted and discovers opportunities for profit nobody knew existed. The entrepreneur is being alert without knowing what he is searching for and he is met by utter surprise when the profit opportunity presents itself.

The possibility for profit only exists because everybody does not know everything. This allows for mistakes and for entrepreneurs to benefit from correcting those mistakes, which in turn leads to a profit. This is precisely how Kirzner explains the equilibrating tendencies in the market. The entrepreneur is lured by the opportunity for profit and as he is offering better quality or lower prices, the market is pushed towards equilibrium.

The Austrian school of economics is not limited to Israel Kirzner's version of the entrepreneur but offers a few alternative theories on the entrepreneur. Different interests and different intentions in engaging with the entrepreneur underpin these variations. Lately Peter Klein has advocated the view that entrepreneurship is judgmental decision making in the face of uncertainty. He is not interested in the equilibrating tendencies created by the entrepreneur, but having a management background he is more interested in how the entrepreneur actively changes the current circumstances and proactively exploits them.

The literature provides solid proof that there is a strong link between economic growth and entrepreneurial activity and therefore it is natural for governments to focus on how they can enact policies with the purpose of increasing entrepreneurial activity. Kirzner portraits the entrepreneur as one who needs to be able to handle Knightian uncertainty and this can be done most effectively if he can operate freely. Policymakers need to structure the institutions of economic freedom in a way that offers strong incentives for individuals to engage in entrepreneurial behavior. I offer some additional nuances to the existing literature by looking at the sub-components of the measures of size of government and public regulation.

From the size of government measure I find empirical support confirming that government consumption and transfers and subsidies both have a negative effect on entrepreneurship. These findings add to what the
existing literature has found, e.g. Nyström and Bjørnskov & Foss, that the larger the size of government, the less entrepreneurial activity. Furthermore, I find that public regulations also affect entrepreneurial activity and that component is driven by the regulations of the labor market. The harder it is to hire and fire employees, the harder it is to start up and run a business for an entrepreneur. Lastly, I attempt to check the validity of Kirzner’s theory of the entrepreneur by comparing what institutions affect two radically different types of entrepreneurship, namely modern and agricultural entrepreneurship. I find, as was expected according to Kirzner, that agricultural entrepreneurship is driven by other factors, such as the price of capital, confirming his theory through these empirical studies.
Bibliography


