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경영학박사학위논문

ENTREPRENEURSHIP IN
TRANSITION ECONOMIES:
INDIVIDUAL LEVEL ANALYSIS OF
ENTREPRENEURIAL INTENT AND
ENTREPRENEURIAL SUCCESS

전환 경제의 엔터프러너십:
창업 의지와 사업 성공에 관한 개인 수준 연구

2014년 8월

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ABSTRACT

ENTREPRENEURSHIP IN TRANSITION ECONOMIES: INDIVIDUAL LEVEL ANALYSIS OF ENTREPRENEURIAL INTENT AND ENTREPRENEURIAL SUCCESS

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Entrepreneurship research has received significant attention during the past three decades. During these past three decades occurred major geopolitical events that have fundamentally shaped and continued to shape the environment entrepreneurs operate in. The collapse of the Soviet Union, China's economic reforms and Germany's reunification generated transition economies that brought onto the scene types of entrepreneurship where the explanation power of traditional models meets their limit. Within the large body of literature on entrepreneurship, still little is known about the special situation of entrepreneurs in transition economies. The aim of this thesis is to advance the knowledge about entrepreneurs in fast changing transition economies.

This study provides an overview about often used entrepreneurial archetypes and examines the literature on entrepreneurship in regards of personality, education, previous entrepreneurial experience, age, gender, and

role models. The thesis furthermore introduces a classification rationale for transition economies, which helps to tailor entrepreneurial models for a specific type of transition economy. In addition, is introduced the concept of value system which aims to add knowledge to the discussion of entrepreneurial performance during and after the transition of fast changing economies.

The thesis develops a model of entrepreneurial intention and performance in a fast changing transition economy (typically unification scenarios, where one country adopts the legal, economic, financial, and political system of another country). Derived from the model are eight hypotheses regarding the impact of exposure to a parental role model, the willingness to relocate to another region, education, along with the impact of personality, age, gender and value system on entrepreneurial performance in a transition economy.

The methodological approach to test the hypotheses followed the suggestion of Barley (1990b): combining qualitative and quantitative data. For the qualitative analysis the SOEP 95% data set by the German Socio-Economic Panel Study was used. The data set covers the years 1984 to 2011. The panel data were collected on a yearly basis and covered during the early years approximately 10,000 individuals, but were extended in 1990 to 13,000 and from 2000 on, to over 22,000 individuals. The data are representative of people living in Germany (nationals and foreigners alike). The dataset covers general attitudes, employment status and relationships, educational background, income, health, future plans and other factors. Additionally, the survey years 2005 and 2009 included a short, 15 item scale of personality assessment geared towards the Big Five Personality model. Furthermore, the interviewers endeavored to interview the same people each year. The study qualifies therefore as a longitudinal study that follows

individuals over several years. About 10% of the participants took part in the study since its first inception in 1984 until 2011.

The qualitative data consist of nine case studies of entrepreneurs with an East German background which started (or revived) their firm in 1990. The firms were first described by Koellermeier (1992) and, at that time chosen for its model character in the eastern German transition economy. The data for the case studies were updated through semi-structured telephone interviews, which were conducted between December 2012 and January 2014 with the founders (with the exception of three founders, who were unavailable), former employees of the firms, and employees of the local company registry (*Gewerbeamt*), all of whom were familiar with the firm. Of the nine firms, only one firm is still in business today, one was merged with another firm, one firm ceased operation and six firms went bankrupt.

The study generated the following results. First, during the eastern German transition period, adolescents (with an East German background) with a self-employed parent were not more likely to be engaged in entrepreneurial activities later in life. Furthermore, children of entrepreneurial parents were not more likely to be successful as entrepreneurs, than children without entrepreneurial parents. However, the situation is different for adolescents growing up in West Germany. Here, entrepreneurial parents had an impact on their children in both becoming an entrepreneur and being successful as an entrepreneur. Second, individuals that were willing to relocate from eastern to western Germany during the transition period, were more likely to become entrepreneurs than the average population. Third, individuals that were engaged in even minor entrepreneurial activities in East Germany, were likely to be successful as entrepreneurs during the transition period. Fourth, education is a good

predictor for both entrepreneurial intent and entrepreneurial success. Individuals that received an above average education in East Germany were more likely to become successful entrepreneurs during the transition period. Fifth, individuals with an entrepreneurial personality profile (scoring high on conscientiousness, extroversion, openness, but scoring low on agreeableness, neuroticism) were more likely to become entrepreneurs in transition economies. Also, they were more successful as entrepreneurs than individuals that scored lower on the entrepreneurial personality profile. Sixth, age was not positively related to entrepreneurial intent. Seventh, women were less likely to be entrepreneurs in the German transition economy, even though they had an East German background (East Germany, as most other command economies, had a very high share of the female labor market participation). Eighth, individuals that carried over and clung on to the value system propagated in socialist societies (Soviet Man) had a higher possibility of failure as an entrepreneur (if they chose to engage in entrepreneurial activities). Individuals who scored low on the Soviet Man value system (opposite: entrepreneurial value system) were more likely to be successful as entrepreneurs.

Above all individual factors, entrepreneurial success highly depends on an individual's personality and an individual's value system. Although the personality is in most cases unalterable, a value system can change over time. Individuals who were able to adapt their value system relatively fast to that of a market economy had a distinct advantage: they were significantly more likely to be successful as entrepreneurs.

In summary, this thesis contributes to the entrepreneurship literature by suggesting a rationale for the classification of transition economies and by introducing the concept of the value system. The results of this study have practical implications for especially two categories of persons that

have to operate in the uncertain environment of a fast changing transition economy. First policy makers will have a better understanding of entrepreneurs when devising strategies to strengthen a class of entrepreneurs who run sustainable, long-running businesses. Second, the measure of a person's value system will offer venture capitalists a reliable instrument to predict an entrepreneur's potential.

Keywords:

Entrepreneurship, transition economy, entrepreneurial intent, entrepreneurial success

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TERMINOLOGY

East Germany	State, German Democratic Republic, 1949 - 1990
Eastern Germany	Region, Eastern part of Germany, former East Germany, from 1990 on
Transition	Change from a well-defined state A to a well-defined state B. It is a controlled and planned process (Seliger, 2002).
Transformation	Change from an ill-defined (“fuzzy”) state A to an unknown state B1...n, in a somewhat unplanned and uncontrolled fashion.

CHAPTER I

INTRODUCTION

Entrepreneurs and entrepreneurship are significant drivers of economic growth. Entrepreneurs are creators: they establish new firms, introduce innovations, employ a large percentage of an economy's workforce and create wealth. At the same time entrepreneurs are also destructive: they push weak firms out of markets, break up inefficient economic structures and bypass and undermine paralyzing governmental institutions. Entrepreneurs are nimble, quick and operate with speed and high risk. They operate at the frontline of innovation. They go where slugging large firms and lethargic government institutions cannot go. If large firms and institutions are the backbone of an economy, entrepreneurs is the tissue that keep an economy together. Entrepreneurs recycle economic waste: they generate profits where large firms see no market.

The entrepreneur by nature is mean. His main driving force is greed. When he spots a weak point in a rival firm he goes for it without remorse. Yet, in being bad he does good. He is "ein Teil von jener Kraft, die stets das Böse will und stets das Gute schafft" (von Goethe, 1908, p. 28) [transl. "part of that power which still produceth [sic] good, whilst ever scheming ill" (von Goethe, 2001, p. 38)]. No society is in the long run better off than the society that allows its entrepreneurs the highest degree of freedom. Nevertheless, this freedom has to be clearly defined and protected.

The overwhelming success of entrepreneurs has stimulated academic interest in the topic. Jean-Baptiste Say triggered a lively discussion about entrepreneurship in the field of economics with his seminal book Political

Economy in 1803.¹ For economists, interest in the entrepreneur peaked with Schumpeter and since then has declined. Baumol (1968) lamented that the entrepreneur, despite his importance, is not receiving the attention of economists he deserves. More recently the fields of sociology, psychology and business administration began to contribute to the body of knowledge of entrepreneurship. Scholars of organization studies that approach the topic of entrepreneurship are mainly interested in [1] the shaping factors of individuals that lead them into entrepreneurship, [2] how environmental factors influence the entrepreneur and his firm, [3] how the entrepreneur and his firm interact with other entrepreneurial firms, [4] why and how entrepreneurs exit their entrepreneurial career. This dissertation aims to shed more light on individual factors (role models, education, personality, entrepreneurial experience, and mobility) and how these factors influence people to seek an entrepreneurial career in a transition economy.

The entrepreneur is a distinct actor in the economic area. In market economies he is often associated with a hero; a conqueror who destroys old structures to make way for new creations (Schumpeter, 1934). Every hero has an antagonist. In the case of the entrepreneur who destroys, rebuilds, struggles and overcomes difficulties, he is opposed by the *organization man*. The organization man might come under different names, such as a salary man, a civil servant, an employee, or a clerk, but their nature is all the same: they hide behind their organizations. The organization man is not personally responsible for his actions and decisions in line of work because he is told

¹ Adam Smith does not yet mention entrepreneurship in his *Wealth of Nations* (A. Smith, 1991). Say, who read Smith's work (Say, 1845) might have spotted the gap and therefore dedicated much of his attention to the topic.

what to do by the organization. He is passive while the entrepreneur is active. He takes cover while the entrepreneur exposes himself to the rough winds of the market economy.

This notion, however, is somewhat different in command economies. The entrepreneur is here not viewed upon as a hero who paves the way for a better future. On the contrary, in command economies entrepreneurs are seen as backward oriented individuals whose justification for existence stems from times dating back to feudalism. Entrepreneurs are seen as exploiters of the weak, sweaters and preyers, who seek only their own advantage at the expense of the public. The hero in command economies is the Organization Man, or the Soviet Man as it is called in command economies. He is an individual that labors for the good of the organization instead for his own good. The Soviet Man is seen to have overcome lower instincts, such as greed for wealth or power. Instead he puts the community before the individual and commits himself to work for the public good. When command economies set out to become market economies, the differing notions of the entrepreneur and the soviet man clash. The hero and the antihero change positions in the minds of people. How fast this change is conducted determines, among others, the success and speed of the transition.

Recognizing the importance of sustainable entrepreneurial activities for the overall economic performance and success of a transition economy, this thesis aims to fill some of the gaps left by previous entrepreneurship research. This study has the following specific objectives. First, very few studies have considered the underlying value system of entrepreneurs (and

the change of it), during periods of transition. A common proverb goes ‘a fool and his money are soon parted.’ During the period of transition from command to market economy a large-scale redistribution of wealth takes place. The institutions and people that own the majority of production capital are never the same before and after a transition. The nature of command economies is that production capital is owned by the state, or in other terms, owned by the people. One goal of every transition is to privatize most of the state owned production capital. The paradox is that the beneficiaries are not the people in general but very few individuals. Although criminal energy and spreading misinformation are often used as explanation, it cannot account for the sheer scale of redistribution. Some prominent examples include the Treuhand agency, which managed to sell firms valued 600 billion D-Mark for -250 billion D-Mark between 1990 and 1994 in eastern Germany; or the first generation of Russian oligarchs, who became billionaires during the voucher privatization period between 1992 and 1994 by simply buying firms from the public for a fraction of its value. The nature of wealth redistribution seems to be more a clash of value systems. When the general public is tricked into handing over their property rights for nothing in return, it appears that the general public did not value property rights very highly, hence the different value system. Entrepreneurs in transition economies are part of the general public that made up a command economy before the transition set it. They went through the same education system, were exposed to the same media, socialized with members of the general public and very likely shared the same value

system. Studies that explore the impact of the value system of entrepreneurs and connect it with the entrepreneur's success are so far missing.

Second, studies that use a combination of qualitative data and quantitative data are rare. Barley (1990a, 1990b) pointed out the benefits of including these two types of data in approaching problems in the wider field of organization studies. In the field of entrepreneurship research combinations of different data type are uncommon. However, especially entrepreneurship research in transition economies would benefit greatly by looking at both data types for evidence. Recently, other fields of research began to explore the combination of qualitative and quantitative data. History makes use of microhistory - the qualitative study of single villages, families or individuals - in order to add some context to larger historic developments. Sociology uses microsociology - the qualitative study of everyday human social interaction on the smallest possible scale - to gain better insights into broader social structures on a higher level usually approached with quantitative methods.

To approach these issues, the study is presented in the following way. Chapter II reviews previous studies on the entrepreneur in transition economies and on attributes of entrepreneurs. The attributes are grouped into individual attributes - which are to the larger extent shaped by the entrepreneur himself or have to be treated as given (personality, education, previous experience as entrepreneur, age, gender) and societal influenced attributes - to which an entrepreneur is exposed to without being able to alter them much (role models, acceptance of entrepreneurship in society (status)). Chapter III develops a theoretical model and working hypotheses

that will be tested in the study. Chapter IV explains the data and used methods. Chapter V reports the major findings and chapter VI provides a discussion about the results.

CHAPTER II

LITERATURE REVIEW

The major body of entrepreneurship literature focuses on entrepreneurs and their firms in market economies. Although during recent years a scholarly interest in entrepreneurship in developing countries has begun to emerge, most research models operate with the assumption that the research subjects are embedded in the environment of a stable market economy. Furthermore, empirical evidence comes mostly from OECD countries with a stable market economy. As a consequence, the conditions in transition economies might render some of these models and empirical evidence unusable. Applying those research models and findings to transition economies may produce horrendous outcomes. During the early 1990s, for instance, Poland and Russia applied standard macroeconomic tools to their transition economies, following the advice and supervision of David Lipton and Jeffrey Sachs. It had horrific consequences in the short run (skyrocketing prices, high unemployment, and loss of private savings). The consequence of the Lipton/Sachs debacle was the realization that transition economies are ‘different’ and that the application of standard theoretical tools does not necessarily produce the same results as in market economies. The same might be true of entrepreneurship. The standard tools to analyze entrepreneurial activities and policies to stimulate entrepreneurship might need adjustment for the application in transition economies. The aim of this dissertation is to shed more light on entrepreneurship under the condition of a transition economy.

Every economy has the fundamental problem to arrange a set of rules for “allocating resources and/or consumption among individuals who cannot satisfy their wants, given limited resources” (Woodbury, 2007, p. 220). The rule set rests on two main pillars: formal institutions (monetary system, laws, government institutions, and so on) and informal institutions (cultural constraints, patterns of behavior, habits, and others). All economic questions evolve around production: Who produces what, how and for whom? This determines which of the two opposing economic systems an economy is closest to. If the questions are entirely left to individuals to answer, the economic system is a free market economy. If the questions are answered entirely by the government, it is called a command economy. Both systems are utterly theoretical constructs and do not exist in reality. An economy can only be closer to one system or the other. A historical example of a society that came very close to the free market economy was probably Great Britain during the first decades of the industrial revolution until about 1813. A society that probably became closest to the total command economy was Cambodia between 1975 and 1979. Both extremes had horrendous effects on the lives of ordinary people and are not considered desirable today. Nevertheless, societies leaning towards the free market economy are generally better off, while societies modeling their economic rules after the perfect command economy tend to be worse off (in terms of most economic measures, such as standard of living, gross domestic product per capita, and others). Therefore, it is expected that the nations which currently still hold on to the command style economy will join the countries which started their transition process towards the market economy in the early 1990s.

A transition economy is an economy, which is in the process of changing the above-mentioned rule set. Thereby it is relatively easy to change formal institutions. Several macro-economic tool sets exist, which can be applied. In some cases the tool sets failed but provided valuable insights so that to know which tool sets to avoid in which circumstance (e.g., Jeffrey Sachs' *Shock Therapy* tested during the early stage of the transformation period in Russia and Poland with abysmal consequences for their people). To change informal institutions is rather difficult and requires a great amount of time. The change of preferences, behavioral patterns, attitudes, or certain cultural traits adapt very slowly. Therefore, the usual approach is to change formal institutions first and then informal institutions will follow.

Entrepreneurship touches both formal and informal institutions. The disposition and use of land and capital, as seen in two of the four general categories of economic resources of a country, can be altered through the change of formal institutions alone. The other two economic resources, labor (also called human resources) and entrepreneurship can only be altered by changing the entire rule set. Particularly, entrepreneurship alone cannot be enforced. Nobody can be ordered to be a successful entrepreneur, but entrepreneurs are nevertheless an indispensable part of market economies.

It is little disputed that entrepreneurial activity has beneficial effects on general economic development. Entrepreneurs create employment opportunities and drive innovation (see e.g., Carree & Thurik, 2005; S.-H. Lee, Yamakawa, Peng, & Barney, 2011). Prosperity could be brought to the

masses (and the voter) by streamlining formal institutions towards a cozy environment for entrepreneurs. Credit guarantee programs, tax incentives, export support programs, free counseling services, providence of subsidized office space and production facilities, and sponsored networking events are just a few examples that are designed to boost entrepreneurship.

However, there are caveats. Entrepreneurship benefits from the indiscriminate dishing out of incentive programs, rigorous enforcement of the law and property rights, economic freedom, low corruption levels and political freedom; but this may promote the wrong type of entrepreneurship. El Harbi and Anderson (2010) distinguish good and bad entrepreneurship². Based on an analysis of large data sets from the Heritage Foundation and Transparency International, spanning from 1995 to 2006 and covering 36 countries, they found that some institutional factors benefit entrepreneurs but hinder innovation. This happens when the main driving force of the entrepreneur is necessity and not opportunity. Necessity entrepreneurship grows out of desperation to make a living when other employment options are absent, while opportunity entrepreneurship is based on an active choice to start a business on the basis of an opportunity to generate something innovative. Necessity entrepreneurship helps to keep the unemployment rate low in the short run but does not generate sustainable wealth in the long run. On the other hand, opportunity entrepreneurship is linked to long-term economic growth (El Harbi & Anderson, 2010, p. 438). The

² I would like to emphasize that the terms 'good' and 'bad' are of little scientific value. Spinoza wrote already in the 17th century in magnum opus 'Ethics': "As for the terms good and bad, they indicate no positive quality in things regarded in themselves, but are merely modes of thinking, or notions which we form from the comparison of things one with another." (Spinoza, 2008, p. 87). Durant (1961) interpreted this as "'Bad and good are prejudices which the eternal reality cannot recognize." (p. 174).

entrepreneurship literature generated the theoretical argument, that it would not really matter whether new firms start out of necessity or out of an opportunity (e.g., D. Audretsch & R. Thurik, 2004). The underlying assumption is that firms that start out as simple imitators but would be forced to innovate later on anyway as more and more entrepreneurs join the market. Firms that do not innovate under the rising market pressure would be forced to exit the market. El Harbi and Anderson (2010) attempted to verify this assumption, but found that this assumption does not mirror reality. Their findings suggested: “the institutional conditions for the promotion of self-employment might even impede innovative activities.” (El Harbi & Anderson, 2010, p. 442). The reason might be that support institutions are foremost concerned with raising self-employment. Pushing more people into self-employment (necessity driven entrepreneurship) generates more entrepreneurs but not necessarily more innovative entrepreneurs. Someone who looks for a way to ‘just go along’ will hardly do more than survive. He would reframe from risk taking and look for ways to benefit more from governmental support institutions than contributing to it.

Entrepreneurship is approached in this thesis from the angle of the theory of the actor (motives, values, attitudes, cognitive processes, interests) (Martinelli, 2001) embedded in an analysis of the special context of a transition economy (economic and environmental factors, social structure, culture).

The Entrepreneur

A common notion of the entrepreneur is that he has a high tolerance for bearing risks, or even enjoys taking risks (Drucker, 1977, 1993). That is what the entrepreneur is surely not. No entrepreneur enjoys taking risks. Entrepreneurs have an aversion towards risk. They might take risks but only with the intention to roll it over to others as soon as possible. The ones to whom the entrepreneur passes on the risk are often not aware of it or have difficulty in assessing it: employees who believe they have a safe job, customers who believe they receive a product with promised features, venture capitalists who invest in the next big start-up, or banks who have difficulties in assessing small firms. An entrepreneur is eager to let others carry his risk. He is therefore a risk transformer: he assumes risk, repacks it and hands it further. Gartner (1990) conducted a three-phase Delphi in order to find out what experts (researchers and managers) actually understand under the term 'entrepreneurship'. Definitions containing the term 'risk' were frequently provided. However, at the end the term 'risk' was not among the top ten attributes, defining 'entrepreneurship'.

Stevenson (2006) apt definition of entrepreneurship currently enjoys great popularity: "the pursuit of opportunity without regard to resources currently controlled" (p. 2). It describes a step into the dark taken by an individual not knowing whether there is a supporting floor. Entrepreneurs, in their initial stage, sell something they do not have, asking for payment in advance. They convince employees to dedicate their time and resources to them and not another firm. They persuade buyers to trust their product, not their competitors'; they convince investors to invest in their firm not in an

alternative. This definition is, however, rather wide. It would also qualify for certain managers (e.g., project managers or top managers) in both command and market economies. Therefore, the purpose of the following section is to distinguish an entrepreneur, the creator of a business, from an organization man, the person who joins an established organization.

Entrepreneur vs Organization Man

One is defined by what one repeatedly does.³ The defining activity of the entrepreneur is creating a business in which he assumes personal financial responsibility. The Encyclopedia of Management defines entrepreneurship as “the process of identifying opportunities, marshaling the resources needed to take advantage of the opportunities, and creating a new venture for the purposes of providing needed products or services to customers and achieving a profit” (Gough, Harper, Hill, & Selden, 2009, p. 267). The entrepreneur is opposed by an archetype that White (1957) aptly termed the “organization man” in the Western world, whom Mehnert (1961, 1962) and Alt (1964) called the “Soviet Man”. The organization man holds the firm belief that “to make a living ... you must do what somebody else wants you to do” (Whyte, 1957, p. 6). This entails the acceptance that the group is the prime source of creativity, that belongingness is the ultimate need of the individual, and that the application of science can achieve belongingness (Whyte, 1957). The organization man professionally defines his identity with group-level relationships; he believes in pre-defined roles and social identities. This brings the organization man very close to

³ This thought is often attributed to Aristotle (Durant, 1953).

collectivism (Gelfand, Bhawuk, Nishii, & Bechthold, 2004; Triandis, 1995). On the contrary, the entrepreneur displays more characteristics of individualism. He bases his professional identity on an independent self with his personal, idiosyncratic characteristics, and views himself as autonomous and unique. Just as his western pendant, the Soviet Man is firmly rooted in collectivism. A strong urge of being part of an organization and ‘getting in line’ is idiosyncratic for him. The literary prototype of the Soviet Man was probably Pavel Korchagin, the main character of Nikolai Ostrovsky’s novel ‘How the Steel was Tempered’ (1952). Korchagin can be described as utterly selfless, sacrificing everything for the organization, including his health. Ostrovsky’s novel enjoyed great popularity in communist countries and the concept of the Soviet Man still seems to be a desired model of man by the Chinese government, as seen in the great popularity of the 20 episode TV-series of the film adaptation of ‘How the Steel was Tempered’ (韩刚, 2000).

Both the Organization Man and the Soviet Man operate in professional environments that require no individual responsibility. The consequences of their actions, whether they are positive or negative, are always filtered, mitigated or swallowed by the organization that employs them. The organization provides meaning, guides and shields for its members. If the relationship between the organization man/the Soviet Man and the organization is severed (e.g., due to lay-off or bankruptcy), after a short period of stress he quickly starts looking for a new organization to join: the Wall Street executive moves to another bank; the army officer joins a government agency, or the foundation sponsored researcher moves to

another project. Significant problems arise when the interruption of the member/organization relationship takes place during regime change, so that he cannot move on. The fall of the Berlin Wall in 1989 and following the lift of the Iron Curtain were such events. The Soviet Man was not able to move on. What followed was a society-wide phenomenon that was similar to what Seligman and Maier (1967) first discovered in animal behavior and later (1976) extended to human behavior: *learned helplessness theory*.

Learned helplessness theory describes a behavioral concept (distinct from psychodynamic concepts such as Stockholm Syndrome) in which an individual experiences an unpleased situation or even shock from which he neither can escape nor has a remedy: “when events are uncontrollable the organism learns that its behavior and outcomes are independent, and that this learning produces the motivational, cognitive, and emotional effects of uncontrollability.” (Maier & Seligman, 1976, p. 3). Once an individual learned that he is helpless and has no control during a shock-triggering situation, he will behave helplessly in following shock situations even though the individual is not totally helpless and actually has control. Maier and Seligman (1976) concluded that three domains are affected: a) the motivation to respond to future shock situations declines, b) the ability to learn (cognition) to apply remedies in future shock situations declines, and c) the emotional balance can be disturbed (depression and/or anxiety).

Regarding entrepreneurship, the learned helplessness theory has two important implications. First, Maier and Seligman (1976) found that learned helplessness is generalizable (global) and not necessary bound to one situation (the triggering situation in which the individual learns

helplessness). For example, a victim of street crime (e.g., robbery at gunpoint) might display abnormally high levels of passivity at the workplace, although both situations are unrelated. This condition might be stabilized over time for some individuals. The field of psychology could not conclude what causes generalization or stability over time and why some individuals are more prone to generalization or stability over time than others. Second, individuals who heavily rely on a stable environment are rather inclined towards learned helplessness (Bauer, 2008). In other words, the Organization Man and the Soviet Man are, when faced with a situation without contingency between response and outcome, would be more likely to learn that control is not possible and therefore cease trying to control the situation.

Entrepreneur in Transition Economy

The sharp contrast between the Organization Man or his Eastern Bloc brother, the Soviet Man, and the entrepreneur becomes apparent during the transformation process of Eastern European economies following the collapse of the Soviet Union in 1991. Russia in particular is an excellent example of a transformation economy where the process caused the economic paralysis of almost its entire population. A few people that stayed active were able to seize vast parts of the Soviet Union's production facilities during the privatization process and amass enormous financial fortunes. The common notion was:

“[T]he entrepreneurs were often called ‘new robber barons’ or, more simply, ‘robbers.’ Their success was chalked up either to the dubious support of a Russian Mafia or to less violent but equally pervasive government corruption, ... wealth built on the backs of exploited and befuddled Russian workers tricked out of their heritage during the time of mass privatization of State-owned properties in the early 1990s.” (Kets de Vries, Shekshnia, Korotov, & Florent-Treacy, 2004, p. 638).

Entrepreneurial Archetypes

The term ‘entrepreneur’ itself encompasses many different activities. Depending on their goals and what drives them, entrepreneurs may focus on entirely different activities. An entrepreneur might be driven by greed, social status, financial security, adventure, social injustice, the urge to build, to prove himself or sometimes even hate or revenge.⁴ These differing motives and the entrepreneur’s environment are responsible for the many forms, shapes and shades of entrepreneurs. The literature has identified several entrepreneurial archetypes in accordance to what entrepreneurs actually do and subsequently what kind of firms they forge (level of innovating; size, stability, growth, aggressiveness and flexibility of the firm). Table 1 gives an overview about entrepreneurial archetypes.

⁴ For a theoretical foundation of anger as a motivator see (Fehr & Fischbacher, 2004; Fehr & Gächter, 2000). For illustrations of entrepreneurs who founded companies out of anger or hate see McGregor, Hamm and Kiley (2007). Terry Garnett is a good example of an entrepreneur whose main motivator is a negative feeling towards Oracle founder Lawrence Ellison. Garnett was an executive at Oracle and was fired personally by Ellison. Garnett perceived the circumstance of his being fired by Ellison as unjust. After he was forced out, he founded a new firm to compete with Oracle.

Table 2-1: Entrepreneurial archetypes

Archetype	Authors	Description	Specification of the firm
Craftsman Entrepreneur	Lafuente & Salas, 1989; Smith, 1967, Smith & Miner, 1983	The entrepreneur has low levels of confidence and little flexibility, focuses on the past and present and less on the future, but has a specialized technical education. This is one of Smith's (1967) two entrepreneurial archetypes, the other being the Opportunistic Entrepreneur.	The firm is small; growth is slow; risk is avoided and a firm aims for stability.
Family oriented Entrepreneur	Lafuente & Salas, 1989	This entrepreneur seeks a stable income, he is risk averse and has a low preference for performance, sales growth or high profitability. He does not receive extensive formal education but often is experienced. The trigger of founding a firm is often dismissal from another organization.	The firm tends to be stable; growth is realized if seen as low risk.
Manager Entrepreneur	Lafuente & Salas, 1989	The entrepreneur often does not found the firm himself but obtains ownership through inheritance. Entrepreneurial experience is obtained by observing parents. Orientation towards performance, profitability and sales growth is high.	The firm is often of average size and flexible.
Opportunistic Entrepreneur	Smith, 1967; Smith & Miner, 1983	This type of entrepreneur is highly educated, identifies with management and has a broad network. His focus is on the future and he is likely to make decisions that encourage innovation and change.	The firm is often driven by growth and performance. Preference for innovation and change dominates the firm's culture.
Risk oriented Entrepreneur	Lafuente & Salas, 1989	He displays a high level of education but little has experience as an entrepreneur; most of his experience before founding the firm is made in larger firms or observed from his parents. He is future focused and is driven by performance, profitability and sales growth.	The firm tends to be small and operates rather aggressively.

Archetype	Authors	Description	Specification of the firm
Technical Entrepreneur [1], Independent Innovators [2]	[1] Kets de Vries, 1977 [2] Vesper, 1990	He has work-experience in high-tech firms or university, with above average education.	The firm is on the forefront of innovation, taking high risks. The firm is founded out of the drive to develop an invention/innovation, often invented by the owner.
Solo self-employed Entrepreneur	Vesper, 1990	The entrepreneur seeks a stable income generated in the most part by himself.	The firm is limited to the founder with no or a few employees, for example, Mom'n Pop operators, high-hourly-rate professionals, or trades people.
Deal-to Dealer	Vesper, 1990	The entrepreneur seeks a high growth rate by taking high risks and operating the firm with a certain level of aggression. He is a serial and portfolio entrepreneur and is highly experienced in founding and growing firms. The goal is to generate quick positive revenues to increase the market value of the firm.	The firm often focuses on products that allow quick turnover and short development-to-market periods. Risk levels are high and growth rates in both revenue and employees are actively sought after.
Team Builder	Vesper, 1990	The entrepreneur is seen as charismatic, with an ability to attract and motivate able employees. He is driven by an urge to build a larger firm.	The firm aims at stable growth, with a large number of employees.
Pattern Multiplier	Vesper, 1990	The entrepreneur uses a proven business concept, or an effective business plan, and multiplies it. Risk avoidance is compensated by a strong drive for action.	The firm is not innovative and does not score high in risk taking.
Economy-of-scale Exploiter	Vesper, 1990	The entrepreneur possesses a merchant mindset that becomes apparent in the process of building the venture on price competition rather than product innovation. He seeks lower costs in the supply chain (lower rent, tax, reduction of service, cheaper supplier, and others) in order to produce a proven product/service to a lower price.	The firm often operates in mature industries with proven business plans.

Archetype	Authors	Description	Specification of the firm
Capital Aggregators	Vesper, 1990	The entrepreneur scores high in social intelligence. He uses his ability to trigger feelings of trust, in order to pull together financial resources so that he can operate ventures in the banking or insurance sector.	The firm focuses its activities within the financial sector.
Acquirers	Vesper, 1990	Acquirers are individuals who become entrepreneurs by acquiring a running firm by heritage or purchase.	The firm can have any size, growth pattern, or level of risk taking.

For a more comprehensive view, the entrepreneurial archetypes can be grouped into the following three classes:

Class A: The firms in this class are small; growth rates are low; risk is avoided. The firms have little drive and do not take an aggressive stance in the market. The entrepreneur's aim is to 'get along' and to provide a stable income for herself and/or family members. Entrepreneurs that fit in this class are the *craftsman entrepreneur* (Lafuente & Salas, 1989; Smith, 1967; Smith & Miner, 1989) the *family oriented entrepreneur* (Lafuente & Salas, 1989), the *economy of scale exploiter* (Vesper, 1990) and the *solo self-employed entrepreneur* (Vesper, 1990).

Class B: The firm is small to mid-sized, the growth rate is high but preferably stable, and risk is avoided. The firm is more flexible than class A. Innovation is not an issue for those firms, but the level of activity in the market is very high. Entrepreneurs in this class are *team builders* (Vesper, 1990), *pattern multipliers* (Vesper, 1990), *capital aggregators* (Vesper, 1990), and *manager entrepreneurs* (Lafuente & Salas, 1989).

Class C: The firm takes extraordinarily high risks, it operates very aggressively in the market, and is oriented towards high growth rates. The size of the firm is initially small. The firm often evolves around a new idea or technology/innovation. The entrepreneurs in this class are the *opportunistic entrepreneur* (Lafuente & Salas, 1989), the *risk oriented entrepreneur* (Lafuente & Salas, 1989), the *technical entrepreneur* (Kets de Vries, 1977), the *independent innovator* (Vesper, 1990), and the *deal-to-deal maker* (Vesper, 1990).

A further archetype, the *acquirer* (Vesper, 1990) can occur in all three classes. He buys or inherits an existing firm, which might belong to any of the three classes.

Besides classifications based on the entrepreneur's activities, the literature attempted to classify entrepreneurs according to psychological criteria. One of the more popular typologies by Miner (1997) separates four types:

The personal achiever type: A person with this psychological condition centers himself in the middle of his world and strives to be recognized. Miner (1997) identifies ten inherent characteristics that describe this type in more detail. He is motivated by [1] self-achievement as described by McClelland (1961) or Atkinson and Raynor (1974), is a [2]

Type A Personality⁵ (Friedman & Rosenman, 1974), has a strong [3] desire for feedback on achievements, [4] desire to plan and set goals for future achievements, develops a [5] strong personal initiative, has a [6] strong personal commitment to his venture, has a [7] strong desire to obtain information and learn, has an [8] internal locus of control (Rotter, 1966, 1990), has a [9] high value placed on careers in which personal goals, individual accomplishments, and the demand of the work itself govern, and has a [10] low value placed on careers in which peer groups govern.

The real manager type: Corporate managers and entrepreneurs seem to operate in many cases according to very distinctive psychological constructs. Stewart et al. (1999) found, for example, that the U.S. corporate manager is more likely to score lower in achievement motivation, has a lower risk-taking propensity, and has a lower preference for innovation than the entrepreneur. Similar findings were made for the differences between Japanese managers and entrepreneurs earlier (Ohe, Honjo, & MacMillan, 1990). Furthermore, managers and entrepreneurs differ in their value system (Fagenson, 1993) and how they make strategic decisions (Busenitz & Barney, 1997).

In despite of the differences, the psychological mindset of managers and entrepreneurs might also have a common intersection. Especially when the enterprise reaches a larger size, the entrepreneur has to take up more and more managerial and administrative tasks. Miner (1997) theorizes that some

⁵ Originally developed to determine risk factors for heart disease, Type A Personalities describe individuals that constantly are exposed to stress, following their perpetual drive to move. They eat and walk fast, are impatient, and are highly competitive. Type A Personalities are opposed by Type B Personalities, which are relaxed, calm and patient.

entrepreneurs are specifically motivated to pursue an entrepreneurial career because of its managerial function in the later growth stage of the enterprise. He identifies 13 different components that describe the real manager type among entrepreneurs: he scores high in [1] supervisory ability, has [2] a strong self-assurance, has [3] a strong need for occupational advancement as well as [4] a strong need for self-actualization. He further has [5] a weak need for job security, has [6] a strong personal decisiveness, has [7] a positive attitude toward authority, [8] a desire to compete with others, [9] a desire to assert himself, and [10] a desire to exercise power. Moreover he has [11] a directive in cognitive style⁶, [12] a desire to stand out from the crowd, and [13] a desire to perform managerial tasks.

The expert idea generator type: This generic entrepreneurial archetype draws great satisfaction in solving technical problems. Power has no motivating role for this entrepreneur, unlike the two previous ones. Miner (1997) describes five psychological characteristics that fit this archetype: [1] Desire to personally innovate, [2] conceptual in cognitive style (which describes high flexibility, a concern for other's views, and constant seek for new ideas - commonly known as open minded), [3] the belief in new product development as a key element of company strategy, [4] high intelligence, and [5] a desire to avoid taking risks. It is noteworthy that this is the only entrepreneurial archetype that is actually risk averse. The enterprise is merely a vehicle to generate and tinker with new technologies.

⁶ Directive in cognitive style describes the tendency to dislike democratic decision making within companies. A person that scores high in directive cognitive style prefers structured and organized settings, with a strict hierarchy and clear responsibilities.

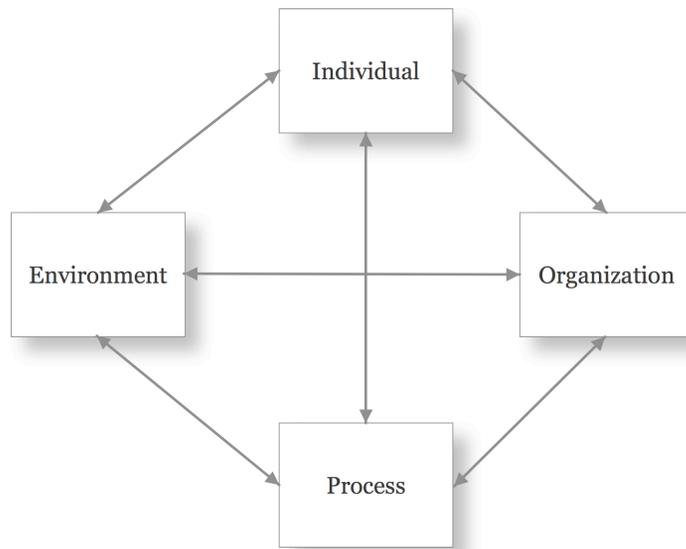
The empathic super-salesperson type: This archetype builds his enterprise on his ability to sell. He appeals to his customers' needs and offers products or services that fulfill those needs. The firm is streamlined towards its external appearance. Miner (1997) lists five determining characteristics: [1] empathic in cognitive style, which describes a 'people person' but with very little tolerance for interpersonal conflict or difficulties. Furthermore, they score high on the [2] desire to help others, have a [3] high value attached to social processes, a [4] strong need for harmonious social relationships, and a [5] firm belief in the sales force of the firm as a key element of the firms strategy.

Framework of Venture Creation

The above-mentioned attempt to describe the entrepreneur made clear that the central and most essential part of entrepreneurship is a certain degree of dynamism. At least at the beginning of an entrepreneurs' career, his actions are marked by a drive for change, activity, progress, and even vigor. Gartner (1985) captured this very moment of action and theorized a framework for venture creation. According to Gartner, whether an entrepreneur acts (as an entrepreneur) depends on four variables (Figure 1): individual, environment, organization, and process. The variable 'individual' refers to psychological characteristics that are idiosyncratic for entrepreneurs: need for achievement, locus of control, and a willingness to deal with risk. It also refers to non-psychological factors, such as the entrepreneur's education, professional experience and age. In short, it refers

to the willingness and ability to start and run a new firm. The variable 'environment' describes factors that have an impact on the entrepreneur and his venture, but which cannot be influenced by the entrepreneur himself. Such factors are the political system, government induced support systems, regional clusters of firms, family support, or economic conditions. The variable 'process' covers the actual sequence of creating a venture. Gartner summarized the until then available literature and identified six steps: locating of a business opportunity, accumulation of resources, marketing the product or service, producing the product or service, building an organization around the product, and responding to government and society. With the variable 'organization' attempts Garter to make the reader aware of the fact that most studies on entrepreneurship assume that all entrepreneurs operate the same organizational structure. Differences in the type of organization are per assumption ignored. Service firms and manufacturing firms are treated alike; differentiations between sectors (e.g., farming or management consulting) are not made. This argument is still valid today. The majority of studies operate with aggregated data across varying industries and organizational forms. Gardner argues that the type of organization strongly depends on market entry strategy, overall strategy, and industry. The type of organization in turn has a major impact on venture creation.

Figure 1: Framework for Venture Creation (Gartner, 1985, p. 702)



Framework for Entrepreneur Analysis

To build a body of knowledge about and to analyze the entrepreneur as an individual, it is necessary to cover three domains of knowledge that cover the questions of why, how, and what.

First: know-why. An entrepreneur is an entrepreneur because he behaves like an entrepreneur. This seemingly trivial statement is in fact the most complex of the three domains of knowledge. The majority of the literature generated in the field of entrepreneurship is dedicated to the question of why an entrepreneur behaves as an entrepreneur. It refers to the willingness of an individual to engage in entrepreneurship, his attitudes, value system, and motivation.

Second: know-how. This domain covers the ability of an entrepreneur to enter and stay in an entrepreneurial career. It answers the question of whether an individual possesses the necessary skill set or

sufficient knowledge in the industry. It also refers to an entrepreneur's network. To a large extent, an entrepreneur's success depends on his network and the necessary social skills to extend and to exploit this network to grow a venture. Furthermore, it addresses the intuition of entrepreneurs for the right timing of action.

Third: know-what. This domain deals with the knowledge of entrepreneurs that is determined by educational background, interests, and past experience.

Entrepreneurial Intent

Entrepreneurs usually do not start a business because they only want to be entrepreneurs. Entrepreneurship is merely a vehicle to achieve a goal. The entrepreneur is either pushed (necessity driven) or pulled (opportunity driven) into entrepreneurship caused by factors in the entrepreneur's environment. The step into entrepreneurship is preceded by a planning process during which (and even before) the future entrepreneur forms or changes his attitudes and develops an intention. The entrepreneurship literature (e.g. Krueger, Reilly, & Carsrud, 2000) works generally with the assumption that this step of an individual into entrepreneurship is the result of intentional, planned behavior. It would be otherwise difficult to imagine that a person becomes an entrepreneur overnight, without displaying any signs before. A single event, such as lay-off, or a government incentive program, might be the last straw that breaks the camel's back and acts as a trigger, but it is not a sufficient explanation. Usually individuals develop the idea of being an entrepreneur long before the triggering event. Therefore

stimulus-response models are less suitable to explain entrepreneurial intention. Although, it has to be acknowledged that in transition economies the time between developing the idea and actually founding a venture might be significantly shorter than in developed economies.

The field of social psychology regards attitudes and intentions as splendid proxies to predict behavior. Several popular models have been developed to predict behavior out of attitudes and intentions: the theory of reasoned action (Fishbein & Ajzen, 1975), and its updated version, the theory of planned behavior (Ajzen, 1985, 1991), and the MODE model (Fazio, 1990; Olson & Fazio, 2009). Especially with the entrepreneur in mind, Spapero and Sokol (1982) proposed the model of entrepreneurial event. Those classic models of intention, however, build on a linear relationship: a set of personal and situational factors is filtered through social norms and lead to a person's intentions. Elfring (Elfring, 2008; Elfring, Brännback, & Carsrud, 2009) proposed a dynamic model: the contextual model of entrepreneurial intention. The model takes it into consideration that entrepreneurs change over time and that their goals, motivation, behavior, perception, and self-efficacy adapt as the entrepreneur progresses in his career. None of the examined models, however, account for changes in social norms as they occur during transition periods. All models assume a stable environment of social accepted norms and values. The models are therefore of rather limited explanation power regarding the intention of entrepreneurs in transition economies.

Entrepreneurial intent is therefore treated in this study as *a posteriori* observation. Only if an entrepreneur actually and measurably attempted to start a firm, he is treated as having had the intention to start a business.

Individual Attributes of Entrepreneurs

Decisive in explaining entrepreneurial activity and predicting measurable entrepreneurial outcome, namely the expressed intention to become an entrepreneur and the success as an entrepreneur are not only societal institutions (Acs, Desai, & Hessels, 2008) but also individual level factors. In the following is the main literature on attributes of entrepreneurs reviewed.

Personality

Personality as “a characteristic way of thinking, feeling, and behaving” (Holzman, 2012) seems to have an outstanding impact on a person’s decision to pursue an entrepreneurial career. Entrepreneurial research focuses on personality traits that help to explain and classify relatively stable human psychological characteristics. Thus characteristics are often formed very early in life and determine stable attitudes and patterns of behavior.

Despite a broad consensus in the literature that certain personality traits are decisive for a successful career as entrepreneur, researchers could so far not agree on an order of traits (which traits are more dominant in predicting the success of entrepreneurs). Moreover, scholars are divided on how to measure these traits.

An early popular psychological model that was used in the field of entrepreneurial research was McClelland's Need Theory. Within the theory the Need for Achievement (n-Ach) (McClelland, 1961) received special attention. McClelland's argument is that people are motivated by achievement and driven by an urge to build. Despite its popularity, Need for Achievement to this day remains only a theoretical trait due to the difficulty of measuring it.

A further highly scrutinized trait is the ability to be comfortable with risk. Early studies by Liles (1974), Kilby (1971), Palmer (1971), Broehl (1978) or later Lüthje and Franke (2003) suggested that entrepreneurs display a high tolerance to risk exposure compared to the general public.

Collins and Moore (1970; 1964) added more personality traits to the discussion by arguing that the entrepreneur is stereotypically tough, extremely opportunistic, and pragmatic. The entrepreneur is "characterized by an unwillingness to 'submit' to authority" (Collins and Moore, 1964, p. 64) and driven by "motivation bordering on obsession" (Collins and Moore, 1970, p. 15). The difficulty to find out the relevant personality traits of entrepreneurs became eminent when scholars reached in the mythology box to describe the entrepreneur's personality. So stated Bird (1989) that the typical entrepreneur resembles Mercury (the god of trade and merchants in Roman mythology): "crafty, deceiving, ingenious, and suddenly and magically present. He is known for his resourcefulness, nimbleness, subtle cunning, and in his role as messenger ... is articulate and important to the conduct of affairs. His attitude is ironic and unsentimental." (Bird, 1992, p. 207). Coopel, Woo, and Dunkelberg (1988) described the entrepreneurial

personality as very optimistic, often enthusiastically over-optimistic about their business even when they know that they are very little prepared for running the business itself. Busenitz and Barney (1997), examining the differences between managers and entrepreneurs, found that entrepreneurs tend to be "overly optimistic in their initial assessment of a situation" (p. 15) and "generalize about a person or a phenomenon based on only a few attributes of that person or only a few observations" (p. 16). This over-confidence and over-generalization enables entrepreneurs to speedy decisions and timely action. Stuard and Abetti (1990) focused on energy level, autonomy, risk taking, and social adroitness and found that entrepreneurs score significantly higher on these traits than managers.

By scanning the literature on entrepreneurial personality traits Göbel and Frese (1999) identified 29 personality traits that seem of interest for successful entrepreneurs: general authoritarianism, reward gratification, need for dominance, extraversion, covering mistakes, tolerance for failure, mistake handling, learning from mistakes, action-orientation during action-planning, action-orientation after failure, higher order need strength, self-determination, interest in innovation of work, identification with work, internal control, motivation to perform, Machiavellianism, optimism, orientation to planning, psychosomatic affliction, rigidity, readiness to assume risk, self-esteem, self-efficacy, stress tolerance, tinkerer, willingness to change place of work, willingness to change profession, and rejection of responsibility.

A popular personality assessment model used in entrepreneurship research is the Big-Five Model. The model is the outcome of several

decades of research in the field of psychology dating back to Fiske's (1949) approach to describe personality in several dimensions that make personality measurable and comparable. Over the following decades researchers developed five dimensions (Digman, 1990) that make up the Big Five Model (Robbins & Judge, 2011): extraversion, agreeableness, conscientiousness, emotional stability, and openness to experience. The model received high attention and attracted plenty of empirical studies. Zhao and Seibert (2006) reviewed 23 empirical studies and found strong support for the hypothesis that entrepreneurs have a unique personality. This was also confirmed in later studies (Sorgner, 2012). Entrepreneurs score continuously lower on agreeableness and higher on conscientiousness, emotional stability, and openness to experience than managers. Ciavarella et al. (2004) explored the relationship between the Big Five personality traits and business success, which they defined as staying in business for eight years or longer. They found that high scores on conscientiousness and openness to experience are positively related with business success. Emotional stability, agreeableness, and extraversion, although being distinctly different for entrepreneurs and non-entrepreneurs, had no relation with business success.

It is important to note that people with entrepreneurial intent and actual entrepreneurs display similar personality traits (Brandstätter, 1997; Obschonka, Silbereisen, & Schmitt-Rodermund, 2010). Empirical evidence shows that traits are stable over time from childhood to mid adulthood (Stuetzer, Obschonka, & Schmitt-Rodermund, 2012). Schoon and Duckworth (2010), for example, reported that entrepreneurs display higher

scores of boldness, extrovertness and preference of being with others from childhood on.

Nevertheless, an earlier study (Littunen, 2000) found that personality traits change when an individual actually becomes an entrepreneur and progresses through different stages of entrepreneurship. The traits examined by Littunen were not exactly corresponding with the Big Five traits, but it hints that differences may exist between certain measures. Littunen dissected the characteristics ‘achievement motivation’ and ‘locus of control’ in 6 measurable dimensions: work ethic, pursuit of excellence, mastery, dominance, chance and powerful others. He found that only ‘dominance’ was a stable dimension over time. All other dimension changed as the entrepreneurs progressed through different stages of their venture.

A further popular approach to explain the occupational choices of individuals is the personality-job fit theory (Holland, 1973). Personality-job fit theory takes into consideration eight factors that determine a person’s personality traits (self-concepts, perception of environment, values, achievement and performance, differential reaction to environmental rewards, preference for occupation and occupational role, coping style, and personal traits). The personality traits or characteristic dispositions are responsible for a person’s occupational choice. Holland (1973) suggests six personality types (figure 2).

Table 2-2: Personality-job fit archetypes

Personality type	Characteristic	Example profession
Realistic type	Lack of social interaction skills, prefers practical solutions over theoretical concepts, values money, status, power	Miner, mechanic
Investigative type	Prefers scientific approaches, intellectually self-confident, scholarly.	Journalist, biologist
Artistic type	Avoids conventional settings, values esthetic qualities, original and nonconforming.	Musician, painter, comedian
Social type	Outstanding social interaction skills, values social and ethical activities and problems, prefers linking to others.	Teacher, doctor, social worker
Enterprising type	Perceives himself as aggressive, popular, self-confident, sociable, good speaker, leadership ambitions, values political and economic achievement.	Small business manager, lawyer
Conventional type	Conforming, orderly, possess clerical and numerical skills, prefers conventional, proven approaches, values business and economic achievement.	Lower level civil servant, secretary, accountant

It is important to note that Holland (1973) assumes that the personality types “[...] represent common outcomes of growing up in our culture” (p. 13). Although personality develops out of individual heredity components, activities, interests, competencies, skills and so on, the environment in which a person operates has a decisive impact. The environment is foremost determined by a certain culture. However, the environment shapes an individual’s personality also through its formal institutions: school, home, family, or workplace, which in turn has an impact on informal institutions (e.g., friendships).

That suggests that the representation of the personality type differs not only across cultures, but also across countries with differing formal institutions. East and West Germany shared a similar culture but differed sharply in the layout of their formal institutions.

Table 2-3: Empirical studies about personality traits of entrepreneurs

Authors	Measured trait	Instrument	Data	Finding
Stuard & Abetti, 1990	Energy level, autonomy, risk taking, social adroitness	Personal interview	52 firms (and their founders)	Compared measured traits to managers and found that entrepreneurs score significantly higher on all traits.
Brandstätter, 1997	Norm orientation, emotional stability, independence, rationality and extroversion	Questionnaire (adjective rating scale)	171 founders, 114 heirs, 111 aspiring founders, 51 managers	The personality structures of a founder and an aspiring founder are similar.
Littunen, 2000	Work ethic, pursuit of excellence, mastery, dominance, chance, internal, and powerful others	Interview and follow up interview after 4 years	123 firms	Dependent variable trait, independent variable: whether being an entrepreneur influences one's trait. Being an entrepreneur alters the trait.
Lüthje & Franke, 2003	Risk taking propensity	Questionnaire	512 MIT engineering students	Students that score high in risk take propensity are more likely to express entrepreneurial intent.
White et al., 2004	Risk taking propensity	Testosterone level	31 students with prior entrepreneurial experience and control group	Entrepreneurs display higher levels of testosterone (responsible for aggressive and risky behavior) than non-entrepreneurs.

Authors	Measured trait	Instrument	Data	Finding
Ciavarella et al., 2004	Big Five	Questionnaire	111 individuals who ran a business (57 ran business for > 8 years, 54 less than 8 years)	Conscientiousness and openness to experience is positive related to business success (business survival for > 8 years); emotional stability, agreeableness and extroversion are not related to business success.
Obschonka et al., 2010	Big Five	Questionnaire (adjective rating scale)	496 scientists	Individuals with entrepreneurial intentions scored closely to the archetypical entrepreneur in the Big Five model; individuals who displayed entrepreneurial intent at the age of 14/15 are likely to display entrepreneurial intent later in life (stable over life-span).
Schoon & Duckworth, 2010	Boldness, Extrovertness, Preferring to be with others	Survey	Longitudinal study of 16000 British individuals from birth to age 34	Entrepreneurs display continuously higher scores on boldness, extrovertness and preference of being with others from early childhood to age 34.
Obschonka et al., 2012	Entrepreneurial personality profile over time	Survey, questionnaire	Data from studies of (Schoon & Duckworth, 2010) and (Obschonka et al., 2010)	Entrepreneurial personality stable over time (childhood to mid adulthood).
Sorgner, 2012	Big Five	Self-report	German census data, SOEP	Entrepreneurs' personality differs from non-entrepreneurs.

Authors	Measured trait	Instrument	Data	Finding
Owens et al., 2012	Adaptability, Autonomy, Competitiveness, Dependability, Emotional Resilience, Goal-Setting, Optimism, Persistence, Risk Tolerance, Self-Promotion, Networking, and Tolerance for Financial Insecurity, Work-Based Locus of Control, and Work Drive	Self-assessment test	147 small business owners in US	Personality traits correlate with the success of business.

Education

The literature on the effect of formal education on the intent and success of entrepreneurial activities seems to be divided into two major camps. One side is defending the argument that too much formal education hinders the willingness to take risks and is an impediment to the naïve and childlike envision of great ideas that drives some entrepreneurs to build truly society changing enterprises. This camp is largely founded on theoretical models with only sporadic evidence or selected qualitative evidence. Indeed, some of the great entrepreneurs have not received much formal education: John D. Rockefeller of Standard Oil, Andrew Carnegie of Carnegie Steel, Lawrence Joseph Ellison of Oracle, William Harry Gates of Microsoft or Steven Jobs of Apple. They did not focus on acquiring formal education (Ellison, Gates, and Jobs never completed a B.A. program); instead they channeled their attention towards the creation of successful companies. Lazear (2002) supports this view by stating:

“Entrepreneurs are individuals who are multi-faceted. Although not necessarily superb at anything, entrepreneurs have to be sufficiently skilled in a variety of areas to put together the many ingredients required to create a successful business. As a result, entrepreneurs tend to be more balanced individuals. When students, those who will become entrepreneurs are predicted to have more uniform grades and test scores across fields than those who end up being specialists and working for others”. (p. 34)

In order to climb the academic ladder (getting admission to good colleges, programs, graduate schools, scholarships and so on), one has to usually be good at something, preferably the chosen field of study. Generalists who cover many different fields are usually forced out of the system of formal education. If those individuals are ambitious, motivated, and intelligent, becoming an entrepreneur is a preferred option to develop a career - either education or entrepreneur (Fallows, 1985).

The other side is entrenched with the opinion that the majority of entrepreneurs need formal education to run their business, some professions require legally a degree to operate in a certain field, e.g., attorneys, electrician, or financial advisors. This view is solidly supported by large body of empirical evidence (Bates, 1985; Dickson, Solomon, & Weaver, 2008; Tortella, Quiroga, & Moral-Arce, 2011).

Table 2-4: Empirical studies about the educational background of entrepreneurs

Authors	Variable	Data	Finding
Tortella et al., 2011	education level	Spanish and British entrepreneurs, 2350 observations	Formal education has a positive impact on entrepreneurial success
Cowling, 2000	education level	15800 entrepreneurs in the EU	In Southern EU countries, formal education decrease the likelihood of becoming an entrepreneur, while in Northern EU countries, formal education increases the likelihood of becoming an entrepreneur
Bates, 1985	years of education	20 964 minority entrepreneurs in the US	Years of education are positively related to financial success of entrepreneur
Dickson et al., 2008	education level	Meta-analytic review of previous publish studies	Level of education is strongly related to entrepreneurial success, but is weakly related to entrepreneurial intent
Colombo et al., 2004	years of education	391 start-up firms in Italy	Years of education of the founder is positively related to the initial size of the start-up
Colombo et al., 2004	education level	380 nascent entrepreneurs	Formal education is positively related to attempt to start a business but is not related to the success of the start-up
Baumol et al., 2009	education level	Historical study of 560 biographies of high profile entrepreneurs from 18th to 20th century	Superstar entrepreneurs received on average a higher level of education than the general public
Mondragón-Vélez, 2009	education level	US panel data 1989-1994(Panel Study of Income Dynamics survey)	Average entrepreneur received higher level of education than average employee, but great differences were found across industries
Blanchflower, 2000	level of education	Eurobarometer Surveys (EU data set), International Social Survey Programme data set, General Social Surveys data set (US), Consumer Finances data set (Canada)	Self-employed are likely to be either significantly over the average educated or significantly below average educated

Authors	Variable	Data	Finding
Bergmann & Sternberg, 2006	level of education	German data set of the Global Entrepreneurship Monitor (1999 - 2005)	A higher level of education has a positive influence on entrepreneurial propensity

Critique

While the entrepreneurship literature engages in the question as to whether formal education benefits or hinders an entrepreneurial career, it should be noted that there is great confusion about the term ‘education’ itself. The word is used with varying underlying assumptions, often unclear or even ill-defined, and even then it seems that it is often not understood what education in fact is. The result is that authors at times argue at cross-purposes. An example is the articles of Cressy (1996) and Harada (2003). Cressy argued that “human capital is the 'true' determinant of survival” of new ventures (p. 1253). He backed his argument with a large data set of UK entrepreneurs. Harada refutes Cressy’s results, by stating that human capital is not related to a venture’s success. He backed up his claim with an analysis of a large data set of Japanese entrepreneurs. Three points that are representative for the entrepreneurship literature on education are to mention. First, Cressy and Harada define human capital differently. For Cressy, human capital is a function of age, education and experience, while Harada defines human capital as a combination of age, education, experience and previous occupational status. Second, education, as substantial part of human capital, has a different theoretical background. Harada works with the underlying assumption that education adds to a

person's human capital in the sense of Becker's (1962, 1964) Human Capital Theory, namely that education adds to a person's productivity. Cressy assumes that education functions as a signal, which tells investors that the founder might have a certain understanding of his field. In this case, education does not add to human capital in the sense of Becker's Human Capital Theory. It is rather consumption⁷. Third, whether education can be used as a valid signal depends on the specific educational system. Each country has its own educational system, which often differ significantly. Therefore uncontrolled comparisons across countries are not valid. The education system of the United Kingdom differs from the Japanese education system. It is therefore necessary to attempt a clarification about what education actually is with respect to entrepreneurship and to introduce the distinction between education as consumption and education as production.

A Theory of Education of Entrepreneurs

The majority of the entrepreneurship literature works with the underlying assumption that education adds to a person's productivity. This notion goes back to Becker's (1962, 1964) Human Capital Theory. Becker argues that education can be seen as part of the production function of an individual. This would add to a person's pool of skills and his productivity would increase. The theory was developed with the labor market in mind. Therefore would an employee who received more education be more productive than an employee with less education? The employer would

⁷ The same mechanism can be applied to status symbols. For example fancy business and academic titles dose not make a person smarter. But he appears to be more successful.

recognize this and the employee with more education would receive a higher wage and be promoted faster. The theory serves as an explanation of the wage gap between people of differing education levels.

Translating this approach into an entrepreneurial setting would mean that entrepreneurs with more education are more successful because they are more productive. The average entrepreneur with a university degree would make better decisions, attract more customers and better employees, have better products and so on, than the average entrepreneur with only a high school diploma. The theory is coherent for explanations regarding already and firmly established firms on the market. Explanations regarding new start-ups cannot be conclusively justified. An entrepreneur in the pre-start-up or start-up phase mainly sells a vision. He needs to convince employees, investors, family members and other future stakeholders to spend their time and resources, or bear opportunity costs.

Stakeholders of a firm extrapolate from the firm's past performance. In the case of a newly found start-up, stakeholders have no possibility to take a firm's past performance into consideration by predicting a firm's future. Therefore, stakeholder would judge the start-up mainly by the observable personal attributes of the entrepreneur, such as age, education, or experience.

The idea that education might have the function of a filter, besides advancing an individual's skill, was already described by Young (1976, first published in 1958) or Peter and Hull (1969), although those early authors were more concerned with the question as to whether resources of education are optimally allocated.

Nevertheless, Becker's Human Capital Theory (Becker, 1964) and his idea that training and education is an investment in human capital was the prevalent economic explanation for education. In the early 1970s, Akerlof (1970) introduced the concept of asymmetric information in markets. This theory was taken up by Arrow (1973), Spence (1973), and Stiglitz (1975) and facilitated to advance or challenge Human Capital Theory. The theories have been developed out of the field of labor economics and aim to explain the relationship between employer and employee with regards to education. Nonetheless, this theory can be applied to theorize entrepreneur - stakeholder relationships.

Signaling

Spence's basic assumption is that employers see hiring of new employees as an investment under uncertainty. "In most job markets the employer is not sure of the productive capabilities of an individual at the time he hires him" (Spence, 1973, p. 356). Spence uses the term "lottery" to describe the process. The employer has no possibility to observe the quality of the potential employee directly. The marginal product is unknown. Directly observable are only characteristics and attributes of the individual. The observable attributes were sorted into two categories: immutably fix and alterable. Spence named the unalterable attributes indices (e.g., race, sex) and the alterable attributes signals (e.g., education). Since potential applicants cannot do anything about indices, the subject of manipulation is signals. Job applicants can make adjustments and that usually generates costs, e.g., the costs of a college degree. Spence named these costs signaling

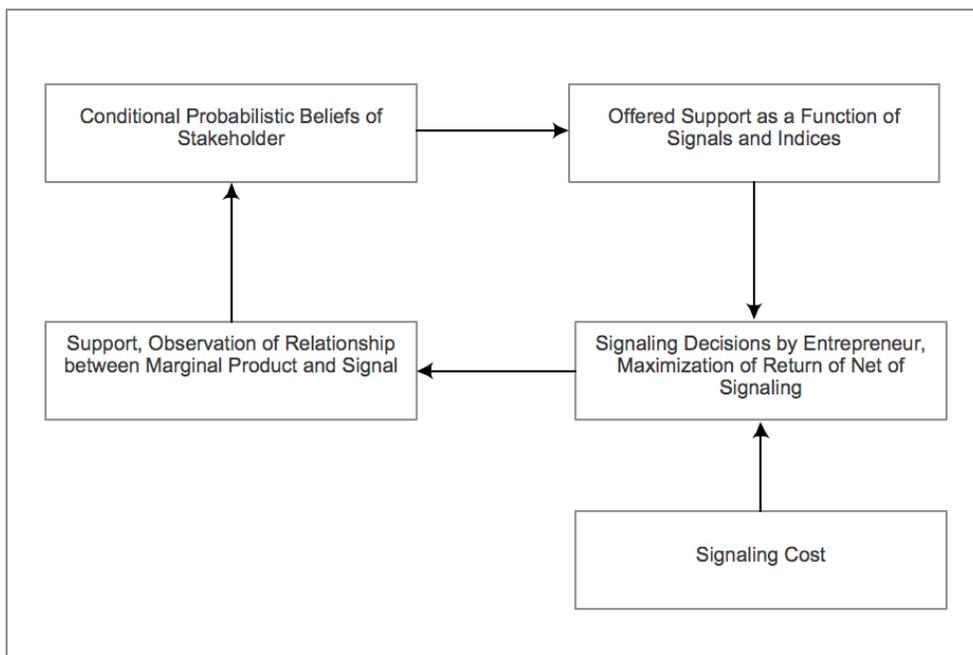
costs. The cost of signaling played a main role in Spence's argumentation. He assumed on the one hand that the applicant is striving to maximize the difference between offered wages and signaling costs and on the other hand that signaling costs are a measure for the reliability of the signal itself. These two assumptions cannot stand alone. If they did, there would be a problem with uniformity. Applicants could not be distinguished from each other because they invest the same amount of money in the same signal. The assumption Spence makes in order to solve this problem is that the costs of signaling must be negatively correlated with productivity.

Applying this mechanism to the market for entrepreneurial support would only need slight adjustments. Entrepreneurs cannot alter their indices - at least not in the short run. Entrepreneurs are therefore limited to the manipulation of alterable attributes - signals. It can be assumed that entrepreneurs aim to appeal to potential various stakeholders with similar signals. Entrepreneurs would try to convince potential investors and employees with something that instills the necessary belief that the venture will succeed.

Figure 2 shows the signaling process and its determinants. The signaling decision of the prospective entrepreneur is influenced by the costs of the signal and the probable returns (profit, value of the venture) the entrepreneur may receive in case his firm attracts stakeholder support successfully. Furthermore, the support stakeholders offer is determined by the stakeholders' past experience and is therefore derived from expectations. With every completed circle is the process gravitating closer towards a signaling equilibrium. All participants in the process learn: entrepreneurs

lean to use the right signals, and the stakeholders learn to interpret the signals with more success.

Figure 2: Signaling costs and informational feedback circle in the market for entrepreneurial support



Filter

Based on the idea of Spence, Arrow presented his model. What Spence named Signaling Theory was now advanced to Arrow's Filter Theory. Arrow started from a similar point as Spence, that "the diploma serves primarily as a [...] measure of performance ability rather than as evidence of acquired skills" (Arrow, 1973, p. 193). Nevertheless, Arrow challenged the conventional view among economists much more than Spence did. "The conventional view among economists is that education adds to an individual's productivity and therefore increases the market value

of his labor” (Arrow, 1973, p. 193). His model assumes roughly the opposite. Higher education does, according to the Filter Model, in no way contribute to superior economic performance; neither socialization nor cognition is enhanced. Higher education serves here only as a screening device useful for the selection of labor and to sort people according to their differing abilities. He assumed further that economic agents have highly imperfect information and in particular employers have only a very poor idea of a worker’s productivity *a priori*. The only information the employer has about potential employees is of quantitative nature, especially whether the applicant has a college degree or not. The colleges are here assumed to act as a double filter: once in selecting entrants and once in passing or failing students.

Stakeholders that operate in the market for entrepreneurial support face a similar problem. Potential investors, employees or in some cases customers and suppliers cannot consider all possible founders. They would need a filter to reduce the number of founders for closer examination. A college degree could be used as a filter. If a university has admitted a candidate to a program or awarded him with a degree he must be more productive, focused, and motivated to succeed, than the general public.

Labeling

Advancing Arrow’s and Spence’s theory, Stiglitz dealt with the topic under the name of “labeling of individuals” (Stiglitz, 1975, p. 283). Stiglitz’s main focus is on the problem of asymmetric information:

“economies with respect to qualities of individuals differ in fundamental ways from economies with perfect information” (Stiglitz, 1975, p. 283).

He analyses two cases, one of a no-screening equilibrium and one of a full-screening equilibrium. The comparison of the two cases leads him to four basic results. First, multiple equilibriums are possible. Second, the no-screening equilibrium is Pareto superior to a full-screening equilibrium. Third, in both equilibrium cases (full-screening and not screening at all), the presence of less able individuals lowers the net income of the more able individuals. Fourth, if education can be used to screen individuals, social returns differ from private returns. The full-screening equilibrium has negative returns in terms of the whole society but positive returns for more able individuals. Those findings are of course limited to some very restrictive assumptions (only two types of individuals, risk neutral and competitive firms, fully informed individuals. Firms are either fully informed or have no information and treat all individuals equally). Nevertheless, the findings suggest important implications. For example the fourth result questions the advantage of the screening function of institutions of education for society as a whole. That might be used for an explanation as to why the top US institutions of higher education are usually not state run. Beside the impact on economics, Stiglitz’s findings might be interpreted in terms of human resource management, and deliver some important implications. The main suggestion for results three and four is that the more able individuals have a strong incentive to communicate their higher ability in order to avoid sharing their ability-rents with less able individuals. The conclusion is that highly able individuals “...are willing to

spend resources to provide ...information [of their higher ability]" (Stiglitz, 1975, p. 287).

Contrary to the statement that individuals are motivated to spend resources (usually time and money) in order to communicate their abilities, Stiglitz identified "some conditions under which even the able may not be willing to pay for [screening in the form of education]" (Stiglitz, 1975, p. 287). This is the case, first, when individuals have the opportunity of self-employment. People can realize the same rent with or without screening. This conclusion might be questioned. Entrepreneurs are in most cases not people of modesty. Entrepreneurs tend to overemphasize their merits and achievements to a level that often borders to conmen. They will use every possible occasion to present themselves in the most favorable light. Second, if individuals are perfectly certain about their abilities, it would not be necessary to pay for screening through education. Those people could communicate their abilities on-the-job. This would cause the following problem: the individual had to persuade the employer to employ him at a low wage/salary in order to get the opportunity to communicate her ability on-the-job and target an above the average wage/salary afterwards. Third, an individual would not be willing to pay for screening, when he is fully risk averse and not sure about his ability. Individuals may prefer here to be treated simply as average than to take the chance to be screened and perhaps rated below average.

"The school system is the major screening institution in our society" (Stiglitz, 1975, p. 295). Stiglitz delivers therefore four reasons. First, individuals proceed a self-selection in choosing a course or program

as their level of education (e.g., a course in nursing or a Master-program in mathematics might premise different cognitive abilities or interests to the participants). Second, within the same level of education are individuals with different motivation or ability. Third, the individual might, as course time passes by, find out about their special interests that the individual did not know before the course. Fourth, educator and student interact with each other in a form that the educator can gather information about the student.

A common tool to make the information public that has been obtained during the process of education is the grading system. Stiglitz describes three ways grades contribute to public information. First, education institutions sort for their own purpose, measured mainly by grades. Second, direct performance tests confront students with roughly similar learning experiences. Some students learn some topics better than others and can be ranked by grades. Third, when it is assumed that individuals strive for high grades and enter the best schools they can, individuals choose courses where they already have high abilities and can achieve therefore the maximum possible score according to their abilities. Further, individuals choose the highest ranked school they could enter.

The grading system, as Stiglitz describes it, to make information public can be criticized for use as a screening device in several points. First, it is assumed that the responsible educator has an objective and unbiased

conception of the student. That is usually not the case.⁸ Second, it is assumed that students strive not for knowledge but for marks. That is in terms of the Human Capital Theory not optimal. Individuals would according to Stiglitz not aim to enlarge their capabilities. They would strive only to communicate existing ones.

The implication of Stiglitz's screening approach for entrepreneurship is therefore that a below average ability individual would not make the effort of being screened in order to receive a label. If motivation is also considered, then it might be useful to state more exactly that individuals with less ambition, less motivation, or the self-concept of less ability would not undertake costs and efforts in order to be screened.

Taking the above-mentioned three concepts of education as label, signal, and screen in consideration, it can be argued that future entrepreneurs do not necessarily go through the process of long schooling because they aim to enhance their human capital. They are rather looking for means to signal their higher potential towards stakeholders who otherwise have difficulties in evaluating the entrepreneur. If nascent entrepreneurs would only aim to enhance their human capital through education, they would waste their time taking courses that they would need for graduation. However, that does not add to their knowledge base as an entrepreneur. Hence, they would skip those courses due to perceived high

⁸ Three examples: When Georg Wilhelm Friedrich Hegel graduated in 1793 from the University of Tübingen, his graduation certificate mentioned that he was a man of good parts and character, well up in theology and philology, but with no ability in philosophy. He became the most famous and most influential philosopher of his age. Elvis Presley was evaluated during his school days with under average marks in the subjects music and singing. Winston Churchill received rather poor marks during his school days. He was awarded the Nobel Prize in literature in 1953.

opportunity costs and take only courses that interest them and thus never graduate. The empirical literature points overwhelmingly to the fact that entrepreneurs collect degrees more eagerly than the average employee (Bates, 1985; Baumol, Schilling, & Wolf, 2009; Colombo, Delmastro, & Grilli, 2004; Davidson & Honig, 2003; Dickson et al., 2008; Mondragón-Vélez, 2009; Tortella et al., 2011). Nevertheless, it seems of importance what kind of business an entrepreneur is running or in what industry an entrepreneur is operating. In some industries, the entrepreneur has advantages if he uses formal education as a signal. For example, entrepreneurs in the legal, medical or financial industry are often presenting their educational background on the firm's webpage, while entrepreneurs running firms in the software or security industry often do not present their educational background on their companies' webpage. Blanchflower (2000) analyzed large datasets from the EU, US, and Canada and found that entrepreneurs are not only over the average educated, but also significantly less educated than the average employee. Thus, it confirms the extreme position entrepreneurs take in society. Blanchflower's findings appear to be intuitive. Entrepreneurs in class A would not necessarily need much formal education. A solo self-employed street vendor would not benefit professionally from a degree in philosophy or an MBA. The cost of their formal higher education would likely not be recovered through their business. Class B and C entrepreneurs on the contrary, would benefit greatly from additional education and qualifications, either to impress business partners, financiers or customers with a fancy degree (signaling) or to enhance their understanding in business (human resource).

Entrepreneurial experience

Which opportunities entrepreneurs choose and how they engage or approach in entrepreneurial activities fundamentally determine their success. Opportunity selection and the approach of exploitation are essentially shaped by an individual's perception. Furthermore, how an individual perceives and interprets elements in his environment depends on time and place, the ideas he is exposed to (Ruggiero, 2011) and his social embeddedness, but foremost his past experience. Past experience is thought to have an influence on how well an individual can control his emotions. Baron and Ensley (2006) argue, "when individuals experience strong, positive affect (positive emotions or feelings), their capacity to think systematically and evaluate information carefully may be significantly reduced" (p. 1341). They further note that especially entrepreneurs with no previous experience as entrepreneurs are prone to attach too much positive emotion (extremely high levels of enthusiasm, optimism, and positive affect), which clouds their rationality and leads to erratic decisions. Experienced or serial entrepreneurs appear to be able to control their emotions and are therefore less likely to fail.

Collins and Moore (1964) gave an apt description of the period when entrepreneurs learn to control their emotions and acquire the skills to focus their resources, the time between formal education and being firmly established as an entrepreneur:

"[...] a period of trials and training. It is this period that is the true school for entrepreneurs. The curriculum is rough, and those

who successfully graduate from it are men of unusual courage and ability. Credits are counted by lost jobs, broken partnerships, exploited sponsors, and times in the bankruptcy courts. As in all schools, men are not required to take work in all subjects. Candidates may specialize in bankruptcy or insecure employment. Their major work may be in the exploitation of sponsors or partners, or it may be in the accumulation of broad work experience. There are some exceptions, but in the vast majority of cases men who become successful entrepreneurs spend considerable time in this school. Many of our men took longer than twenty years to graduate.” (p. 100)

This view suggests that entrepreneurs need to fail before they succeed, and they fail in great numbers (Headd, 2003; Wiklund, Baker, & Shepherd, 2010). Given the enormous complexity of entrepreneurial activities and the tacit character of entrepreneurial knowledge, the suggestion that failure is the main road to learning appears to be valid. Many of the key decisions that have to be made by an inexperienced or young entrepreneur are transcendent for him, meaning that the consequences of his action are *a priori* outside the faculty of his cognition. Only over time will the entrepreneur learn whom to trust and whom not to trust, with which people to associate, in which market to operate, when to be aggressive, when to let others lead and so forth. McGrath (1999) suggests three categories of entrepreneurial errors that potentially lead to business failure: errors caused by extrapolating to the future from past success, errors

due to cognitive bias, and errors which are introduced through interventions to avoid the occurrence or appearance of failure.

Nevertheless, failure might also be a signal of path-dependency: the aspiring entrepreneur lacks the necessary ability to draw the right conclusions from her failure and does not learn from her mistakes. Every further bad decision confirms the trend and failure will follow after failure. A considerable body of literature in the area of venture capital decision-making aims to identify how accumulated experience in a certain industry or as an entrepreneur in general influences growth and survival of the firms (e.g., Cooper, Gimeno-Gascon, & Woo, 1994; Jo & Lee, 1996). Yet, scholars only recently have begun to develop an interest in the distinction of mere failure without learning (which would increase the likelihood of failure for every further business the unsuccessful entrepreneur is involved in) or failure that resulted in learning (which would decrease the likelihood of failure for the next business pursued).

Among the early attempts to approach the problem stands out Sitkin's (1992) classification of failures into [1] failure with no or little learning benefit and [2] intelligent failure. The first class is characterized by failure accompanied by such a shock that impedes any meaningful analysis of the events that led up to failure. When entrepreneurs attach strong emotions to their business, a loss might very likely result in a negative emotional response, which Shepherd (2003) called 'grief'. Shepherd (2003) also suggested that a high grief level translates into low levels of learning. The second class describes failures that are controlled and preferably small in scale, which requires the entrepreneur to carefully plan his actions and

take risk into consideration. This does not require the entrepreneur to adopt a risk averse strategy, but it calls for sufficient emotional detachment from the business and to choose his options, so that even the event of the worst case does not lead to a complete paralysis from shock. In other words, there should be always a 'plan B'. That is a striking parallel to basic military teachings, which requires leaders on every level (tactical, operational, and strategic) to keep a reserve (troops that are withheld from action so as to be available for commitment at a later moment) in order to be able to react in any situation.

After each round of founding and failing with a firm, the probability for both, failure and long-term success increases. The argument for the entrepreneur's increased failure probability is that it becomes obvious that the entrepreneur cannot learn. He commits the same mistakes and fails. The argument for the entrepreneur's increased success probability is that the entrepreneur draws the right conclusions, learns and eventually succeeds.

This is, however, only valid if the entrepreneur does not choose to exit her entrepreneurial career. Usually, entrepreneurs refrain from their entrepreneurial career if they would be legally required not to run a firm again (e.g., running a firm in the financial sector after bankruptcy or a criminal conviction ends an entrepreneurial career in several countries); if a financial liability exists even after the bankruptcy that permits the entrepreneur from accumulating sufficient capital for a new firm; if the social costs are too high (e.g., alienating family, friends and partners, damaging her reputation irreversibly), if the entrepreneur's psychological conditions changes (e.g., burnout or depression).

Ronstadt (1988), who focused his research on entrepreneurial exit, showed that the attachment to an entrepreneurial career increases with the years an entrepreneur runs a firm. The longer he is in business, the less likely he is to change her career until retirement. Hessels et al. (2009, 2011) found a similar result. They presented strong evidence that entrepreneurs who failed with their firm have a natural drive towards founding another firm and not leaving their entrepreneurial career. Nevertheless, Schultjens and Stam (2006) with data from The Netherlands identified a gap between 'intending to found a new firm after failure' and 'actually founding a new firm after failure'. Only 23% of entrepreneurs have started a new firm within 5 years after exiting with a firm they founded.

Entrepreneurs start early in life. Jacobowitz and Vidler (1982) found that most of the entrepreneurs they surveyed were engaged in minor entrepreneurial activities in their last year in school. Obschonka et al. (2010) came to a similar result almost 3 decades later. They found that adults with an entrepreneurial personality profile were likely to have been engaged in entrepreneurial activities in their adolescence.

Table 2-5: Empirical studies about entrepreneurial experience of entrepreneurs

Authors	Variable	Data	Finding
Jacobowitz & Vidler, 1982	minor entrepreneurial activity in last school year	430 entrepreneurs in USA, questionnaire	63% of the surveyed entrepreneurs engaged in minor entrepreneurial activities in their last year in school.
Obschonka et al., 2010	early entrepreneurial competence in adolescence	496 scientists, questionnaire	Positive correlation between entrepreneurial personality profile (measured in adulthood) and early entrepreneurial competence in adolescence.
Ronstadt, 1988	length of entrepreneurial career and number of venture created	1537 entrepreneurs, alumni from US colleges, questionnaire	The longer an entrepreneur pursues an entrepreneurial career, the more start-ups he creates (likelihood of being a serial entrepreneur without exiting entrepreneurial career).
Hessels et al., 2011	entrepreneurial exit	350.000 observations (individual level) form the Global Entrepreneurship Monitor project 2004, 2005 and 2006	Positive relationship between recent exit, and potential entrepreneurship in near future.
Schultjens & Stam, 2006	intention after exit	79 firms closed within 5 years after start up in The Netherlands (from 1994 on), yearly questionnaire	Most entrepreneurs intend to start a new business, but few actually do (11 out of 47).

Age

The age of an entrepreneur seems to be partially responsible for both, pushing an individual into an entrepreneurial career and pulling him away from it. The pushing forces that increase with age are a stronger need for higher income due to the higher living standards in older age groups,

more professional experience, more previously accumulated start-up capital, better market knowledge, and more self-confidence. Yet there are at the same time pulling factors that hold an individual back from pursuing an entrepreneurial career. Those factors are a high amount of firm or market specific social capital, which would be lost in the case of career change, decreased willingness to take risks due to family role, or decreased time until retirement. The literature on the relationship between age and becoming an entrepreneur often theorizes a ‘golden age’ where both forces cancel each other out and start-up rates are the highest. Bates (1995), analyzing a large US panel study from the mid-1980s, found that this ‘golden age’ is around 40. Further evidence for an inversed U-shape relationship between age and entrepreneurial propensity was found by Bergmann and Sternberg (2006).

Furthermore, anecdotal evidence would suggest that the age of the entrepreneur is related to the sector in which her business operates, to her leadership style and to the survival chance of the business. The college graduate in his mid-20s can be easily imagined as the founder of firm specializing in app designs, with a laissez-faire leadership style, and a relatively short survival span on the market. It would be rather difficult to picture him as a steel mill owner with a paternalistic leadership style.

The average age of entrepreneurs seems to be also influenced by certain cultural traits and differs significantly between cultures. Cowling (2000), analyzing differences between entrepreneurs from diverse countries in the EU, found that in southern European countries entrepreneurs are slightly younger than in northern European countries (Italy 35, Greece 36,

Spain 36, Portugal 36 versus Luxembourg 37, Netherlands 37, Sweden 39, Austria 38, Germany 38). He also found that in general the average entrepreneur is 5 to 9 years older than the average employee. Mondragón-Vélez (2009) confirms the age gap between the average employee (40 years) and the average entrepreneur (45 years) with a large U.S. panel data set.

Ronstadt (1986), analyzing 95 former entrepreneurs between 33 and 73 years of age, uncovered a relationship between the age of the entrepreneur when first starting a business and their tenure as an entrepreneur. He found that when an entrepreneur enters an entrepreneurial career early in his life (less than 26), he is more likely to create several ventures and stay longer in his entrepreneurial career. When an individual starts his entrepreneurial career at the age of 40 or older, he is more likely to exit within the first three years of business. Bönnte, Falck, and Heblich (2009), analyzing large German panel data during 1987-2000, found that individuals, if they engage in entrepreneurial activities, are most likely to be between 40 and 49. The authors also found that in regional clusters entrepreneurs tend to belong to the same age group. This suggests strong peer effects among entrepreneurs operating in the same region.

Harada (2003) studied a large sample of Japanese entrepreneurs between 1992 and 1996 and found that entrepreneurial success is linked to the founders' age. Younger entrepreneurs tend to be more successful than older founders. But Harada's result has to be interpreted with caution, because he defined 'entrepreneurial success' as running a surplus, exceeding the founders' expectations, and having a higher income than before founding the venture. According to his definition, a high school dropout

turned self-employed street vendor, with no previous job and an annual income of US\$ 6000 is more successful than a retired high ranking government officer, who beside his generous pension, runs a publishing firm for science fiction with 10 employees at a slight loss but with a revenue of US\$ 600000. A further interesting relationship is the connection between entrepreneurial intent and age. Blanchflower, Oswald, and Stutzer (2001) analyzed a large data set of 23 OECD countries and found a strong relationship between increasing age and decreasing entrepreneurial intent. The authors explain this relationship with increasing job satisfaction as the employee ages. They also found that the actual founding rate of venture increases with age. It seems that with increasing age people trade their rosy view of entrepreneurship with a more realistic approach.

Gender

Women in a central planned economy receive, in relation to her fellow females in a market economy, an entirely different level of attention from the government. They are strongly urged to take up employment, participate and play an active role in the economy. The reason for this is twofold. First, a high participation rate of women in the economy has a positive effect on the GDP, at least in the short run and is therefore desirable from the government's point of view. Second, working women break up traditional family patterns and benefit, from the socialist government point of view, the change of society toward socialist ideals. Furthermore, working women tend to leave their children in the temporary care of governmental

institutions, such as kindergarten, which help to indoctrinate the next generation with socialist ideas.

Most socialist countries have or had a constitution that borrowed heavily from the constitution of the Soviet Union in the 1936 version. Of special interest is article 122, which grants special rights for women with children and is designed to support the working mother (Съездом Советов Союза ССР, 1936). Article 20 of the constitution of East Germany which was installed by the Soviet forces after World War II has similar content (Volkskongress, 1968). Furthermore, article 77 of the North Korean constitution grants similar rights to women (Assembly, 1992). That led to a streamlining of the legal, social and economic system towards compatibility of family and career with the goal to increase the female workforce. The housewife or stay-at-home mom is rather the exception in these countries. The long period of ideological indoctrination changed the basic concept of role distribution within families. The working woman, contributing to the economic income of the family, is seen as the norm.

The high participation rate of women in the workforce in command economies would suggest, when those countries enter a stage of transition towards a market economy, that the number of female entrepreneurs would be higher. After 22 years of transition, however, the descriptive data of the Global Entrepreneurship Monitor project (Kelley, Brush, Greene, & Litovsky, 2013) show that women in Eastern Europe (including Russia) have one of the lowest participation rates in entrepreneurial activities compared to men. This gap between female and male entrepreneurial activity rate is only larger in the Middle East and Pakistan. Furthermore,

female participation rates seem to be influenced by cultural factors. Among developed countries, Japan and Korea have the lowest absolute female participation rate in entrepreneurial activities with two per cent of the total female population aged between 18 and 64 (Kelley et al., 2013).

The main body of research in the field of gender related issues in entrepreneurship comes from studies with a market economy background, where most countries accept the housewife or stay-at-home mom as mainstream. Results from these countries might therefore only with limitations be applicable to transition economies, especially when the studies are older. During the last three decades the traditional family roles in OECD countries, however, began to change and a rising number of women participated in the workforce (e.g., Euwals, Knoef, & van Vuuren, 2011). This trend had an impact on female entrepreneurship as well. Already in the mid-1980s, Hisrich and Brush reported a rising number of female entrepreneurs (with a focus on minority entrepreneurs) between 1977 and 1982 (Hisrich & Brush, 1985). Allen (1999) reported that in the late nineties in the U.S. the number of businesses started by women grew twice as fast as the number of businesses started by men. In Canada, female founded businesses even outpaced their male counterparts by a factor three (Belcourt, 1990). George and Lyon (2000) estimated that almost half of all small businesses in 1999 in the U.S. were run by women.

Despite the narrowing gap between female and male entrepreneurial activities, the differences measured in absolute numbers are still overwhelmingly large. Carter et al. (2006), summarizing decades spanning research efforts, stated that female entrepreneurs universally (in most

countries) tend to have smaller businesses than men in terms of both the number of employees and revenue. Popular explanations for this gap are usually related to systematic discrimination against female entrepreneurs. Based on this explanation, governments have been addressed to play an active role in promoting female entrepreneurship. Brush et al. (2006) demand that governments should actively “promote women’s entrepreneurship, eliminate obstacles women may face in business creation and facilitate the growth process of their businesses” (p. 4).

The existing literature of female entrepreneurship focuses mainly on three areas: gender-differences of the psychological profiles of entrepreneurs, gender-differences of the motivation to become an entrepreneur, and performance differences of female and male founded and managed firms.

Birley (1988) summarized the existing literature on gender differences of entrepreneurs up to the late 1980s and found no differences between male and female entrepreneurs, except for their choice of market entry. However, from the 1990s on gender differences of entrepreneurs, especially the difference in psychological profiles, received more attention. Carland and Carland (1991) found that men and women score similarly in principle on the Myers-Briggs Type Indicator, but female entrepreneurs tend to be slightly quicker, more ingenious, alert, outspoken, stimulating, resourceful, argue for fun and dislike routine (ENTP on the MBTI) than male entrepreneurs. Other researchers found that female entrepreneurs score lower on energy level and risk taking and that they have a higher need for independence than male entrepreneurs (Sexton & Bowman-Upton, 1990).

Female entrepreneurs tend to be more open, more sociable and agreeable than male entrepreneurs, while male entrepreneurs tend to be more cautious and, interestingly, less impulsive (Envick & Langford, 2003). It is important to stress that these are psychological differences, not advantages or disadvantages. Although female entrepreneurs run on the average smaller ventures, with lower growth rates and less employees, attention has to be paid to why women become entrepreneurs in the first place (their motivation) before judging their performance.

Gender differences regarding the motivation to become an entrepreneur are significant. Women are more likely to be pulled into entrepreneurship than men, while men are more likely to be pushed into entrepreneurship. Women have a desire for higher income and self-fulfillment, and they more often than men have a deep interest in the industry or business they enter (McClelland, Swail, Bell, & Ibbotson, 2005). A further pull factor is a felt dissatisfaction with their current career (Cromie, 1987). Corresponding with pull factor theory are Langan-Fox and Roth's (1995) findings. Studying female Australian entrepreneurs, they could group all entrepreneurs in three groups: need achiever (driven by challenge), pragmatic entrepreneur (driven by higher income and a career that allows them to spend more time with their family), and managerial entrepreneur (driven by power). None of the studied entrepreneurs were necessity driven. Apart from these dissimilarities, the differences are negligible. Women seek neither more nor less support than men before they start a business (Chrisman, Carsrud, DeCastro, & Herron, 1990). Furthermore, they had similar socialization experiences during their

childhood (Belcourt, 1990), which shaped their entrepreneurial mind set, namely similar occupational role models and the experience of rejection during their upbringing.

Gender related performance differences are large in absolute terms. The majority of individuals participating in entrepreneurial activities in almost all countries are male (Kelly, Bosma, & Amoros, 2011), with female founded and managed firms employing less people and growing less fast. However, when controlled for structural differences and expectations, female and male entrepreneurs perform similarly (Du Rietz & Herekson, 2000; Kepler & Shane, 2007). Women have, on average, lower expectations about growth and performance, prefer lower risk business and are less likely to buy a business (Kepler & Shane, 2007).

Table 2-6: Empirical studies about the gender of entrepreneurs

Authors	Variable	Tool	Data	Finding
Envick & Langford, 2003	Psychological difference of female and male entrepreneurs	Big Five Personality Model	119 entrepreneurs, questionnaire	Female entrepreneurs are more open, are more sociable and agreeable. Male entrepreneurs are more cautious and less impulsive.
Hisrich & Brush, 1984	Demography of female entrepreneurs	-	468 self-employed women in 18 US states	The average female entrepreneurs are married with children, born as the first child to middle class parents, and run a service-oriented business. They start the business on average at age 40.

Authors	Variable	Tool	Data	Finding
Chrisman et al., 1990	Pre-founding differences in sought assistance between female and male entrepreneurs	-	162 entrepreneurs, questionnaire	Female entrepreneurs do not seek more, less, or different assistance than male entrepreneurs before they found the business.
Sexton & Bowman-Upton, 1990	Psychological difference of female and male entrepreneurs	Modification of Jackson Personality Inventory and Personality Research From-E	105 female, and 69 male entrepreneurs from US, questionnaire	Female entrepreneurs score lower on energy level and risk taking. They have a higher need for independence. Both, female and male entrepreneurs score similarly on conformity, interpersonal affect, social adroitness, harm avoidance, and succorance.
Langan-Fox & Roth, 1995	Psychological profile of female entrepreneurs	Achievement Motivation Scale, Kahl's achievement value questionnaire, Hoppock's Job Satisfaction Scale, Rotter's Internal-External Locus of Control Scale	60 Australian female entrepreneurs, questionnaire and interview	Female entrepreneurs are grouped into three clusters: need achiever entrepreneur (driven by challenges), pragmatic entrepreneurs (looks for income, family centered), managerial entrepreneur (driven by power).
Sarri & Trihopoulou, 2005	Motivation for women to enter entrepreneurship	Pull/push model	80 Greek female entrepreneurs, 3 x between 1990 and 2000 questionnaire and follow up interview	Pull factors are more relevant for women to enter and stay in entrepreneurship (desire for higher income, self-fulfillment, interest in the industry/business).

Authors	Variable	Tool	Data	Finding
McClelland et al., 2005	Motivation for women to enter entrepreneurship	Pull/push model	56 female entrepreneurs from Singapore, South Africa, Australia, New Zealand, Canada, and Ireland, qualitative data collection (internet, email exchange)	Pull factors are more relevant for women across the studied countries to enter and stay in entrepreneurship (desire for higher income, self-fulfillment, interest in the industry/business).
Cromie, 1987	Difference in motivation between men and women in entering entrepreneurial careers.	Lynn's Achievement Motivation Scale, Kahl's Achievement Value Scale, Rotter's I-E Scale	35 male and 34 female entrepreneurs, interview	Men and women are similarly motivated by need for achievement and autonomy to enter entrepreneurship. However, women are slightly more motivated due to a felt dissatisfaction with their current career.
Kepler & Shane, 2007	Effect of gender on venture performance, motivation to enter entrepreneurship	-	349 women and 336 men in the process of starting a business in the US, survey	Gender has no effect on new venture performance when preferences, motivations, and expectations are controlled for. Women tend to have lower expectations, prefer a lower risk business and are less likely to buy a business.
Carland & Carland, 1991	Psychological difference of female and male entrepreneurs	Myers-Briggs Type Indicator	32 female and 88 male entrepreneurs in US, questionnaire	Male and female entrepreneurs score equally on the MBTI, except for women, who score slightly higher on ENTP (quick, ingenious, alert, outspoken, stimulating, resourceful, argue for fun, dislike routine).

Authors	Variable	Tool	Data	Finding
Du Rietz & Herekson, 2000	Underperformance of female entrepreneurs	-	4200 Swedish entrepreneurs (of which 405 are female), telephone interview	Women do not underperform if structural differences are controlled for.
Belcourt, 1990	Decision to become an entrepreneur	-	36 successful Canadian female entrepreneurs, interview	Occupational role models and rejection experience during upbringing are positively related to entrepreneurial intent, male and female entrepreneurs had similar socialization experiences during childhood.
Birley, 1988	Gender differences of entrepreneurs	-	Literature review	Male and female entrepreneurs do not differ, except for market entry choices.

Societal induced attributes of the entrepreneur

Individual attributes of entrepreneurs are more or less dependent on the entrepreneur as a single person. They allow to compare entrepreneurs across nations and differing cultural backgrounds. Societal induced attributes of entrepreneurs take additionally into consideration in which environment entrepreneurs operates. The literature has identified two attributes of elevated importance: what personalities in an entrepreneur's environment are available to generate and shape entrepreneurial minds (role models) and what standing entrepreneurs have in a society (acceptance).

Role Models

The literature holds a broad consensus that role models have a profound impact on the career choice of especially young individuals (e.g.,

Cheryan, Siy, Vichayapai, Drury, & Kim, 2011). Role models are of great importance during formative years of children and adults. They copy and adopt observed attitudes, opinions, and patterns of behavior from individuals they deem important to society and to themselves. Since becoming an entrepreneur is a career choice, role models seem to be decisive for becoming an entrepreneur.

The term 'role model' is accredited to sociologist Robert Merton (Holton, 2004), who used it in a study of the socialization of medical students (Merton, 1957). Since its introduction, the study of role models received intensive attention first from sociologists in the 1960s and 1970s, establishing a solid theoretical foundation: the Role Theory. Role theory focuses on "the tendency for human behaviors to form characteristic patterns." (Biddle, 2000, p. 2415). Sociologists approach roles with two assumptions: first, persons have a recognized (clearly visible) social identity in a specific area and, second, they and others hold certain expectations about behavioral patterns of that person.⁹ Bosma et al. summarized some of the most popular definitions of role models and defined role models as "a common reference to individuals who set examples to be emulated by others and who may stimulate or inspire other individuals to make certain (career) decisions and achieve certain goals" (2012, p. 410).

Parents and Close Relatives and Role Models

The main body of research in the area of role models for entrepreneurs suggests a certain level of inter-generational inheritance of the

⁹ For example, a doctor in a hospital is expected to help and act in the interest of his patients.

pursuit of entrepreneurial careers. An early explanation for this phenomenon was delivered by Bolton (1971) who pointed out the relatively low status in society of entrepreneurs running a small business or micro firm. Being an entrepreneur, however, can provide for a comfortable lifestyle and a fulfilling professional career. But this is difficult to be observed by people who have had no exposure to entrepreneurship or people who do not know an entrepreneur.

An entrepreneurial career can be first hand experienced by the offspring of entrepreneurs, which creates a path dependency of entrepreneurship in the family. Furthermore, the children of entrepreneurs have easy access to entrepreneurial knowledge and recourses that provide an advantage in the trade, compared to people who would aspire to become entrepreneurs without prior knowledge or the benevolent patronage of an enterprising father. Therefore, the children of entrepreneurs often take their parents as a role model that influences their career choice.

Empirical studies confirm the proposition that entrepreneurship often runs in families across generations. Table 2 to 4 gives an overview about empirical studies in the field. The majority of entrepreneurs have either a parent or a close relative with an entrepreneurial background (Cooper & Dunkelberg, 1987; Donckels & Dupont, 1987; Jacobowitz & Vidler, 1982; Stanworth, Stanworth, Granger, & Blyth, 1989). The literature confirms as well that the offspring of entrepreneurs have a higher possibility to express entrepreneurial intent than children without entrepreneurial family members (BarNir, Watson, & Hutchins, 2011; Gurbuz & Aykol, 2008; Scherer, Brodzinski, & Wiebe, 1991; Schmitt-Rodermund, 2004; Schroeder, Schmitt-

Rodermund, & Arnaud, 2011; Tong, Tong, & Loy, 2011). Schoon and Duckworth (2010) tested the relationship between entrepreneurial intent and actually founding a firm. They analyzed the data of a longitudinal study of 16000 individuals in Great Britain. The study covered data for the individuals from birth to the age of 34. The authors found that the expression of entrepreneurial intent at the age of 16 is indeed a significant indicator of actually founding a firm by the age of 34. Further noteworthy is a difference in gender that led to different motivations for boys and girls to express entrepreneurial intent in Schoon and Duckworth's analysis (2010). Boys with self-employed fathers tend to underperform academically, while girls with a self-employed father tend to perform over the average academically. This might suggest that boys with self-employed fathers focus on acquiring entrepreneur related skills. Academic skills are viewed as being of little value. That sets in place a path dependency: because those boys are neglecting academic skills, their best career choice later in life is becoming an entrepreneur. It narrows the general possibilities in other careers, which might push them into entrepreneurship due to the absence of alternatives. Girls apparently keep their options open and are later pulled into entrepreneurship.

Table 2-7: Empirical studies about role models: parents and close family

Authors	Variable	Data	Finding
Scherer et al., 1991	Parent	223 college students in business administration in USA, questionnaire	Strong positive relationship between a self-employed parent and the intention of their offspring to become self-employed.
Schmittt-Rodermund, 2004	Family member	320 students (14-17 years of age), questionnaire	Students with a self-employed family member are more likely to express entrepreneurial intentions.
Tong et al., 2011	Family member	196 university students in Malaysia, questionnaire	Students with a self-employed family member are more likely to express entrepreneurial intentions. The effect is especially strong when the father is self-employed.
Gurbuz & Aykol, 2008	Parent	324 university students in Turkey	Having a self-employed parent has a strong positive effect on entrepreneurial intention.
Cooper & Dunkelberg, 1987	Parent, close guardian	890 small business founders in the USA, questionnaire	50% of the self-employed business founders had a self-employed parent or a self-employed close guardian.
Jacobowitz & Vidler, 1982	Parent, close relative	430 entrepreneurs in the USA, questionnaire	72% of the surveyed entrepreneurs had at least a self-employed parent or close relative.
Donckels & Dupont, 1987	Parent	400 new entrepreneurs in Belgium, questionnaire	45% of the surveyed entrepreneurs had an entrepreneurial father, and 19% an entrepreneurial mother.
Stanworth et al., 1989	Family members and relatives	600 entrepreneurs and aspiring entrepreneurs	43% of entrepreneurs have mother, fathers, or both that own and run a business, and 61% of entrepreneurs have close friends who are entrepreneurs as well.

Authors	Variable	Data	Finding
Schroeder, et al., 2011	Parent	106 families with owner children, questionnaire	Vast majority of owners' children have a positive view on entrepreneurship and see it as a career path (either succeeding the family business or founding their own firm).
BarNir et al., 2011	Parents, relatives and friends	393 U.S. undergraduate students, questionnaire	Role model exposure is positively related to entrepreneurial intention.
Schoon & Duckworth, 2010	Mother, father	Longitudinal study of 16000 British individuals from birth to age 34	Entrepreneurial intention at age 16 is a significant indicator of becoming an entrepreneur. Boys with a self-employed father tend to do less well academically and are likely to be self-employed themselves, whereas, girls with a self-employed father tend to do better academically and are likely to be self-employed themselves.

Parents and close relatives as role models for entrepreneurs have received so far the most attention from researchers. Besides this main body of research, two further lines of research have begun developing recently: the role models that grow out of a) networks and b) clusters.

Networks and Peer Groups as a Role Model Source

Entrepreneurs tend to socialize early with likeminded individuals and form networks that last until adulthood. Djankov et al. (2006) found that entrepreneurs have significantly more childhood and adolescent friends who became entrepreneurs, than non-entrepreneurs. The result seems to be stable across cultures, because the authors analyzed data from Russia and China. The entrepreneurial intent of juveniles seems to be strongly influenced by those they associate with. Falck, Heblich, and Luedemann (2010) found

evidence that 15 year-olds in OECD-countries are more likely to express entrepreneurial intent and to form an entrepreneurial identity, when they have entrepreneurial peers. For adults the results are similar. Stuart and Ding (2006) found that academics with an entrepreneurial colleague or co-author are more likely to start a business themselves. Similar results were obtained for workers (Nanda & Sorensen, 2010) and the general public (Klyver, Hindle, & Schott, 2007; Koellinger, Minniti, & Schade, 2005). The underlying logic that draws individuals into groups and networks of entrepreneurs in the first place is the perceived success of entrepreneurs in the groups. If one or more individuals in a group are seen as successful, it would be desirable to emulate their behavior and aim to follow a similar path to success. Successful entrepreneurs function therefore as entrepreneurial multipliers in society: as role model they draw individuals into entrepreneurial careers.

Table 2-8: Empirical studies about role models: networks and peer groups

Authors	Variable	Data	Finding
Koellinger et al., 2005	Network	Data 2001 population survey of the Global Entrepreneurship Monitor (GEM), over 74000 interviews	Knowing other entrepreneurs increases the likelihood of starting a new business.
Djankov et al., 2006	Childhood and adolescence friends	400 entrepreneurs and 550 non-entrepreneurs from Russia and China, questionnaire	Entrepreneurs have significantly more childhood and adolescence friends who later became entrepreneurs.

Authors	Variable	Data	Finding
Falck et al., 2010	Impact of entrepreneurial peers on a student's entrepreneurial identity	2006 cycle of the Programme for International Student Assessment (PISA) - 15 year old students in OECD countries (sample size: 204073), questionnaire	Having an entrepreneurial peer group has a positive effect on an individual's entrepreneurial intention.
Stuart & Ding, 2006	Peers	917 academic entrepreneurs, and a control group of 13564 Ph.D. holders from the U.S.	Scientists are more likely to be become academic entrepreneurs when they work in departments, where a colleague ventured into commercial science, or when they have co-authors who ventured into commercial science.
Klyver et al., 2007	Personal network	Data 2000-2004 population survey of the Global Entrepreneurship Monitor (GEM), sample size: 218974, questionnaire	Personally knowing an entrepreneur increases an individual's likelihood of becoming an entrepreneur.
Nanda & Sorensen, 2010	Peers	Integrated Database for Labor Market Research in Denmark, sample size: 1209693	Workers with colleagues with previous entrepreneurial experience are substantially more likely to become entrepreneurs, than workers without such peers.

Acceptance in Society

Max Weber (1980) developed in his three-component theory of stratification three dimensions that help explain the mechanism of how a society organizes itself through hierarchies, social preferences, and desired

patterns of behavior. The three dimensions are class, status¹⁰, and party (Weber et al., 2010). The dimension ‘status’, which “reflects a style of life, and an assumption about the rights that go with this status” (Weber et al., 2010, p. 150) is of special interest. Goldhammer and Shils (1939) provide an apt definition of social status:

“Men evaluate the objects, acts, and human attributes with which they come into contact. These evaluations may become systematized into a hierarchy of values. The individual makes judgments of others and ranks them on the basis of his hierarchy of values and his knowledge concerning what characteristics these other persons possess. Such a judgment of rank made about either the total person or relatively stable segment of the person constitutes the social status of that person (for the individual making the judgment). Societies and individuals use different gestures to express degrees of deference which they accord to varying ranks of social status.” (p. 179)

Weber works with the distinction between positive and negative social assessment of honor, which describes a fixed frame of what is desirable and what is not desirable. Honor is a reflection of certain values that become manifest in distinct patterns of behavior. Since status is to a large extent conditioned economically, it determines what professions people strive to enter in order to move to a higher social class or a generally

¹⁰ The use of the word ‘status’ is in fact not accurate but used here for simplicity. Weber uses the word ‘Stand’ (plural: Stände) which is rather difficult to translate. The usual textbook translation of ‘stand’ is ‘status’ or ‘class’ but does not apply here. Weber defines ‘stand’ more in the sense of the French word ‘estate.’ For a discussion about this topic see Waters and Waters (2010).

more respected profession. Further, as Goldhammer and Shils describe it, status is bound to the relatively stable segments of a person and a person's profession is probably the most stable segment of individuals. Hence, profession has probably the strongest impact on status.

The level of entrepreneurial activity, as a distinct profession, would then depend to a substantial part on the cultural background of the involved actors operating in that environment. Culture, as defined by Hofstede (1980), is a stable social system with a common value system and shared practices. The common value system is, at the core, supported by practices. Practices are shaped by commonly used and similar interpreted symbols, accepted heroes, and shared rituals (Hofstede, 2001). The most common unit of analysis in cultural studies is the national culture. The main body of literature works with this unit and great efforts has been made to compare national cultures with one another.

“Culture is the coherent, learned, shared view of a group of people about life's concerns, expressed in symbols and activities, that ranks what is important, furnishes attitudes about what things are appropriate, and dictates behavior.” (Varner & Beamer, 2011, p. 10)

Hofstede introduced measurable cultural dimensions that made comparisons between cultures possible. He initially introduced four dimensions (1980), which were later extended or modified (e.g., for the popular communication model by Trompenaars & Hampden-Turner, 1997). Currently the field applies nine cultural dimensions, which were extensively

researched by the GLOBE study (House, Hanges, Javidan, Dorfman, & Gupta, 2004):

- gender egalitarianism,
- institutional collectivism,
- humane orientation,
- future orientation,
- assertiveness,
- performance orientation,
- uncertainty avoidance,
- in-group collectivism,
- power distance.

The cultural dimensions mainly focus on defining cultural groups (based on national cultures), explaining differences between cultures, and applying them to leadership issues. Nevertheless, “culture is an important variable in determining entrepreneurial potential at the national or regional level [and] culture, it appears, may condition potential for entrepreneurship, generating differences across national and regional boundaries” (Mueller & Thomas, 2001, p. 67). The status a group of professionals holds in a society, for example, shapes people’s occupational preferences and their choice behavior (Parker & Van Praag, 2010). An interesting but very rare study was conducted by Van Praag (2009). She attempted to measure the status of professional groups within Dutch society. Her main finding is that the status of an occupation is determined by the required level of education for that profession and the income level. If her results hold true for other societies as well, a way to increase interest in entrepreneurial careers would be to attract highly educated entrepreneurs.

Several studies attempted to apply the impact of cultural dimensions to entrepreneurial research. Thereby it is often theorized that the score of each dimension can either hinder or benefit entrepreneurship within a culture. Contiu, Gabor, and Stefanescu (2012) tested the hypotheses that Romania's low score in individualism, high uncertainty avoidance, high power distance, and low score in masculinity is negatively related to a positive entrepreneurial attitude. They found that the entrepreneurial spirit among Romanian university business students is indeed low. Mueller and Thomas (2001) analyzed a large data set of 1790 students in 15 countries (Europe and North America) discovered significant differences across cultures regarding the attitude towards entrepreneurship. They focused on the impact of two cultural dimensions, individualism and uncertainty avoidance, and found that the entrepreneurial orientation is highest in cultures with high level of individualism and low level of uncertainty avoidance. Begley and Tan (2001) ran a similar study but specifically on the differences between East Asian (Indonesia, Korea, the Philippines, Singapore, Thailand) and Western (Australia, Canada, New Zealand, U.S.) cultures. They found that the prospect of rising in social status as an entrepreneur is an important driver for interest in entrepreneurship in East Asia but less in the West. They also found that in East Asian cultures *shame in case of business failure as an entrepreneur* is a major factor why people refrain from entrepreneurship and look for more secure careers. Western cultures have a more relaxed feeling towards failure, as they feel less shame in case of business failure.

Differences in national cultures help to explain why a career in entrepreneurship is in some cultures very attractive while other cultures somewhat try to avoid it. The subject of the above mentioned studies were mostly non-entrepreneurs. Therefore the studies have very high explanation power to predict whether it is desirable to become an entrepreneur, and whether the elite of a nation is drawn into entrepreneurship or rather people that do not have any other employment possibilities. Nevertheless, the studies say very little about cultural differences among entrepreneurs themselves. Holt (1997) has taken up this question and studied entrepreneurs in China and the U.S., two cultures that score very differently on many of the cultural dimensions. Based on surveys taken from managers in Guangdong, U.S. entrepreneurs and Chinese entrepreneurs, he analyzed how those three groups score on the cultural dimensions of individualism, openness to change (similar to risk avoidance), and self-enhancement. His findings are very interesting and to a substantial degree surprising. Firstly, unsurprisingly, the Chinese managers scored close to their country's typical cultural score. Yet secondly, he found a stark contrast between the scores of Chinese managers and Chinese entrepreneurs. The entrepreneurs scored very high in individualism and openness to change. The Chinese entrepreneurs score generally close to U.S. entrepreneurs, in some categories even higher (e.g., individualism). Holt's findings suggest that entrepreneurs themselves might, in cultural terms, be not very different across differing cultural backgrounds. Kolvereid and Obloj (1994) investigated the question whether the perceived status of an entrepreneur is an actual motivator of engagement in entrepreneurial activities. They

compared entrepreneurs from the UK, Poland, and Norway and discovered that status is not important for Polish and Norwegian entrepreneurs. British entrepreneurs, on the contrary, listed status as an entrepreneur in their society as a very important factor to start a venture. Davidson (1995), however, found that the cultural background is not important but the age group (generation) a person belongs to would shape their view of entrepreneurship. Analyzing Swedish data, he stated that attitudes towards entrepreneurship between different regions in Sweden only differ slightly and on a statistically insignificant level. Large differences, however, occur when controlled for age groups. People aged 18-19 years have a significantly higher attitude toward entrepreneurship than people aged 35-36 years.

Lee and Wong (2004) studied a large number (15,000) of students in Singapore and found that a generally positive attitude towards entrepreneurship leads to a higher interest in entrepreneurship education (courses offered at university related to entrepreneurship). Students that received some form of university level entrepreneurial education were both, more likely to report they want to start a business right after graduation and more likely to actually start a business than the average student.

In summary it might be said that the basic value system shared by people within a national culture determines whether it is desirable to follow an entrepreneurial career path, how much risk entrepreneurs are willing to take, and what attitude towards failure prevails.

Figure 2-3: The Giessen-Amsterdam Model of small business owner's success (Frese & Rauch, 2001; Rauch & Frese, 2007) and national culture (Frese, 2009)

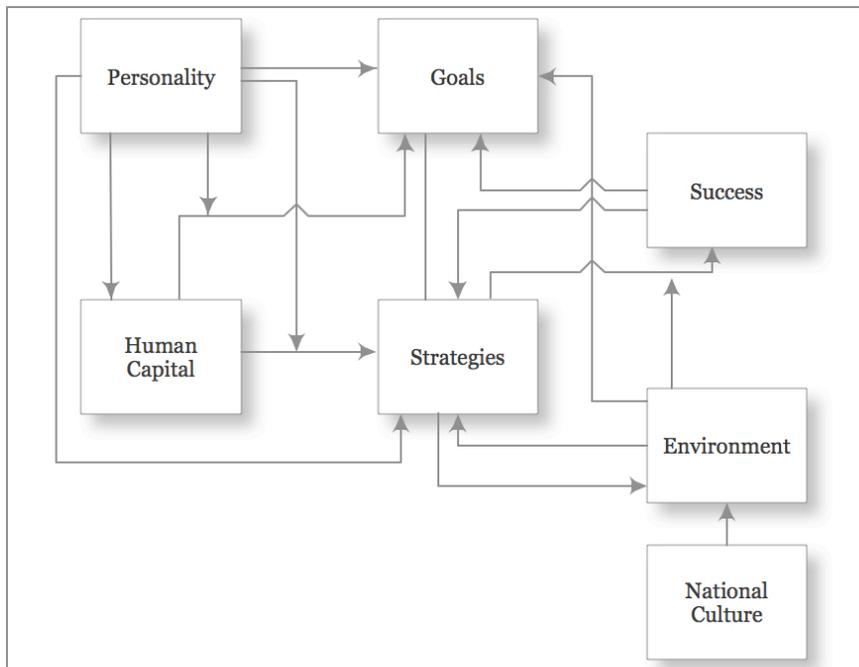


Table 2-9: Empirical studies societal status and acceptance of entrepreneurs

Authors	Dimension	level of analysis	Data	Finding
Contiu et al., 2012	Individualism, uncertainty avoidance, power distance, masculinity	National	142 Romanian business students, questionnaire	For entrepreneurial spirit, unfavorable cultural dimensions of the Romanian culture (individualism, uncertainty avoidance, power distance, masculinity) correspond with low attitude of students towards entrepreneurship.

Authors	Dimension	level of analysis	Data	Finding
Mueller & Thomas, 2001	Individualism, uncertainty avoidance	International	1790 university students in 15 countries, questionnaire	Entrepreneurial orientation, is more likely in individualistic, low uncertainty avoidance cultures than in collectivistic, high uncertainty avoidance cultures.
Davidson, 1995	Social status, financial orientation, societal contribution and entrepreneurial values	National	1547 Swedish random citizens in 6 regions and in two age-groups, questionnaire	Attitude towards entrepreneurship differs only slightly among Swedish regions, but younger people (18-19) have a significantly higher attitude than older people (35-36)
Begley & Tan, 2001	Risk avoidance, individualism, (in respect of status of entrepreneurs)	International	1254 MBA students in East Asia (Indonesia, Korea, the Philippines, Singapore, Thailand) and Anglo Saxon countries (Australia, Canada, New Zealand, U.S.)	Individualism: social status will positively predict interest in entrepreneurship better in East Asia than the West risk: that shame of business failure will negatively predict interest in entrepreneurship better in East Asia than the West.
Van Praag, 2009	Status of entrepreneur	National	818 Dutch students, questionnaire	Perception of entrepreneurship is determined by perceived educational requirements of entrepreneurs and the perceived level of income.
Kolvereid & Obloj, 1994	Status of entrepreneur	International	694 entrepreneurs in Poland, UK, Norway, questionnaire	Status is important for UK entrepreneurs, Polish and Norwegian entrepreneurs consider status of little importance to enter entrepreneurship.

Authors	Dimension	level of analysis	Data	Finding
Holt, 1997	Individualism, openness to change (risk), self-enhancement	International	136 Chinese entrepreneurs, 101 Chinese executives, 121 U.S. entrepreneurs	Chinese entrepreneurs score significantly higher in individualism than managers and U.S. entrepreneurs. U.S. and Chinese entrepreneurs score similar in risk avoidance.

Entrepreneurship and Development Economics

The majority of the above mentioned models and empirical studies focus on entrepreneurship embedded in the environment of an advanced economy. In entrepreneurship research, only few studies pay attention to the special milieu of countries or regions in an economic catch-up situation. It is often rewarding to venture into neighboring fields to look for answers. Development economics is such a field. It is taking into consideration the special circumstances of economies in a catch-up situation. This field of research is concerned with the study of economies with relatively low per capita resources (Behrman, 2001), also referred to as low- and middle-income economies. The overlapping section of development economics and entrepreneurship research occupies a protruding position due to its importance for virtually all actors concerned with economic growth of a country or region. Initial interest in this field started to grow in the late 1960s (e.g., Leibenstein, 1968) and 1970s (e.g., Leff, 1979). However, apart from those early contributions, the field received very little attention from the research community until the early 2000s (Bruton, Ahlstrom, & Obloj, 2008; Naude, 2011). Nafziger (2008), pointing at the neoclassical model of

the firm, even stated: “economic theory and development economics neglect the entrepreneur” (p. 371). Hausmann and Rodrik (2003) are one of the first authors that can be credited with re-introducing the entrepreneur in development economics. Powell and Hwang (2005) and Acs, Desai and Hessels (2008) provided theoretical contributions to the field. Studies followed that established a positive relationship between overall economic growth and the level of entrepreneurial activity in developing economies. Klapper, Amit and Guillen (2010) confirmed this relationship with a large data set for 82 developing countries, others focused on single countries or regions like Brazil (Castanhar, Dias, & Esperanca, 2008), Western Balkans (Fletcher, Huggins, & Koh, 2008), India (Ramachandran & Ray, 2008) or Laos and Thailand (Rubesch, 2008). Older studies in development economics that include the entrepreneur in their research design have to be treated with caution. They often work with the assumption that entrepreneurs operate only very small firms (microfirms) with no potential of growth (Fafchamps, 1994; Fafchamps & Quisumbing, 2008) and very limited potential for innovation.

More recent contributions in development economics extended the field to include advanced countries as well. It was discovered that not only underdeveloped nations benefit the most from small businesses but also advanced nations (Acs et al., 2008). Previously it was assumed that the relationship between economic growth and small business ownership comes in from of an L-shape: small businesses trigger industrialization, but the more an economy is industrialized, the more large firms displace small firms. The rationale behind this, there is economies of scale in the

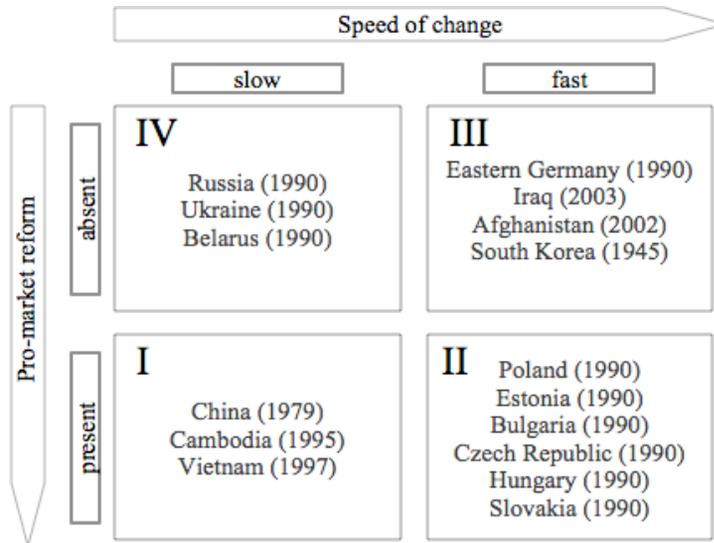
production of industrial goods and durable consumer goods that pose high barriers of entry for newcomers (Besanko, Dranove, & Shanley, 2000). However, newer empirical contributions suggest a u-shape: small firms and entrepreneurial activity are not only prevailing in low-income countries, they also replace large firms in high-income countries (Audretsch & Thurik, 2001; Audretsch & Thurik, 2004; Jorgenson, 2002; Thurik, 2011).

Classification

Economies in the transition stage from command to market have to some extent large idiosyncratic differences that make it rather difficult to compare entrepreneurs between countries. In order to build on the intersection between development economics and entrepreneurship research, it is necessary to suggest a classification according to the type of transition a command economy follows. Two meaningful dimensions for a classification are speed of change and the level of pro-market reforms introduced by the government. Speed of change refers to the timeframe in which the transition happens. Short transition time frames of one to four years offer very different opportunities for entrepreneurs than long timeframes of ten years and more. Fast changing transition economies do not have an entrepreneurial support system (financial support from banks and investors, lack of markets, and human resources). The entrepreneur had no opportunity to build up entrepreneurial experience or a support network. Slow changing economies do have time to build an entrepreneurial class. The dimension pro-market reform refers to successful attempts by the government to introduce market economy institutions along the transition.

Four unique transition economies can be distinguished:

Figure 2-4: Classification of transition economies



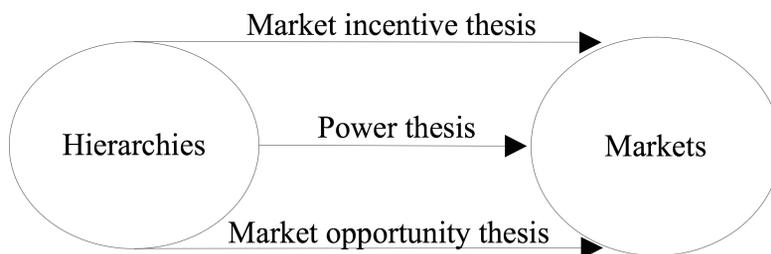
I. Countries in this quadrant are characterized by a slow transition process and the implementation of government led pro-market reforms in order to instigate transition. Examples for countries that fit in this section are China from 1979 onwards, Cambodia from 1995 on and Vietnam from 1997 on. China's transition towards a market economy is well researched since its beginnings in 1979. Early scholars focused on the change of economic institutions (Nee, 1989a; Walder & Oi, 1999). The works of Nee and Walder remain the most cited studies in the area of China's transition (Guthrie, 2000). Nee's Market Transition Theory (Nee, 1989b) provides a rationale to explain the forces behind the transition from a command economy to a market economy. Nee, with the Chinese case in mind,

identified three forces that persistently pull the socialist state towards capitalism:

- Power (the control over resources),
- Market incentives (shadow economy),
- Market opportunities (individual action versus bureaucratic decision making).

The three forces inflate the socialist state like a balloon. The Chinese model is up to date able to give way to the growing tension by letting out air in a controlled manner.

Figure 5: Forces of Nee's Theory of Market Transition



China's transition process since 1979 was slow, careful, orderly and planned. The state was in control of the forces of change at any time, learning and adapting along the way (Guthrie, 2012).

II. Countries in this quadrant introduce pro-market reforms but in a very rapid manner. The names for the initiated economic reform programs often contain the term 'shock' as in the case of Poland (Ploszajski, 1993) or the Czech Republic (Brandsma & Landa, 1993). Change is generated from within the system with a clear blue print in

mind. The reform programs are modeled after successful market economies. New institutions are set up often on external advice with the view on engaging in international economic cooperation (attracting FDI, establishing trade relationships, easing movement of workforce). The country's elites do not change. They merely adapt to the new economic institutions.

III. Countries in this quadrant stand out by their high transition speed without reforming an existing market. Instead a whole new market system is introduced from the beginning. The old planning system is abolished and replaced with market economy institutions at once. The elite of the country would not be able to adapt in that short period of time is therefore replaced along with the command economy institutions.

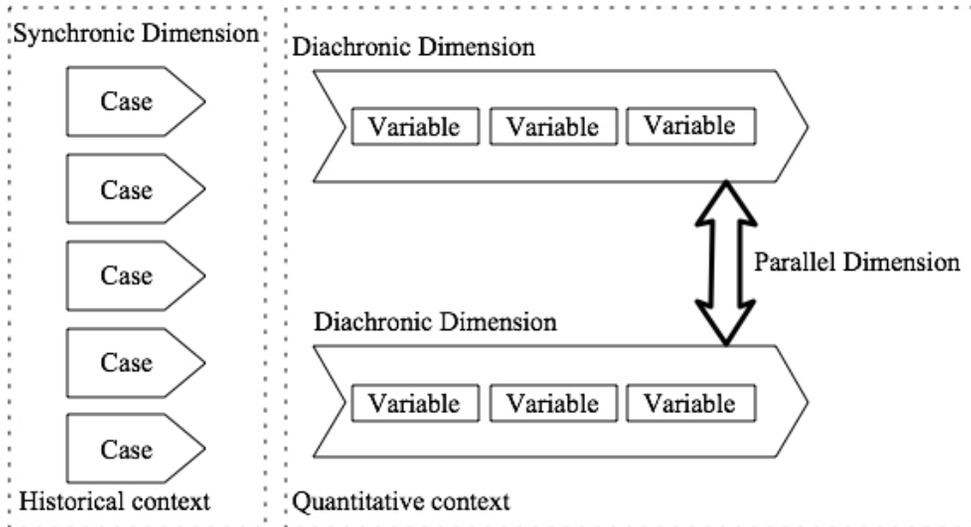
IV. Countries in the fourth quadrant do not introduce pro-market reforms in an organized and planned fashion. Instead the economy rather collapses and is build up from within the market itself more or less without the state being able to keep to control. Market economy institutions grow out of ad hoc necessity and are less a product of long term planning. The old elite stays in power, only rearranging itself according to the new market forces.

CHAPTER III

THEORY DEVELOPMENT AND HYPOTHESES

This study follows a triple comparative research design suggested by Barley (1990a, 1990b) and Barley and Kunda (2001). The argument is that data collected through diachronic research settings should be accompanied by data collected in synchronic settings. The combined data should then be multiplied through parallel data collection, hence the name ‘triple comparative design.’ The rationale behind this argument is, that data collection and analysis for quantitative data can only be meaningful when they are seen in a historical (qualitative) context. Figure 3-1 gives an overview about the research outline. The analysis of the historical context of the situation of entrepreneurs during the transition period leads to the identification of interesting variables, which then can be analyzed with quantitative methods. The qualitative analysis has two levels. First, the analysis of the relationships of the study variables during the transition period (diachronic). Second, the analysis of the relationships of the study variables over a several periods (parallel). This study covers two periods, the time during the transition (1990 - 1994) and a period after transition (2006 - 2011).

Figure 3-1: Research design, partially adapted from Barley (1990b)



Case selection

In the field of organization studies, to draw meaningful conclusions from case studies, cases should suffice the following characteristics (Fitzgerald & Dopson, 2009, p. 468):

1. Factual data on the context of the case, this might include archival data, as well as data specifically collected for the research. Contextual data ought whenever possible to have a historical dimension.
2. Data, in one of a number of potential forms, from a range of stakeholders in the organization.
3. Triangulation of data from several sources. Thus, data collection from interviews might be partially validated by observations, archival data, or survey data.
4. Analysis of data should be multifactorial and should be triangulated.

The study design and data collection suffice Fitzgerald & Dopson's (2009) requirements.

Although it might be possible to produce generalizations from a single case study, the requirements on the research design are very challenging. One common requirement is that data collection and data evaluation should be conducted by different people and that the data collecting researcher must not be influenced by the data evaluating researcher in order to minimize bias (Kennedy, 1976). Such research designs require at least one additional independent researcher. Eisenhardt (1989) argued that less than four case studies present generally little explanation power and often are empirically unconvincing. Eisenhardt (1989) also argued that with more than ten cases, "it quickly becomes difficult to cope with the complexity and volume of data." (p. 545). Therefore, a healthy number of cases to test a given theory would be four to ten, depending on the level of complexity (more cases equals more complexity and less analytical depth) and targeted generalizability (less cases require a more laborious research design in order to reach a sufficient level of generalizability). This thesis chooses nine case studies. The cases are described in Appendix A.

The cases were strategically chosen, so that they complement the qualitative data and add a maximum of knowledge to the study. The goal was twofold: to identify interesting study variables, to verify the quantitative results and to establish the criticality of the measures. Criticality refers to the question "if it happens here, it can happen anywhere' or oppositely 'if it

does not happen here, it is not going to happen anywhere” (Patton, 1990: cited in Neergaard, 2007, p. 263).

The case studies were chosen in accordance to Koellermeier (1992). The data for the case studies were updated through semi-structured telephone interviews, which I conducted between December 2012 and January 2014 with the founders (except three, one passed away, the other two were not available), former employees of the firms, and employees of the local company registry (*Gewerbeamt*) that were familiar with the firm.

Cases

The cases cover the typical business forms of newly registered firms during the transition period. Four firms were started from the scratch, five business did already exist in East Germany, although they operated with a different business form. All firms attracted media or research interests during the early nineties. The firms were regarded as successful businesses.

The ten founders in the study (one firm, Extrabau, had two founders) were at the time of reunification on the average 46 years old. They were all male and were over the average educated. One founder (Umweltanalytik) drew his motivation from a role model he had in his youth. One founder (Werner Mucks GmbH) was motivated by a sense of responsibility for his employees. One founder was mainly driven by scientific curiosity (Zinke Oeko Engineering) and regarded the firm mainly as vehicle to promote his reputation as engineer. The other founders were motivated by a combination of monetary issues and the opportunity to stay in the line of business they have been in since graduation from school/university.

All founders had outstanding knowledge in their line of business, and were regarded as experts. They were all very well embedded in networks in their industry.

My impression of the founders was that they possessed all, without exception, very charismatic personalities.

Despite the good prospects, which the firms had at the beginning of the 1990s, only one of the businesses still exists today, one was merged and the other businesses were deleted from company register due to bankruptcy or voluntary business closure (Table 5-2).

Table 5-2: Descriptive statistics case studies

Firm	Age of founder 1990	Years of education	gender	previous experience as entrepreneur	years in business	exit
Präzisionselektronik	44	22	male	yes	>10	merger
Umweltanalytik Brandenburg	49	18	male	no	>10	bankrupt
Wemex Computer Handelsgesellschaft	40	18	male	no	5	bankrupt
Zinke Oeko Engineering	40	18	male	no	10	bankrupt
Extrabau Founder A	38	13	male	no	>10	still in business
Founder B	38	13	male	no	>10	still in business
Werner Mucks GmbH	72	13	male	yes	>10	ceased operation
Weissenseer Baugesellschaft	50	18	male	no	2	bankrupt
Stahlleichtbau Frankfurt/Oder	47	22	male	no	7	bankrupt
Studiotechnik Berlin	42	18	male	no	4	bankrupt
M	46	17.3				
SD	10.12	3.37				

The reasons for failure can be classified in internal factors (Wemex, Umweltanalytik, Zinke Oeko, Weissenseer Bau) and external factors (Präzisionselektronik, Werner Mucks, Stahlleichtbau, Studiotechnik).

The internal factors of failure are in two cases wrong risk assessment (Wemex, Weissenseer Bau) and in two cases misunderstanding of what the role of the manager is (Umweltanalytik, Zinke Oeko). Of special interest are the latter two cases. The founders had a concept of man that was close to that of an organization man, not an entrepreneur. Employees were seen as equal colleagues or friends. Difficult decisions could not be enforced, due an unwillingness to disturb harmonic relationships.

The external factors that contributed to the failure of the other four firms were of macroeconomic nature. On the 1st of July 1990 was the Ostmark (the currency in East Germany) replaced with the West German Deutschmark. The exchange rate was fixed at two Ostmark for one Deutschmark. This exchange rate grossly overvalued the Ostmark. Wages had to be paid in Deutschmark but the product pricing was made according to the Ostmark. This led to a jump in labor unit costs. With the currency reform 1990 were the firms producing too expensive and selling too cheap. The founders were from late 1990 on mainly occupied with the reduction of production cost, since higher product prices were not accepted by the market. Stahlleichtbau, Präzisionselektronik, Studiotechnik, and Werner Mucks GmbH cited cost problems due to the currency reform as main reason for their market exit.

The study of the cases helped to identify questions of interest. [1] Role models. Only one of the founders had a strong role model during his youth. He could form an entrepreneurial mindset early in life. Furthermore, his entrepreneurial activities were backed and supported by his extended family, right from the start in 1990. The other founders grew up in a society that discouraged entrepreneurs and idealized the Soviet Man. What impact did role models, or the absence of role models, have on entrepreneurial intent and success during the transition period? [2] Mobility. None of the studied founders was willing to relocate. All stayed in the same area they lived in 1989. During the transition period, eastern Germany experienced a strong exodus of its brightest minds. Policy makers realized the problem and attempted to set up programs and measures to retain people in eastern Germany. Moving is always connected to risk bearing. The step towards a new job, new friends, and a new environment requires to some extent the willingness to take the risk, giving up old network ties. Were people that moved more entrepreneurial than people that stayed? Were they more likely to start a company? [3] Entrepreneurial experience. Among the studied founders, two had solid experience as entrepreneurs. They had run companies in the adverse environment of East Germany. It would be to expect that experience pays off during the transition period. Was it indeed the case that experienced entrepreneurs became entrepreneurs in the transition economy and were they more successful than founders without experience? [4] Education. The studied founders received far above average education. Is there a relationship between education and the willingness to become an entrepreneur? [5] Personality. The founders were all charismatic

personalities with good interpersonal skills. In the case of the late Werner Mucks, the people I spoke to expressed even a fan-like admiration for their former boss. None of the founders completed a Big Five personality test. Nevertheless, during my studies I gained the impression that all founders would have scored high on openness, extroversion, conscientiousness, and neuroticism. Nevertheless, not all founders would have scored low on agreeableness, in my opinion. My impression was, that some founders would have been rather quick to submit to another opinion. Can personality predict the likelihood of an entrepreneurial career in a transition economy?

[6] Age. With an average age of 46 years the founders were relatively mature to start a firm. Werner Mucks, with 72 years of age, came even out of retirement. Star entrepreneurs from other transformation economies are often in their late twenties. Especially Russian star-entrepreneurs were rather youthful when they started out in 1990 (Roman Abramovich (24), Mikhail Fridman (26), Mikhail Khodorkovsky (27), Alex Konanykhin (26), Vladimir Potanin (29)). Does age matter when becoming an entrepreneur in a transition economy?

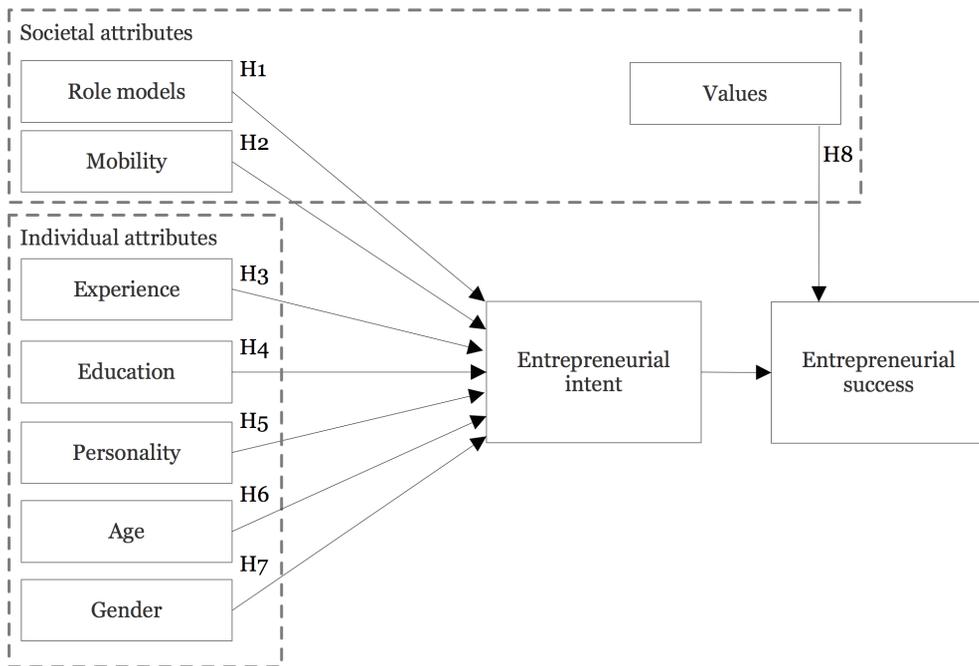
[7] Gender. The studied entrepreneurs were all male. The high female labor participation rate in command economies, would suggest that women are as active as entrepreneurs as men. Does gender have an impact on the decision of becoming an entrepreneur and does gender can predict entrepreneurial success?

[8] Value system. During my research on the founders, I gained the impression that all but Werner Mucks, had not a value system that corresponds not with market economy entrepreneur's mindset. They felt an urge to 'give back to society' and to promote the common good of the wider public. Frank Bier clearly put the promotion of

environmental issues over business interests. Thomas Steiger fully sponsored a professional basketball top-team. Bernhard Zinke promoted the use of environmentally friendly building materials to the extent that he rather took a loss than selling something to customers that he considers as not fit to his standard. Rudolf Stadermann became greatly involved in political activities promoting and helping other entrepreneurs in eastern Germany. That leads to the question to what extent have entrepreneurs in transition economies been stuck with a Soviet Man's mindset acquired during the command economy period, and how fast could they change their value system, to fit in a market economy?

Based on these considerations I propose the research model depicted in figure 3-2. The model contains two sets of independent variables. The first set of variables, societal attributes, is mainly determined by societal forces. Role models, mobility and a person's value system are strongly influenced by a person's social environment. The second set of variables, individual attributes, are shaped by the person itself and are less due to a person's environment. Age, gender and personality are assumed unalterable, and experience and education can be influenced on an individual level.

Figure 3-2: Research Model.



Hypotheses

Role Models

The literature lacks evidence for the relationship between role models and entrepreneurial intent in new transition economies, and the relationship between role models (in form of the self-employed parent) and entrepreneurial success. For the case of developed market economies, the empirical evidence points unanimously towards a positive relationship between parental role models and entrepreneurial intent (BarNir et al., 2011; Cooper & Dunkelberg, 1987; Gurbuz & Aykol, 2008; Jacobowitz & Vidler, 1982; Scherer et al., 1991; Schmitt-Rodermund, 2004; Schoon & Duckworth, 2010; Schroeder et al., 2011; Stanworth et al., 1989; Tong et al., 2011). However, most studies focus on OECD countries. Transition

economies usually do not have an entrepreneurial class that is comparable with developed countries. Command economies only allow entrepreneurship on a very small scale, both in number and size of the business. Furthermore, countries with a command economy streamline their education system to produce 'organization men'. Students are prepared for positions in government organizations such as state agencies, the armed forces, and the party. Entrepreneurship is not usually on the curriculum. From an early age on, most students would therefore develop intentions to choose a profession within the propagated system. Thus, the most capable individuals choose a government career. A career in entrepreneurship would be one of the least desired careers for them. The social reputation of an entrepreneur would be relatively low, which would lead to a lack of strong role models. The only role models available, and in fact the only source to learn about entrepreneurship, would be close family members with an entrepreneurial background. If people choose a career in entrepreneurship despite its low social reputation they would be very likely have family members with an entrepreneurial background, so that they would observe directly the advantages of an entrepreneurial career.

The effect would carry over for some years after the start of the economic transition from command economy to market economy. People, which have been exposed to entrepreneurial role models, the only possible source of entrepreneurial education, would be the first to realize the new opportunities a market system offers.

Therefore the following hypothesis is proposed:

H1-1: Adolescents with a self-employed parent are more likely to display entrepreneurial intent than adolescents without a self-employed parent.

Furthermore, people with an entrepreneurial family background should not only be more likely to show entrepreneurial intent during the transition period. They should also be more successful in their entrepreneurial pursuit by surviving the first critical years as an entrepreneur.

Although the legal and economic changes during the transition opened plentiful opportunities for entrepreneurs, entering an entrepreneurial career requires for an organization man to follow a rather stiff learning curve. People who had the chance to observe the basics of an entrepreneur's trade by having an entrepreneurial family member should have an advantage. The common mistakes unsuccessful entrepreneurs commit (managerial incompetence, neglect, weak control systems, and insufficient capital) can be often linked to inexperience. Entrepreneurs with an entrepreneurial family background are able to dwell on the mistakes of their parents and avoid those mistakes in their own career. They further could turn to their entrepreneurial parents for advice and access their parents' network. Individuals without previous exposure to entrepreneurs would have to learn the tips and tricks of entrepreneurship themselves and therefore be more likely to go bankrupt and exit their entrepreneurial career.

Therefore is proposed the following hypothesis:

H1-2: Adolescents with a self-employed parent are more likely to display entrepreneurial success than adolescents without a self-employed parent.

Mobility

Between 1945 and 1961, about 3.5 million people permanently left the Soviet occupied zone (East Germany) and moved westwards to settle in either the American, French or British occupied zone (West Germany). The large migration movement posed a serious threat to the East German regime. The mostly young, over the average educated and skilled people, who left the Soviet zone, caused a brain drain that began to endanger the East German economy. The construction of the Wall, which should separate Germany for 28 years, had the purpose of stopping the brain drain and migration towards the West. In August of 1989 Hungary opened its border to Austria. This opened a loophole and about 2.5% of the East German population made their way to West Germany by way of Hungary and Austria, often under adventurous conditions. This large scale flight was one of the main reasons for the Wall to collapse in November 1989. The purpose of the Berlin Wall, to prevent migration, became the cause for its fall at the end.

Fuchs-Schündeln and Schündeln (2009) estimated that 2.45 million individuals migrated from eastern Germany to western Germany between 1991 and 2006. About 1.45 million individuals moved in the opposite direction during this period. West-East migration can be explained to a large

part by the replacement of East German institutions with West German institutions. Large numbers of East German civil servants, all judges and prosecutors, military offices, higher police officers, most managers of larger firms and other key positions were replaced with individuals from western Germany. Furthermore, in 1999 moved the federal government administration and the parliament from Bonn to Berlin, which resulted in a further large West-East migration movement. East-West migration can be separated in two waves, the first wave from 1990 to 1998 and the second wave from 1999 onwards. During the first wave, the transition period, mostly individuals with little education and higher education migrated, while individuals with a middle level of education (vocational training) were more likely to stay in eastern Germany (Fuchs-Schündeln & Schündeln, 2009). This effect changed during the second wave, where people with higher education were more likely to migrate to western Germany. This is in line with the argument that during the transition period education degrees were devalued. Years of schooling were of little relevance and everybody was treated the same. During the second wave of migration from 1999 on, the signaling power of years of education has normalized. Individuals with college degrees could distinguish themselves from individuals with less years of schooling. This resulted in better opportunities in western German job market for college degree holders, while individuals with less education had less opportunities and therefore did not migrate.

To explore the topic of entrepreneurship under transition conditions further, it is important to understand what the immigrating population actually did after arriving the West Germany and later in western Germany.

It can be assumed that a person that is willing to leave his home region in search for better conditions and prosperity is closer to an entrepreneurial personality than the average population. Leaving means starting from scratch: the transfer of network ties and social capital during East-West migration is almost impossible. A prerequisite factor to succeed as a migrant from eastern Germany in western Germany during the transition period is that the migrant scores similar to an entrepreneurial personality in the Big Five model. The migrant must be conscientious, extroverted, and open, while scoring low on agreeableness and neuroticism. If the nascent migrant would score high on agreeableness and neuroticism he would not leave in the first place. If he would not score high on openness, extroversion, and conscientiousness, he would not be able to integrate in the short term and would return. Consequently, if East-West migrants during transition possess an entrepreneurial personality, they would be more likely to be self-employed later in life (entrepreneurial intent).

Therefore the following hypothesis is proposed:

H2: East-West migrants during the transition period are more likely to display entrepreneurial intent than the average population.

Experience

When an entrepreneur engages in a venture, he gains knowledge, extends his network, advances his skills and increases his human capital in general. Even if he fails with a venture, he will be able to transfer a large part of human capital to a new venture. The probability of running a successful venture increases with the length of the entrepreneurial career

(Ronstadt, 1988). Many entrepreneurs engage in minor entrepreneurial activities even in their childhood (Jacobowitz & Vidler, 1982; Obschonka et al., 2010). Entrepreneurs in transition economies have only limited opportunities to engage in entrepreneurial activities before they found the first venture. Such entrepreneurs who have had experience as entrepreneurs in the command economy should have an advantage and be less likely to fail with the venture. Moreover, they would have a more realistic view on their abilities as entrepreneur.

Therefore the following hypothesis is proposed:

H3: Entrepreneurial history is positively related to entrepreneurial success in the German transition economy.

Education

Strong evidence exists that entrepreneurs are better educated than the general public (Baumol et al., 2009; Bergmann & Sternberg, 2006; Mondragón-Vélez, 2009). Furthermore, entrepreneurs with over the average education are likely to be more successful (Bates, 1985; Davidson & Honig, 2003; Dickson et al., 2008; Tortella et al., 2011). Nevertheless, some of the evidence points towards possible differences across countries, which might be caused by cultural factors (Cowling, 2000).

Here as well, most of the studies focus on developed countries. Developing countries or transition economies are under-represented. An idiosyncrasy of transition economies is that the disruption of the economic and social system causes a change of the market value of education in a very short period of time. Since the education in command economies prepares

students very little for jobs in market economies, education in terms of human capital is devalued by the disruption.

The education systems of the two Germanys after World War II developed in different directions. In East Germany a Soviet style education system was installed (Connelly, 2000). The focus was on expanding secondary education to the lower classes and to provide everybody with the highest possible educational standard during comprehensive schooling (beginning at grade 1 to grade 10, from age 6 up to age 16). The curriculum was strongly oriented towards scientific subjects (mathematics, physics, chemistry, astronomy) and technology-related subjects. For example, in mathematics was taught from the beginning on matrices, proof of induction, parabolas, second order differential equations; topics that are thought in most OECD countries on a secondary education level. There was, however, no competitive selection. The first ten years of comprehensive education was for everyone the same. About 5% of the students of every age group were admitted to high school. The remaining 95% were channeled to technical schools or vocational training. The criteria for selection for high schools were not entirely depending on a student's academic performance. Great influence had the political convictions of the student and the political status of his parents within the socialist system. The access to universities in East Germany was very limited. Here as well, university admission was not entirely granted due to academic performance, but strongly influenced by the political views of the candidate.

The West German education system after the war was strongly influenced by occupying US and British forces. The system was competitive, with several school types offering courses and curricula due to the students' talent and interest. Access to secondary schooling was open and granted according to academic performance. Access to universities was generally open for everybody with a high school degree (*Abitur*). However, access to several popular departments (medicine, law, economics, engineering, and others) was limited and priority was given to students with best high school performance.

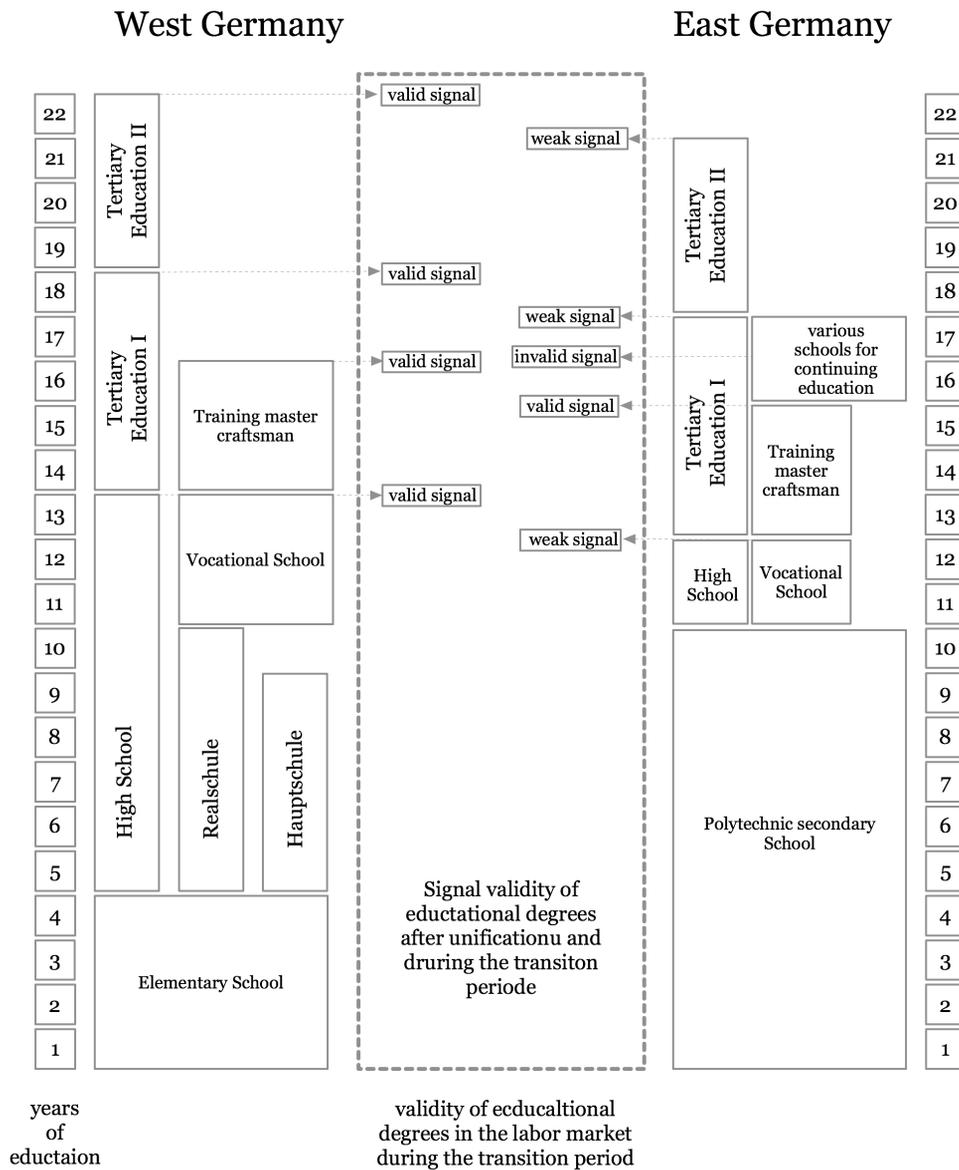
The university systems of East and West Germany were roughly the same. In both systems universities awarded similar degrees. The main difference was the taught content in social science departments. East German universities had a strong focus on Marxist theories, in line with the Soviet system.

Due to the difference in the nature of selection in both education systems (loyalty to the system in East Germany, competitive in West Germany) education as a signal, a label, or a filter in the eastern German transition economy was not valid anymore. The framework of the economic system in East Germany was replaced with the economic system of West Germany in 1990. An entrepreneur with an East German education background would have had difficulties to use his education degrees to his advantage.

For example, East German state-owned banks were swiftly privatized after the reunification. The state-owned banks were acquired in most cases by West German banks. Personnel and management methods

were immediately replaced and new credit rating tools were adopted. An entrepreneur with an East German education background applying for a loan had difficulties using his degrees to communicate his human capital level. The West German bank as well, would have trouble to judge an entrepreneur with an East German education background. To what extent are his degrees due to academic performance and to what extent due to loyalty to the East German regime?

Figure 3-2: Comparison of the education systems of East and West Germany before reunification and validity of educational degrees as signals.



During the transition period, nascent entrepreneurs in eastern Germany were in a similar position: their educational degrees were similarly worthless. A doctoral degree in Marxism/Leninism, a master degree from the Party Academy, or an army general staff course at the Staff College in

Moscow would have guaranteed top positions in East Germany but were of little value in a reunified Germany. Nascent entrepreneurs could not use their degrees to their advantage and were in fact in the same position as an entrepreneur with no degree at all. For the initial transition period, the well-documented positive relationship between years of education and entrepreneurial intent (Bergmann & Sternberg, 2006; Cowling, 2000; Davidson & Honig, 2003) and entrepreneurial success (Bates, 1985; Baumol et al., 2009; Dickson et al., 2008; Tortella et al., 2011) was suspended. This leads to a situation where potential stakeholders (e.g., financiers, customers, partners) could not use a nascent entrepreneur's educational credentials to judge his potential in deciding whether to support him or not. They would have to rely on other indicators for judgment during the early transition period 1990 - 1994. If a nascent entrepreneur received tertiary East German education or not would have no or little impact on his entrepreneurial intent (support from stakeholders to start a venture) or entrepreneurial success (support from stakeholders to continue a venture).

This effect would disappear from the years 2000 on. Ten years after reunification, people had the opportunity to adapt to the new requirements of the education system. They would obtain signals (educational degrees) that are valid in the new system and that can be effectively signaled to stakeholders. After the year 2000 the normal relationship between years of education and entrepreneurial intent/success document in the literature should be restored.

Therefore the following hypotheses are proposed:

H4-1: The effect of years of education on entrepreneurial intent in

eastern Germany will be weaker between 1990 and 1994 than after 2000.

H4-2: The effect of years of education on entrepreneurial success in eastern Germany will be weaker between 1990 and 1994 than after 2000.

Personality

The literature on entrepreneurship established strong evidence regarding the idiosyncrasy of the entrepreneur's personality. The personality traits of entrepreneurs differ from personality traits of non-entrepreneurs (Sorgner, 2012; White, Thornhill, & Hampson, 2006).

In the empirical literature is a broad consensus that entrepreneurs have a more aggressive, forward (future) oriented, and extrovert personality (e.g., Schoon & Duckworth, 2010; Stuard & Abetti, 1990; White et al., 2006). Entrepreneurs are better able to tolerate ambiguous situations and uncertainty (e.g., Lüthje & Franke, 2003; White et al., 2006) and they tend to be less comfortable with authority and therefore tend to favor autonomy (e.g., Owens, Kirwan, Lounsbury, Levy, & Gibson, 2012). Furthermore, they tend to have a higher need for achievement (e.g., Stewart & Roth, 2007).

The theoretical literature on entrepreneurial personality often utilizes the Big Five model and suggests that entrepreneurs score higher on the traits conscientiousness, openness and extroversion and lower on the traits neuroticism and agreeableness (table 10). This combination is referred to as *entrepreneurial personality* (Zhao, Seibert, & Lumpkin, 2010).

Table 3-1: Entrepreneurial personality (partially adapted from Robbins & Judge, 2011, p. 173)

Score on Big Five trait	Relevance	Effect on entrepreneur's personality
High on conscientiousness	<ul style="list-style-type: none"> - More persistent and discipline - Better able to focus - Better organization and planning 	<ul style="list-style-type: none"> - Enhanced leadership, - Functions a credible model in the firm and trusted business person outside the firm - Efficiency in decision making and execution
High on extroversion	<ul style="list-style-type: none"> - Better interpersonal skills - Greater social dominance - More emotionally expressive 	<ul style="list-style-type: none"> - Enhanced leadership - Larger network - Short time to connect to new people
High on openness	<ul style="list-style-type: none"> - Increased learning - More creative - More flexible and autonomous 	<ul style="list-style-type: none"> - Short time for adaptation to new environment - Enhanced leadership - More adaptable to change - Less clinging to the past or traditional ideas
Low on agreeableness	<ul style="list-style-type: none"> - Less liked - Less compliant - Often not conforming 	<ul style="list-style-type: none"> - Not afraid to cut unproductive relationships, less loyal - Able to follow through against strong opposition - Higher level of deviant behavior
Low on neuroticism	<ul style="list-style-type: none"> - Less negative thinking - Emotional stable - Less hyper-vigilant 	<ul style="list-style-type: none"> - Better able to deal with high stress situations - More optimistic view on future

These personality traits are stable over time and often already displayed at a young age (Obschonka, Duckworth, Silbereisen, & Schoon, 2012; Obschonka et al., 2010; Schoon & Duckworth, 2010). Personality traits have also been linked to success as an entrepreneur (Ciavarella et al., 2004; Owens et al., 2012).

It is expected that a person cannot easily change his personality. The typical entrepreneur should therefore display similar personality traits in the economic transition and the market economy. Furthermore, it is expected that the personality traits of entrepreneurs do not differ significantly between cultures.

Personality traits are of protruding importance for economic success in transition economies. In a very short period of time are the legal, political and governmental systems replaced, followed by stark interruptions of the economy and a change in the industrial structure. That has life-changing consequences for the majority of people. Virtually the rug is pulled out from under everybody's feet. People face unemployment, devaluation of social capital, loss of network ties, abolishment of spiritual institutions. But it also holds plentiful opportunities for individuals who are resourceful, motivated, swift, and most of all, willing to adapt and embrace change. People with an entrepreneurial personality are best able to use an economy in the flux to their advantage.

Therefore the following hypotheses are proposed:

H5-1: Entrepreneurial personality is positively related to entrepreneurial intent for individuals with an East German background during the transition period.

H5-2: Entrepreneurial personality is positively related to entrepreneurial success for individuals with an East German background during the transition period.

Age

A person's age is very important determinant for the decision to enter and stay in an entrepreneurial career. However, age is merely a measure that indicates in which stage of the life cycle a person is in. Younger people, not

yet married, without children find it easier to try something new and take risk in a business venture. More mature people often have to carry the financial responsibility for a family, which greatly limits risk bearing. Furthermore, age might have an impact on the ability and willingness to learn new skills required in an entrepreneurial career.

The entrepreneurs in the case study were significantly older than the average entrepreneur in other OECD countries (Cowling, 2000; Ronstadt, 1986). The literature established an inverted U-shape relationship between age and becoming an entrepreneur. Either entrepreneurs start young or they start mature. Mid-career individuals are less likely to become entrepreneurs. In case of the German transition that proposed inverted U-shape does appear to hold true. Young people seem to stay away from entrepreneurial careers and more mature individuals are drawn into entrepreneurship.

The reason might be found in crowding out of younger entrepreneurs. The majority of the entrepreneurs in the case study had no other possibility other than becoming an entrepreneur. They were too old to start over in another industry, and too young to retire. Considering Thomas Steiger of Wemex exemplifies this point. He received an outstanding education and training. At the age of 40, he was hugely successful. After reunification and the closure of the government agency he worked for, he had considered working for another firm. This would have been linked with retraining and a downgrade in rank. Using his extensive network ties in the industry and continuing as an entrepreneur was his best choice. But this prevented younger individuals to enter the industry. Steiger had better contacts, more experience, more reputation. Younger entrepreneurs applying

for the same loan at a bank, would very likely lose out to Steiger. Resources were channeled to more mature individuals.

Therefore the following hypothesis is proposed:

H6: Age is positive related to entrepreneurial intent.

Gender

Considering the high labor participation rate of women in command economies, is it somewhat surprising to observe only a small number of visible female entrepreneurs. Star-entrepreneurs in transition economies are almost exclusively male. Not only entrepreneurs in the media limelight are dominantly male, also the general share of female entrepreneurs is far below that of male entrepreneurs (Kelley et al., 2013). The reasons for the lack of interest of women in becoming entrepreneurs are complex and beyond the scope of this study. Nevertheless, two possible determinants shall be examined: a differing value system and different personality traits.

Therefore the following hypothesis is proposed:

H7: Women are less likely to display entrepreneurial intention than men.

Value

Building on the notion of entrepreneurial acceptance in society, I argue that entrepreneurial success depends on the value system a person holds. Command economies promote a fully different set of values than

market economies. Unlike cultural traits are value systems not necessary stable over time. Value can be influenced and altered by media and follow often a political articulated will. The Soviet Man is not greedy, is filled with altruism, strived to do go for others first and for himself later. The soviet man holds the opinion that all capitalists are slave drivers and evil to the core. If one has inhaled that kind opinion from an early age on with every children's book, TV drama, news story and university lecture it will leave an impression and will linger on even though the soviet man has fallen out of favor with the onset of transition. In a market economy situation has an entrepreneurial mindset obvious advantages over a soviet man who aims to run a firm.

Therefore the following hypothesis is proposed:

H8: Scoring high on the organization man scale is negatively related to entrepreneurial success.

CHAPTER IV

MODEL TESTING

Data and Sample

The data set utilized for this study is the 95% German Socio Economic Panel (GSOEP) set for the years 1984 to 2011. The study covered initially approximately 10000 individuals but was extended in 1990 to 13000 and from 2000 on to over 22000 individuals. The data were annually collected by the German Institute for Economic Research (DIW) and are representative of people living in Germany (nationals and foreigners alike). The data are collected by trained interviewers. The interviewer generally visits the interviewees at home and the questionnaire is filled in under the supervision of the interviewer. In exceptional cases is the questionnaire left with the interviewee and filled in without supervision. Before the questionnaire is filled in the interviewer explains the purpose of the questionnaire. The interviewee is provided with a folder containing information leaflets and stationary (e.g., a ball-pen). Furthermore, the interviewees receive a small token of gratitude (from 2005 on a lottery ticket).

The data quality can be considered high. Kroh (2004) tested the data quality of the panel for a very sensitive item: body weight. He found that the self-reported values differ only insignificantly from the measured values. It is therefore reasonable to assume that interviewee answer the questionnaire truthfully.

The dataset covers general attitudes, employment status and relationships, educational background, income, health, future plans and others. Additionally, the survey years 2005 and 2009 included a short, 15 items scale personality assessment geared towards the Big Five Personality model. Each individual in the study is assigned a unique number. Furthermore, the interviewers endeavored to interview the same people each year. The study qualifies therefore as a longitudinal study, that enables the tracking of individuals over several years. About 10% of the participants took part in the study since its first inception in 1984 until 2011.

For western Germany, in 1990, the first year of transition, 9016 individuals took part in the study. 419 individuals reported to be engaged in entrepreneurial activities (including 37 family members helping in the family business). Out of those 419 individuals, 133 took part in the panel until 2011.

For eastern Germany, in 1990, 4229 individuals took part in the study. 137 individuals reported to be engaged in entrepreneurial activities (including 20 family members helping in the family business). Out of these 137 individuals, 38 took part in the panel until 2011. This results in a sample size of 171 individuals that cover the years 1990 to 2011.

Preparation of Data Set

In a first step were all relevant data sets merged (panels from 1984 to 2011, and the one-time questionnaires about interviewee's educational background, parents, and employment history). Each individual is assigned a unique number, which does not change throughout the study. All data sets

were merged on this unique identifier, so that the final set contained 70,350 individuals that took part in the study at least once between 1984 and 2011.

In a second step, individuals with missing educational data were dropped. The reason was either because those individuals failed to provide adequate information about their educational background or the individuals were too young to have finished school yet. In this step 7519 individuals were dropped.

In a third step, individuals that filled in questionnaires inadequately by failing to provide adequate data about their current employment status were dropped as well. Some individuals, for example, took only part in the psychological assessment in 2005 or 2009 but refused to fill in the remaining questionnaire. In this stage 9584 individuals were dropped.

After cleaning the data set were therefore 53,247 observations left to be included in the tests for the hypotheses related to entrepreneurial intent.

Based on this sample population were several subsets for the statistical analysis created.

Sample ‘East 1990’: This sample contained individuals with an East German background (identified by their participation in the East German education system, being a former citizen of the GDR and having lived in East Germany in 1989 - to rule out West German expatriates and foreign nationals). The individuals further have taken part in the study in 1990 and at least 2 more times, including 2005 or 2009 (this years included the Big Five items). The majority of the participants have even participated in all studies until 2011, which increases the accuracy of the data set (table 4-1)

Table 4-1: Sample properties “East 1990”

Number of participations until 1990	Frequency	
8	1	average age 1990:40.1 years
10	1	male: 892
13	2	female: 1027
14	5	
15	118	
16	96	
18	82	
19	83	
20	141	
21	261	
22	1113	
Total N	1919	

Sample ‘West 1990’: This sample contained individuals with a West German background (identified by their participation in West German education system, and having lived in West Germany in 1989 - to rule out East German expatriates and foreign nationals). The individuals further have taken part in the study in 1990 and at least 2 more times, including 2005 or 2009 (this years included the Big Five items). The majority of the participants have even participated in all studies until 2011, which increases the accuracy of the data set (table 4-2).

Table 4-2: Sample properties “West 1990”

Number of participations until 1990	Frequency	
7	1	average age 1990: 41.99 years
7	1	male: 1668
10	3	female: 1764
11	1	
12	4	
13	5	
14	12	
15	40	
16	219	
17	208	
18	215	
19	286	
20	227	
21	376	
22	1834	
Total N	3432	

Sample ‘East 1990-1994’: The sample contains only individuals with an East German background that participated in the study at least three times between 1990 and 1994. Those individuals further participated in the study either in 2005 or in 2009 (the year in which the questionnaire contained the Big Five items for the personality assessment). The sample contains 2111 individuals.

Sample ‘East 2006-2011’: The sample contains only individuals with an East German background that participated in the study at least three times between 2006 and 2011. For all individuals is a personality assessment possible. The sample contains 5488 individuals.

Measures

Dependent Variables

Entrepreneurial intent. Individuals fall rather short when it comes to self-assessment (Foster, Witcher, Keith, & Green, 1998; Golding & Lichtenstein, 1970; Kruger & Dunning, 1999; J. M. Olson, 1992; Valins, 1966). In the SOEP data set, individuals in the 2001 panel were asked whether they plan to be self-employed in the near future. 1221 individuals reported that they plan to start a business. They were further asked how confident they are and to rate the likelihood of starting a business on a scale from 1% (unlikely) to 100% (very likely). 27 individuals reported that they are 100% sure to start a business in the near future. In the follow up questionnaire in 2002, only six individuals out of the initial 27 individuals reported that they are self-employed. In 2003 two more people reported self-employment, in 2004 two more and in 2005 one more person. Out of the 27 individuals that were in 2001 100% sure to start a business in the near future only 11 reported self-employment over the next ten years until 2011. Therefore, the self-reported intent in the data set does not seem to be reliable. It is more feasible to use actual reports of self-employment in the later years as a measure of entrepreneurial intent. For that purpose all data sets of the years 1984 to 2011 were merged and controlled for any report of

self-employment, which resulted in a sample size of 54,226 unique individuals. If an individual reported to be self-employed at least one year he is coded with 1 in the study. If he has never reported to be self-employed he is coded as 0 in the study.

Entrepreneurial success. Successful entrepreneurs are entrepreneurs that are able to stay in business and pursue an entrepreneurial career over a longer period of time. Ronstadt (1986) distinguished between entrepreneurs that stay in business for less than three years (fast exit) and entrepreneurs that stay in business longer (early exit, mid-range exit, late exit). If an entrepreneur can follow an entrepreneurial career for 3 years or longer it can be assumed that he possesses entrepreneurial competence and is successful as an entrepreneur. Otherwise market forces would have pushed him out of business earlier or a higher income in another career would have pulled him away from entrepreneurship, hinting that he has stronger competencies elsewhere. If an individual reported three or more years of self-employment he is considered competent and coded with 1 in the study. If he has been self-employed less than three years he is coded with 0 in the study.

Independent Variables

Role models. Parents, especially during the formative years of adolescence, function as an important role model (Schroeder et al., 2011). Each individual that takes part in the panel study is asked to fill in a questionnaire about his or her parents. One item asks about the parents occupational status when the individual was 15 years old. Individuals taking part in the study can therefore be controlled for whether they have been exposed to an entrepreneurial parental role model at age 15. If an individual

has declared that either his father or mother have been self-employed when the individual was 15 years old, he is coded with 1 in the study, otherwise with 0.

Education. Each participant in the study is asked to provide detailed data about his educational background. The study collects data about school types attended and degrees obtained. The duration of schooling in years is calculated for each individual according to the ISCED levels 2 to 8 (van der Pol, 2011), ranging from secondary school (10 years) to doctorate (22 years). In Germany, compulsory school attendance for all children covered 10 years in East Germany and 9 years in West Germany. The legally binding character of a minimum of nine years of schooling allows for only very few exceptions, so that a received education of less than nine years is very rare and is treated as outlier. For each individual are the years of education calculated, and coded from 10 to 22. Hereby is West German compulsory schooling (*Hauptschule*) registered as 10 years (otherwise 9 years) and East German high school degrees registered as 13 years (otherwise 12 years) of schooling to make the years of schooling in both countries comparable.

Personality. The SOEP study for the years 2005 and 2009 included 15 items linked to personality assessment of the respondent (appendix B). The 15 items are designed to replicate the original 25 item Big-Five Inventory, which was designed to determine personality traits according to the Big Five Model (neuroticism, extraversion, openness to experience, agreeableness and conscientiousness). The validity of the items was tested by Gerlitz and Schupp (2005) with a satisfactory result. The test was taken by 25.488 individuals of whom 14.319 individuals took the test in 2005 and

2009. Among the individuals who took the test in 2005 and 2009, 1075 reported to be self-employed.

It is assumed that the Big Five personality are stable over time and that the individuals that took the test in 2005 and 2009 would have scored similar in the 1990s transition period. This assumption is backed by empirical studies that personality traits in general are stable over time (Costa & R, 1988) and by a range of studies that confirmed the stability of the Big-Five personality traits in particular over 9 years (Rantanen, Metsäpelto, Feldt, Pulkkinen, & Kokko, 2007), 29 years (Kuster & Orth, 2013), 30 years (Costa & McCrae, 1992), 45 years (Soldz & Vaillant, 1999) up to 50 years (Judge, Higgins, Thoresen, & Barrick, 1999).

Schmitt-Rodermund (2004) suggested to construct an overall measure of entrepreneurial personality instead of considering single traits separately. Following this suggestion a personality reference type is defined (highest possible scores on extroversion, openness to experience, conscientiousness; lowest possible score on neuroticism, agreeableness) and the squared value of the deviation from this reference value is calculated for each trait and summed up. The resulting value is zero for a person that perfectly matches the reference type or 735 for a person with exact opposite personality. As further away from zero the value is, as less matches an individual's personality the reference type. In a second step is the value multiplied by -1. This results in higher values for the personality fit and includes therefore more individuals in the entrepreneurial personality category (Sorgner, 2012). In the study is the personality fit coded in standardized form.

The data set contains 20,049 individuals that took the test in 2005 and 19,758 individuals that took the test in 2009. If an individual left one or more questions unanswered they were dropped (641 for 2005 and 374 for 2009). In case an individual took the test in 2005 and 2009 (13,426) the test scores were averaged. This resulted in 25,016 usable observations.

Entrepreneurial history. The SOEP study collected data from 4229 individuals in eastern Germany in 1990. Out of this sample population 68 individuals reported to have received income from self-employment ranging from 30 to 5000 Deutschmark in May 1989, roughly 6 month before reunification. All 68 individuals have been citizens of and resided in East Germany. Thus, this people have been engaged in entrepreneurial activities in East Germany before the transition process. If an individual has had previous entrepreneurial experience he is coded as 1, if he had no previous entrepreneurial experience he is coded as 0 in the study.

Mobility. The SOEP study asks participants where they lived in 1989 (before reunification). This allows to determine whether a person is from East or West Germany. Furthermore, from 1990 on, the interviewer (who oversees the completion of the questionnaire by the interviewee) is required to provide information about the region where the questionnaire was taken. This information is included in the SOEP data set as well. That allows to follow the participant's migration movements. In 1990, 12 individuals that took part in the study moved from East to West. The number of East-West migrants moved up to 301 in 1994. Until 1996 moved 152 participants from western to eastern Germany and 454 from eastern to western Germany. If a person moved during the first six years of transition from western to eastern

Germany his is marked with 1, if a person moved from eastern to western Germany in the first six years of transition he is marked with 2, if a person did not migrate the person is coded with 0.

Age and Gender. When the participant takes part in the study for the first time, one is asked to fill in a basic demographic questionnaire. For every individual is the year of birth and the gender known. The gender is coded in the with 1 male and 0 for female. The year of birth is coded in a four digit format.

Value. The 1990 questionnaire for eastern Germany contains seven items regarding the value system of the participant. The individual is asked a series of eight questions and asked to rate the answer on a zero-to-ten Likert scale (Appendix C). The questions aim to collect information on the participants attitude towards generally good and desirable behavior in a society. I constructed a ideal reference type of the organization man (or Soviet Man) with the highest possible value on all items concerning community orientation and altruism (questions 1, 2, 7) and the lowest possible value concerning his own progress (questions 4, 5, 6, 8, question 3 was dropped due to its ambiguous character). The deviation from the reference type was then calculated for each individual and for each item. The values were then squared and summed up. The resulting value is 700 for a person that perfectly matches the reference type (Soviet Man) and zero for a person with the exact opposite value system. In the study is the value score is coded in standardized form. The test was taken by 4157 individuals with an East German background. Observations were dropped in case the individual was 75 years of age or older in the year of data collection.

Furthermore, observations were dropped in case of missing values. In sum 669 observations were dropped, leaving a valid sample size of 3488 individuals.

CHAPTER V

RESULTS

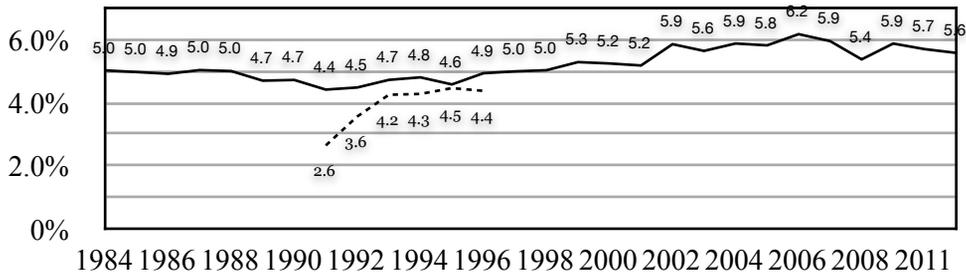
Descriptive Statistics

The relative number of individuals engaged in entrepreneurial activities in terms of the total population in Germany between 1984 and 2011 fluctuated only slightly. Figure 5 depicts the percentage of the SOEP sample population engaged in entrepreneurial activities. This includes self-employed farmer, full-time help in the family business, free-lances professions, such as lawyers, doctors, or architects, and business owners. After reunification and during the first 6 years for transition the rate of the population engaged in entrepreneurial activities declined slightly. From the late 1990 on the rate recovered and surpassed pre-reunification levels. The SOEP sample only allows to separate data for eastern Germany for the years 1990 to 1996. During this period people in former East Germany were to a lesser extend engaged in entrepreneurial activities than the overall German population.

The slight decrease in the share of the population engaged in entrepreneurial activities is somewhat surprising given that the number of new business registrations during the first years after reunification soared (Rammer, 2007). Steil (1996) calculated the number of new registered businesses in eastern Germany during the 4 years after reunification of 1,149,264 while in the same period in western Germany were registered approximately 499.000 new businesses. The population of western Germany

is with 62.000.000 inhabitants about 4 times larger than the population of eastern Germany.

Figure 5-1: Percentage of the German population aged 16 and older engaged in entrepreneurial activities between 1984 and 2011 (own calculation).



— Germany (until 1990 West Germany only, from 1990 western and eastern Germany)
 - - - Eastern Germany only

Table 5-3 present the means, standard deviations and correlation of the variables for the samples ‘East 1990’ and ‘West 1990’.

As expected, the two variables *intent* and *success* are correlated. People that *intent* to start a firm are often *successful* as entrepreneurs as well. The correlation coefficient is for the West German case slightly higher, suggesting a higher odds-ratio as well. That means, that West Germans were slightly more persistent. When they started a firm they were slightly less likely to give up. In the ‘East 1990’ and ‘West 1990’ samples, the average East German received slightly more education than the average West German. This is in line with the East German regime’s attitude towards bringing higher education to as much people as possible. In the ‘West 1990’

sample relatively more people reported to be been exposed to an entrepreneurial parental role model during their youth. That is in line with expectations as well, due to undesirable standing of entrepreneurs in the socialist society and the lack of entrepreneurs in general. Somewhat surprising is that the average person in the 'West 1990' sample had a slight less entrepreneurial personality (-0.2) than the average East German (-0.1). A higher positive number suggests scoring closer to the ideal entrepreneurial personality. Nevertheless, the 'West 1990' sample had a higher standard deviation, suggesting that West Germans score closer on the extreme ends of the spectrum, scoring either very high on entrepreneurial personality or very low. The correlation coefficient for entrepreneurial history and success (and intent) is very high in the 'West 1990' sample. That is in line with expectations since the entrepreneurial culture is deeply rooted the West German society before 1990. This was not the case in East Germany. Here had the soviet man a better social standing, and entrepreneurial activities were discouraged. Furthermore, relatively more East Germans relocated to West Germany after reunification than West Germans did to the East.

Table 5-3: Means, Standard deviations and Correlation for the sample ‘East 1990’

Variable	Mean	SD	1	2	3	4	5	6	7	8	9
1. Intent	0.133	0.340									
2. Success	0.091	0.287	0.808								
3. Role model	0.065	0.247	0.028	0.02							
4. Education	14.829	2.974	0.092	0.073	-0.02						
5. Personality	-0.100	0.958	0.111	0.124	-0.02	0.185					
6. Experience	0.021	0.145	0.283	0.28	0.034	0.01	8E-04				
7. EastWest	0.046	0.210	0.054	0.061	-0.03	0.055	0.043	-0.02			
8. Value	0.000	1.000	-0.07	-0.09	0.024	-0.03	-0.1	-0.02	-0.03		
9. Age	40.020	13.227	-0.14	-0.13	0.168	-0.115	-0.21	0.017	-0.15	0.176	
10. Gender	0.470	0.500	0.066	0.082	-0.03	0.047	0.152	0.05	0.01	-0.14	-0.02

N = 1900,

Personality is standardized (min. -4.9, max. 2.3)

Value is standardized (min.-3.9, max. 5.3)

Tables 5-5 and 5-6 contrast individuals with an East German background in 1990/1994 with 2006/2011 on the variables role model, education, and personality. Generally converged the average East German closer to the average West German during the roughly twenty years after re-unification. The received education slightly dropped, more individuals reported to have had entrepreneurial role models during their youth, and the average person displayed slightly more entrepreneurial traits.

Table 5-5: Means, Standard deviations and Correlation for the sample ‘East1990 - 1994’

Variable	Mean	SD	1	2	3	4
1. Intent	0.131	0.337				
2. Success	0.088	0.283	0.799			
3. Rolemodel	0.064	0.246	0.023	0.019		
4. Education	14.940	3.024	0.099	0.071	-0.022	
5. Personality	-0.084	0.950	0.109	0.123	-0.035	0.176

N = 2111, Personality is standardized (min.-4.8, max. 2.3)

Table 5-6: Means, Standard deviations and Correlation for the sample ‘East 2006 -2011’

Variable	Mean	SD	1	2	3	4
1. Intent	0.106	0.308				
2. Success	0.065	0.247	0.766			
3. Rolemodel	0.075	0.263	0.003	0.006		
4. Education	14.587	3.283	0.109	0.084	-0.001	
5. Personality	-0.002	0.941	0.109	0.091	-0.005	0.138

N = 5488, Personality is standardized (min.-5.4, max. 2.4)

Role Models, Education, Personality, Entrepreneurial History and Willingness to Move

At this stage of the analysis the guiding questions are how to describe the relationship of the variables within the model, whether those relationships are statically significant and whether some independent variables are a stronger predictors of the dependent variables. For this

purpose in general and to test the hypothesis 1, 2, 3, and 5 in particular, a hierarchical regression analysis was performed. The test was repeated for the dependent variables *intent* and *success*, as well as for the two data sets 'East 1990' and 'West 1990'.

Hypotheses 1-1 and 1-2 predict that parental role models make a difference in an individual's career choice, both in becoming an entrepreneur and being successful as entrepreneur. The presented evidence is not strong enough for individuals with an East German background. For none of the models in any of the samples covering individuals with an East German background (East 1990, East 1990 - 1994, East 2006 - 2011) was a relationship statistically significant. However, the examined sample covering individuals with a West German background showed a significant positive relationship for both *intent* and *success*.

Hypothesis 2 proposes that people which were willing to relocate from eastern Germany to western Germany during the transition period, are more likely to start a business than the average population. The empirical evidence supports that proposition.

Hypothesis 3 proposes that individuals that had entrepreneurial experience in a command economy, are more likely to succeed as entrepreneurs during and after the transition. The empirical evidence supports this view. Not only are individuals with entrepreneurial experience in the East German command economy more likely to start a firm, they are also more likely to survive as entrepreneurs.

Hypotheses 5-1 and 5-2 suggest that individuals which score close to an entrepreneurial personality on the Big Five personality test, are also more

likely to start a firm and survive as entrepreneur. This connection between personality and entrepreneurial intent and entrepreneurial success are supported by strong evidence in all models over all data sets.

Table 5-7: Results of Regression Analyses for the East sample *intent*

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Role model	0.3 (0.25)	0.36 (0.25)	0.23 (0.27)	0.25 (0.27)		0.27 (0.27)
EastWest		0.31* (0.13)	0.35** (0.14)	0.32* (0.19)		0.29* (0.13)
History			3.29*** (0.38)	3.38*** (0.39)	3.37*** (0.39)	3.38*** (0.39)
Personality				0.39*** (0.08)	0.34*** (0.08)	0.33*** (0.83)
Education					0.07** (0.02)	0.06** (0.23)
log likelihood	-751.240	-748.863	-702.6855	-691.222	-689.256	-686.781
R ²	0.001	0.004	0.065	0.08	0.083	0.086
Intercept	-1.90	-1.93	-2.06	-2.07	-3.1	-3.12

N = 1919, Values are regression coefficient with standard error in parenthesis

†p < .1

*p < .05

**p < .01

***p < .001

Table 5-8: Results of Regression Analyses for the East sample *success*

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Role model	0.26 (0.29)	0.28 (0.3)	0.18 (0.32)	0.19 (0.33)		0.2 (0.32)
EastWest		0.39** (0.15)	0.44** (0.15)	0.39*(0.15)		0.37*(0.15)
History			3.05*** (0.34)	3.19*** (0.35)	3.17*** (0.35)	3.19*** (0.35)
Personality				0.56*** (0.1)	0.54*** (0.1)	0.53*** (0.1)
Education					0.06** (0.03)	0.06** (0.27)
log likelihood	-580.8	-577.9	-538.8	-521.8	-522.4	-519.7
R ²	0.001	0.006	0.073	0.1	0.1	0.1
Intercept	-2.330	-2.380	-2.54	-2.58	-3.42	-3.44

N = 1919, Values are regression coefficient with standard error in parenthesis

†p < 0.1

*p < 0.05

**p < 0.01

***p < 0.001

Effect of Education

Hypotheses 4-1 and 4-2 propose that education was of less value during the transition period than after the transition period. Regression analysis suggests that education had a strong impact on becoming an entrepreneur and being successful as entrepreneur, both during the transition (1990 - 1994) and after transition (2006 - 2011)(table 5-9 to 5-12). In order to interpret the magnitude I calculated the odd-ratios for

intent and *education* (1990 -1994): 1.09, std. err. 0.021, $p < 0.001$,
success and *education* (1990 1994): 1.08, std. err. 0.026, $p < 0.01$,
intent and *education* (2006 - 2011): 1.1, std. err. 0.014, $p < 0.001$,
success and *education* (2006 -2011): 1.1, std. err. 0.018, $p < 0.001$.

I further compared this value to the overall odd ratios for the whole population (N = 35314) and found that they are similar (success: 1.13, std. err. 0.001, $p < 0.001$; intent 1.15, std. err. 0.005, $p < 0.001$). Hypotheses 4-1 and 4-2 are therefore not supported.

Table 5-10: Means, Standard deviations and Correlation for the sample ‘East 1990 - 1994’

Variable	Mean	SD	1	2	3	4
1. Intent	0.131	0.338				
2. Success	0.088	0.284	0.7998			
3. Role model	0.065	0.246	0.0229	0.0199		
4. Education	14.940	3.024	0.0992	0.0714	-0.0221	
5. Personality	-0.084	0.955	0.1091	0.1226	-0.0358	0.1758

N = 2111, Personality is standardized (min. -4.9, max. 2.3)

Table 5-11: Means, Standard deviations and Correlation for the sample ‘East 2006 - 2011

Variable	Mean	SD	1	2	3	4
1. Intent	0.166	0.308				
2. Success	0.653	0.247	0.7662			
3. Role model	0.075	0.263	0.0029	0.0061		
4. Education	14.587	3.282	0.1087	0.0839	-0.0013	
5. Personality	-0.002	0.942	0.1086	0.0911	-0.0047	0.1388

N = 5488, Personality is standardized (min. -5.4, max. 2.4)

Table 5-12: Results of Regression Analyses for the sample ‘East 1990 -1994’ *intent*

Variable	Model 7	Model 8	Model 9
Education	0.09*** (0.02)	0.07*** (0.02)	
Personality		0.341***(0.77)	
Role model		0.316 (0.246)	0.254 (0.242)
log likelihood	-810.7	-799.6	-820.0
R ²	0.012	0.025	0.0006

N = 2111, Values are regression coefficient with standard error in parenthesis

†p < 0.1

*p < 0.05

**p < 0.01

***p < 0.001

Table 5-13: Results of Regression Analyses for the sample 'East 1990 -1994' *success*

Variable	Model 7	Model 8	Model 9
Education	0.08** (0.02)	0.06** (0.02)	
Personality		0.51***(0.09)	
Role model		0.32 (0.29)	0.26 (0.28)
log likelihood	-624.3	-608.5	-629.0
R ²	0.008	0.033	0.0006

N = 2111, Values are regression coefficient with standard error in parenthesis

†p < 0.1

*p < 0.05

**p < 0.01

***p < 0.001

Table 5-14: Results of Regression Analyses for the sample 'East 2004 - 2011' *intent*

Variable	Model 7	Model 8	Model 9
Education	0.11*** (0.01)	0.09*** (0.01)	
Personality		0.37***(0.05)	
Rolemodel		0.04 (0.17)	0.04 (0.16)
log likelihood	-1827.8	-1798.4	-1857.5
R ²	0.017	0.032	0.000

N = 5488, Values are regression coefficient with standard error in parenthesis

†p < 0.1

*p < 0.05

**p < 0.01

***p < 0.001

Table 5-15: Results of Regression Analyses for the sample ‘East 2006 - 2011’ *success*

Variable	Model 7	Model 8	Model 9
Education	0.1*** (0.02)	0.09*** (0.02)	
Personality		0.4***(0.07)	
Rolemodel		0.09 (0.2)	0.09 (0.2)
log likelihood	-1306.9	-1284.3	-1322.9
R ²	0.014	0.029	0.0001

N = 5488, Values are regression coefficient with standard error in parenthesis

†p < 0.1

*p < 0.05

**p < 0.01

***p < 0.001

Gender, Age and Values

Hypothesis H6 and H7 propose that older individuals are more likely to start a venture in transition economies and that women are less likely to be engaged in entrepreneurial activities in transition economies. Table 5-16 gives an overview about the logistic regression results. According to the results, younger people are more likely to display entrepreneurial intent. Thus, hypothesis H6 is not supported. For a better interpretation of the magnitude of the relationship I have calculated the odds ratio (0.64 with a standard error 0.37 and a p-value of < 0.001).

Furthermore, the results show that men are more likely to be engaged in entrepreneurial activities than women, supporting hypothesis H7. For a better interpretation of the magnitude of the relationship I have

calculated the odds ratio (1.67 with a standard error of 0.18 and a p-value of < 0.001), suggesting that men are significantly more active in entrepreneurship.

Table 5-16: Results of Regression Analyses for the sample ‘East 1990’
intent

Variable	Model 10	Model 11	Model 12
Gender		0.51***(0.1)	0.5***(0.1)
Age	-0.44***(0.58)		-0.44*** (0.06)
log likelihood	-1229.1	-1248.9	-1218.1
R ²	0.025	0.009	0.034
Intercept	-2.091	-2.290	-2.356

N = 3488, Values are regression coefficient with standard error in parenthesis

†p < 0.1

*p < 0.05

**p < 0.01

***p < 0.001

Hypothesis H8 suggests that individuals that hold a value system that is close to the ideal type of the organization man are less likely to found and run a venture successful (by definition successful means perusing a entrepreneurial career for three years or longer). To test this hypothesis I conducted a logistic regression (Table 5-16, Model 10). The result unveiled a statistically negative relationship between the running a venture a successfully and scoring high on the organization man scale. Therefore, individuals who mentally identify with the value system inherent to command economies are less likely to succeed as entrepreneurs. In order to obtain more information about magnitude of the relationship between

success and values I calculated the odds ratio (0.82 with a standard error of 0.05 and a p-value of 0.002). The odds ratio of 0.82 suggests a moderate strong relationship.

Table 5-17: Results of Regression Analyses for the sample ‘Value 1990’
success

Variable	Model 10	Model 11	Model 12	Model 13
Values	-0.19** (0.06)	-0.16**(0.06)	-0.12** (0.06)	-0.09 (0.06)
Gender		-0.6*** (0.13)		0.6*** (0.13)
Age			-0.37*** (0.07)	-0.38*** (0.07)
log likelihood	-935.4	-924.8	-920.5	-909.9
R ²	0.005	0.016	0.021	0.032
Intercept	-2.510	-2.835	-2.560	-2.894

N = 3488, Values are regression coefficient with standard error in parenthesis

†p < 0.1

*p < 0.05

**p < 0.01

***p < 0.001

Table 5-18: Results of hypotheses

	Hypotheses	Results
Hypothesis 1	1-1: Adolescents with a self-employed parent are more likely to display entrepreneurial intent than adolescents without a self-employed parent.	H1-1: not supported H1-2: not supported
	1-2: Adolescents with a self-employed parent are more likely to display entrepreneurial success than adolescents without a self-employed parent.	(only supported for individuals with a West German background)
Hypothesis 2	East-West migrants during the transition period are more likely to display entrepreneurial intent than the average population.	H2: supported
Hypothesis 3	Entrepreneurial history is positively related to entrepreneurial success in the German transition economy.	H3: supported
Hypothesis 4	4-1: The effect of years of education on entrepreneurial intent in eastern Germany will be weaker between 1990 and 1994 than after 2006.	H4-1: not supported H4-2: not supported
	4-2: The effect of years of education on entrepreneurial success in eastern Germany will be weaker between 1990 and 1994 than after 2006.	
Hypothesis 5	H5-1: Entrepreneurial personality is positively related to entrepreneurial intent.	H5-1: supported H5-2: supported
	H5-2: Entrepreneurial personality is positively related to entrepreneurial success.	
Hypothesis 6	H6: Age is positive related to entrepreneurial intent.	H6: not supported
Hypothesis 7	H7: Women are less likely to display entrepreneurial intention than men.	H7 supported
Hypothesis 8	H8: Scoring high on the organization man scale is negatively related to entrepreneurial success.	H8: supported

CHAPTER VI

DISCUSSION

Findings

The aim of this study was to enhance and extend the understanding of entrepreneurial performance in transition economies. The frame in which this study was set was a fast changing economy without the prior introduction of lengthy market reform programs. The changes came very fast that most actors had no time for preparations. Decisions had ad-hoc character without extensive planning or time to adapt to the new environment. Germany, as the chosen sample, is predestinated. Germany was separated for only a few short decades. Its cultural roots did not change, yet differences in entrepreneurial performance were evident. Hypothesis 1 suggested that adolescents with a father or a mother engaged in entrepreneurial activities would be more likely to become entrepreneurs themselves later on in life. The rationale behind this proposition was that especially in times of high uncertainty just as in economic transition, individuals would look for familiar patterns. However, parental role models were less important in the transition economy. The study has found no clear evidence that individuals are drawn more into entrepreneurship or perform better when they have a paternal role model. The qualitative evidence supports this point. Among the studied firms, only Frank Bier had exposure to an entrepreneurial role model, his grandfather. Frank Bier was 8 years old when his grandfather, one of the great entrepreneurs of his time, died.

Despite the entrepreneurial household he was born into, he was not able to stay at the helm of his firm himself.

Nevertheless, for individuals with a West German background, parental role models were important. West German adolescents were significantly more likely to follow their parents in an entrepreneurial profession than their East German counterparts. The reason could be found in the bad social standing of entrepreneurs in East Germany. An entrepreneur's offspring would have noticed relatively low reputations of entrepreneurs in East Germany and might have formed early alternative career aspirations.

Hypothesis 2 suggested that individuals who were willing to relocate were also more likely to start a business. The hypothesis was supported. An explanation for this behavior pattern is that people that are willing to move might display similar character traits to entrepreneurs'. Relocating in another town or a country is also to a certain extent a step in the unknown: network ties are severed and need to be reinstated, a new job, and a new dwelling needs to be found. Decisions have to be made under risk.

The founders of the studied cases did not relocate, but they have been very mobile. All firms but two (Extrabau and Weissenseer Baugesellschaft - due to their nature as local construction firms) build extensive networks abroad. The founders sought ties to suppliers as well customers.

Hypothesis 3 suggested that individuals that had had some previous experience in entrepreneurship under command economy conditions, even in small scale, were more likely to start a successful business during the

transition period. This hypothesis was supported. Individuals which operated a business under the adverse conditions of a command economy would be well prepared to run their business further during the transition period. The case of Werner Mucks reinforces the qualitative data. He even was prepared to come out of retirement to run his business.

Hypothesis 4 suggested that education which was received in a command economy would be devalued during the transition period. Individuals would not be able to use their educational degrees as any signals in the labor market. Able individuals would therefore turn to entrepreneurship to make use of their skills. In the market for entrepreneurs they would compete with individuals with less education. Therefore, with devalued education degrees and all participants in the same starting position, it would suggest that there is no clear education elite in entrepreneurship during transition periods. This hypothesis was, however, not supported. Education was in all stages of the transition process a reliable predictor. The more education they had, the more likely they were to start a business. The findings strengthen the fraction of scholars, who argue for a positive relationship between education and entrepreneurship (Bergmann & Sternberg, 2006; Blanchflower, 2000). Although educational degrees were devaluated during the transition period, it worked positively on entrepreneurial activities. For the qualitative data, all entrepreneurs in the case studies received education that was far over the average.

Hypothesis 5 suggested that entrepreneurial personality traits were reliable predictors during the transition period. Individuals who scored high on openness, extroversion, neuroticism, and conscientiousness and low on

agreeableness were more likely to become entrepreneurs and to be successful as entrepreneurs. This hypothesis was supported. This finding is in correspondence with previous research (Obschonka et al., 2010; Schoon & Duckworth, 2010; Sorgner, 2012).

Hypothesis 6 suggested that age had a positive relationship to entrepreneurial intent. This hypothesis was not supported. Older people were more likely not to be engaged in entrepreneurial activities than younger people during transition periods. This finding was counterintuitive. Older individuals would face a serious devaluation of human capital during transition periods. First, they would not be able to make use of the educational degrees as signals in the labor market. Second, they would not be able to make use of their accumulated work experience, because the nature of an economic transition was the replacement of capital stock and processes. Individuals would need retraining to operate the new production facilities. Younger employees are generally more likely to be retained (e.g., cost advantage in case of age related payment schemes). For older individuals released in the labor market with difficulties, it would be more rational to turn to entrepreneurship. The analysis of this study, however, suggested otherwise. An explanation could be that the German social security system had a market-distorting effect. The defined purpose of the German social security system is that individuals outside the labor market can be able to continue the standard of living they had during paid employment. This reduced the incentives for individuals outside the labor market to seek alternative sources of income. Therefore, individuals were less likely to be

pushed into entrepreneurship and it would be the case with an undistorted market.

Hypothesis 7 suggested that women were less likely to display entrepreneurial intent than men during transition periods. This hypothesis was supported by the quantitative data as well by the qualitative data. Among the founders in the nine case studies were only men. Although this finding was in line with the main literature on women in entrepreneurship research (e.g., Du Rietz & Herekson, 2000), which states that women are less likely to found a venture. The result was not necessarily self-evident. In command economies women were encouraged to participate in the labor market. A tight net of social and economic measures was installed to discharge women from traditional gender roles and to create equal employment opportunities. Therefore, it was expected that women showed a similar likelihood in participating in entrepreneurial activities than men.

Hypothesis 8 suggested that a value system that was carried over from a command economy into the transition economy hinders entrepreneurial success. This hypothesis was supported. Most command economies draw their ideological roots back to the writings of Karl Marx who developed the majority of the theories under the impression of the horrendous conditions of the working class in Europe during the industrial revolution. Marx identified an unbound capitalism driven by capitalists as the cause of social imbalances. Capitalists including the entrepreneur did have a relatively low social standing in the state doctrines of command economies. Socialist governments went great lengths to antagonize entrepreneurs and to promote the idea of the soviet man. The soviet man's

value system, however, might be sufficient to advance in a socialist society, but it was rather a burden in market economies. The change of value systems needs time. The quantitative data in this study shows that adaptation to the new system was indeed an obstacle for entrepreneurs. Furthermore, the qualitative data also points in the same direction.

A further finding of the study was that in relation to the overall population more individuals with an East German background intended to found a business but less of those people stayed in business for three years or longer than the West German counterparts. This is in line with qualitative data: all but one out of the nine firms no longer exist today. Despite the high level of education and motivation of the founders, very good market positions at the beginning and a booming economy, the firms could not stay in business.

Theoretical Implications

This study makes several contributions to the existing entrepreneurship literature. First, the majority of the entrepreneurship literature assumes that its studied objects operate in an environment of first world countries. Most what is known today about entrepreneurship stems from that body of literature. It defines the fundamentals of the field. The field of developmental economics deals with entrepreneurship as well, but assumes that its studied objects operate in third world environments. As a result focus entrepreneurship scholars in developmental economics often on micro-entrepreneurship, low technology-entrepreneurship, and micro-credit schemes. Entrepreneurship in transition economies falls in between those

two opposing extremes. Neither operate the studied objects in stable first world countries, nor in impoverished third world countries. The legal, political, economic, and sociological environment of transition economies is highly unstable. Therefore are models developed in the traditional entrepreneurship literature often of limited explanation power in transition economy settings. The literature on entrepreneurship in transition economies is still in an infant stage. Accepted classifications of the varying types of transition economies are still missing. Therefore is this study suggesting a classification of transition economies, according to speed of change and reform progress. This classification would help to target entrepreneurial models on a specific economic environment.

Second, the literature on entrepreneurship in transition economies ignored the impact of the value system on entrepreneurial decision so far. The clash of the values of the soviet man with market economy realities is strong and responsible for the low survival rate of ventures run by former 'Soviet Man'. This study has demonstrated that changing value systems are important factors regarding entrepreneurial performance.

Third, this study has attempted to combine qualitative data and quantitative data. This approach is highly unusual in entrepreneurship research. Propagated by Barley (1990b), this approach could not gain a broad following in entrepreneurship research so far. However, the approach has the advantage of being able to critical collating the qualitative results with qualitative findings.

Practical Implications

This study focused on fast changing transition economies with no lengthy market reforms. This is usually the case when change is externally induced: the legal, political, and economical systems are replaced and might be enforced by another state. The system change is often accompanied by large investments in infrastructure and efforts directed towards economic stabilization. However, the economy in transition is also forced open: free movement of goods, people, and money. This study strongly suggests that the opening process should be gradually and spread over the whole transition period. While the system changes are necessary, and should be applied as quick as possible, the opening of the labor market, financial market and goods market is in most cases too fast.

With the onset of the transition period sets in a locomotion which causes the loss of large portions, if not all:

- Financial capital (monetary unions, inflation),
- Social capital (loss of employment, severance of network ties),
- Human capital (educational degrees).

Out of this adverse circumstances is likely to arise a new generation of entrepreneurs. As the study has shown, the entrepreneurs will be over the average educated, rather young, equipped with an entrepreneurial personality, but without previous entrepreneurial experience and without parental role models. To a large extent will they keep their old value system. If the political goal is to encourage a large number of individuals to engage in entrepreneurial activities and to lay the foundation block for potent small- and middle sized companies it is necessary to protect the new entrepreneurs

from international competition. The analyzed data in this study suggest that the majority of entrepreneurs did not survive with their venture because they were no match for entrepreneurs with more experience and an entrepreneurial value system.

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APPENDICES

Appendix A: Case Studies

Präzisionselektronik

Firm: Präzisionselektronik was founded in 1982 and run in the GDR as a micro firm until the collapse of the Berlin Wall. With the adoption of the legal system of the Federal Republic of Germany in former East Germany the firm was registered in the commercial register according to West German law and continued its operation. Präzisionselektronik was merged in 2003 with Health Care JBS GmbH. The firm focuses on the execution and management of research projects in the area of energy and sensor technology, and micro biology for external partners.

Founder: Rudolf Stadermann was born in 1946. After graduating from high school, he completed an apprenticeship as electrician in 1965 and proceeded to study electrical engineering at the Technical University of Magdeburg. After graduation he was employed as a researcher at a research institute specializing in welding technology, a position he held until 1981. During this time he also lectured political economics and was appointed project coordinator for some of the efforts to boost efficiency in the state combine his research institute was attached to. During the time until 1980 Stadermann had registered 10 patents related to batteries, electric machines and infrared radiators. Despite Stadermann offered his patents to the state combine, none of his patents was considered to be produced by the management.

After the leaving his position at the research institute, Stadermann worked towards founding his own firm, taking advantage of his patents. The hostile attitude toward privately owned firms in socialist East Germany lead to several hurdles and difficulties in the founding process. After 18 month of administrative battles Stadermann could register his firm, Präzisionselektronik.

Stadermann social and industrious character lead to several activities outside his firm. During the time of the fall of the Berlin Wall, Stadermann was a driving force behind the organized action of East German entrepreneurs. In 1990 he was a founding member of the Unternehmergebund der DDR (Association of East German Entrepreneurs) and served as president. The founders of the Unternehmergebund played a significant part in the drafting of the law that regulated the privatization of East German state owned enterprises. In 1991 the association was split into smaller regional associations.

Stadermann was appointed as an advisor to the Ministry of Economics in 1991, with a focus on small- and medium-sized firms in eastern Germany. This position allowed him to obtain exclusive data related to the entrepreneurial situation in Germany and provided him with an outstanding network position in the entrepreneurial community. The connection to the ministry allowed him furthermore to learn about various programs of the enormous economic development scheme run by the federal government to boost growth in eastern Germany.

Stadermann continues to have a strong interest in research and the development of innovative solutions. Since 2006 he heads the research

department of the Health Care JBS GmbH, a firm that merged in 2003 with Präzisionselektronik. At the time of the German reunification Stadermann was 44 years old.

Development: Präzisionselektronik was founded in 1981 with the goal to capitalize from Stadermann's patented invention of enhancing the performance and efficiency of electric motors. The firm was run as a micro firm until 1990. With the fall of the Berlin Wall and the opening of the East German market to the world Präzisionselektronik lost its competitive advantage.

Stadermann decided to change his firm's product and offer a heating system that could save up to 80 percent energy. He developed, tested and patented the system already in 1984, but was not allowed to produce it until the fall of the Berlin Wall. The production of the new heating system required a substantial extension of the production facilities. Due to Stadermann's lack of experience in the management of larger projects, he ran into financial difficulties. He underestimated the extension costs and the bank tightened his access to loans. Präzisionselektronik was on the brink of bankruptcy. Nevertheless, Stadermann was able to use his network position and access to political decision makers to ensure financing for the company's extension and the initial production, marketing and distribution phase. He further received professional advice from an accountant from West Germany, who helped him with financial planning.

Stadermann was in a desperate situation. He needed to generate revenue, which led him to the foundation of a construction firm. The negligence of basic infrastructure by the East German government before

1990 and access to new building materials by private house-owners lead to an accelerated catching-up process and a booming construction sector, of which Stadermann profited. He also rented out office space which he did not use himself, and generated revenue by consulting other former East German entrepreneurs who were in a similar position as he was, facing the stiff wind of a free market competition.

The largest challenge Stadermann faced was the management of procurement, the organization of the distribution channels and sales. Realizing that Präzisionselektronik lacked the necessary skills and resources in the area, Stadermann approached a large whole sale company for construction material. He was able to strike a deal in which he was given access to building materials with a substantial rebate. He also convinced the whole sale company to carry his heating system exclusively in a modified version.

Despite the initial success, the managerial side of the firm posed too much of a challenge to Stadermann and required more attention than he initially thought. To adapt to West German management practices would need a considerable amount of time to learn, time which would cut away from his passion: research and development. He therefore considered a change in strategy and outsourced the whole production process to a neighboring firm, which gave more time and resources to focus on the development of innovations.

Umweltanalytik Brandenburg GmbH¹¹

Firm: The firm was founded in 1990 with the purpose to offer environmental rehabilitation and environmental reconstruction services.

Founder: Frank Bier was born in 1941 in Berlin. He is the grandson of August Bier, of the most accomplished surgeons of his time and in his later life as innovative forester and great land owner. The estate of the Bier family was expropriated after the Second World War. Frank Bier studied chemistry and science of forestry. After graduation he worked as a forester on his family's former estate. Bier was as an eager student of his grandfather principles of a balanced relationship between man and nature. He aimed to introduce his grandfather's principles to the now state owned forests he was employed at. His suggestions were often rejected due to the practical and short-term orientation of the East German state economy. He later left the forestry business and became a leading figure in the Cultural Association of GDR (a large organization with about 250.000 members) in charge of environmental issues, a position he held until the fall the Berlin Wall. Prior to 1990 Bier had no experience in business management or entrepreneurship.

In 1990 his family's property was restored. At the time of the German reunification Bier was 49 years old.

Development: During the Cold War between 1949 and 1990, Germany was the main theater where NATO and the armies of Warsaw Pact faced each other. In East Germany alone were six Soviet armies¹²

¹¹ see also (Voss & Hartmann, 1991)

¹² An army consists of 3 to 5 divisions - mostly tank or mechanized divisions.

permanently stationed, in addition to the East German National People's Army. Such a military might require an enormous area for storage, housing for military personnel and training facilities - about 25 percent of the national territory of East Germany was declared military exclusion zone. After the re-unification and the foreshadowing withdrawal of the Russian, British, and French military it became clear that environmental issues have been of rather little concern by the occupying forces. Large areas were polluted, contaminated or the vegetation was badly damaged. In addition, environmental standards for state owned enterprises in East Germany were very low and often not even enforced. This led with the beginning of 1990 to an enormous demand for firms specializing environmental reconstruction.

Bier founded the *Europäische Gesellschaft August Bier für Ökologie und Medizin e.V.* (European Association August Bier for Ecology and Medicine). The association's aim was to spread the teachings of August Bier. It attracted a significant number of international scientists in the area of ecology.

Bier transferred his newly obtained family property to the association. The association in turn founded the Umweltanalytik Brandenburg GmbH with Bier as the general manager in August 1990.

The firm first offered only analysis and assessment services for polluted business premises. This was a promising and huge market since almost every firm operating in eastern Germany was required to provide an environmental analysis of their premises. The firms grew fast. After one year of operation Bier employed about 20 people that generated a revenue of DM 0.5 million.

Encouraged by his initial success, Bier returned to the idealistic roots initiated by his grandfather. He aimed to not only analyze and document polluted areas, but also to reconstruct them in the spirit of grandfather. Bier therefore focused his attention on former military areas, which were largely made up of forests and therefore more suitable for his goals.

Bier secured a whole library of warfare agents. He further ensured the service of ammunition specialists from the former National People's Army and rented a whole state of the art hospital from the *Bundeswehr* (the military of West Germany) and extended his laboratory capabilities. This qualified him to be considered by the government for large reconstruction projects regarding the vast areas previously occupied by the Soviet forces. Umweltanalytik profited greatly from its relationship to the European Association August Bier for Ecology and Medicine. The scientists the association attracted generated a considerable knowledge spillover towards Bier's firm - not only in the area of ecology but also in business management.

In the long run, Frank Bier's goals of environment protection and the goals of a firm to generate profits collided. The family foundation decided to sell the shares in the company and Frank Bier was replaced as general manager in 1997. The firm continued under new leadership but was not able to generate sufficient revenue. Attempts to restructure the firm, including a name change in 1998, failed. Ultimately, the firm went bankrupt in 2006.

Wemex Computer Handelsgesellschaft mbH

Firm: The firm was founded in 1990, operating in the computer industry.

Founder: Thomas Steiger was born in 1950 in Berlin. He studied computer science and economics. In 1973, after graduation he was employed by a state combine where he worked in data processing. He later shifted to *WMW Export-Import* (the state owned export agency, responsible for the export and marketing of machine tools). This position required extensive travel around the world, high cultural intelligence, and outstanding sales skills. His job provided Steiger access to an extensive network, especially in western Europe and eastern Europe. By the fall of the Berlin Wall he has risen to the rank of deputy managing director. His department generated a yearly revenue of about 8 billion Ostmark. Steiger has an ambitious and result driven character. He also possesses outstanding leadership and interpersonal skills that led to great popularity among the staff of his department and his superiors.

At the time of the German reunification Steiger was 40 years old.

Development: On day the Berlin Wall collapsed, Steiger was on a business trip in Paris. Immediately he concluded that the system of the socialist economy would not survive in East Germany. Still in Paris he began making plans for his company. Back in Berlin, he convinced three colleagues to found a firm. All three co-founders had extensive knowledge in export, including a vast network, and technical skills in software development, workstations and mainframe computers as well as personal computers.

Steiger convinced 37 employees of his former department to join him at his new firm. The core staff gone, the export agency had no other choice, but to outsource the department's task to Steiger's new firm. That covered Wemex' personal cost for the first months of operation. Steiger's initial workforce was excellently educated. The majority received a master's degree in either economics, mathematics, or computer science.

In 1989, the majority of state owned firms ran on outdated computer systems. With the access to new technology after the fall of the Berlin Wall, most firms opted to update their computer system. The initial business idea for Wemex was to import computer technology and sell it to state owned firms not only in eastern Germany but also, thanks to Steiger's vast contacts, in eastern Europe. Steiger's strategic approach was to focus on the distribution and installation of high quality systems, making use of the high education level of his workforce. This strategy proved to be very successful. In 1990, Wemex generated DM 90 million revenue, of which 80 per cent was made in eastern Europe.

Problems started to appear when Steiger realized that his staff felt that sale and installation is unchallenging and below their professional pride. To keep motivation up, Steiger initiated extensive training programs. Also Wemex started to develop software solutions in-house for SMEs, which required employees to use a wider range of skills. This contributed further to employee-motivation. At the end of 1990, Steiger was forced to reconsider his strategy. It became evident that the transfer-currency deals and subsidies, with which firms updated their computer systems, would be ended soon and the demand for sales and installation decrease. Steiger therefore decided to

diversify. Besides computer hardware, Wemex offered bundled office solutions (hardware, software, office communication equipment). Wemex started to add know-how by hiring additional specialists and educated and developed his existing workforce.

Wemex was not only a certified dealer for high end computer hardware (e.g. Toshiba and Compaq), but also a certified dealer for top brands in software and office equipment. That established Wemex firmly as the leading firm for office solutions in eastern German and with an outstanding reputation in eastern European countries. Steiger invested a substantial part of Wemex' revenue in marketing. The representative headquarter became the stage for elaborate expositions. He organized roadshows throughout the country and became the main sponsor for the women's basketball team 'Wemex Berlin' (one of the top teams in professional basketball). In 1993, Steiger aimed to diversify further. The economic boom beginning at the end of 1991 in Germany, the enormous revenue and comet-like rise of Wemex gave Steiger the confidence to enter the recycling business.

From the beginning for the 1990s the German parliament discussed the introduction of a law that would require all producers of electrical devices to recycle their products after the end of the products life cycle. Producers would have to take back their products and recycle in an environmental friendly way. Steiger anticipated that the law would become effective in 1994. Producers did have neither the capabilities nor the know-how to do so and would outsource the recycling business. Steiger therefore decided to invest in the construction of a high-tech recycling plant. The

plant was ready for operation in 1994. The law did not passed by the parliament in 1994. Infect it would not become effective until 2005.

Steiger's high-tech plant therefore had no customer. The recycling business proved to be fatal for Wemex. The plant caused such a high capital lockup that Wemex was illiquid in 1995 and filed for bankruptcy in the same year.

During his tenure as general manager at Wemex, Steiger did not seek advice from western German consultants in business management matters. He instead put a strong emphasis on Wemex East German roots. His marketing message played strong on regional feelings. Furthermore, his workforce consisted mainly of people with an East German background.

Zinke Oeko Engineering

Firm: The firm was founded in 1990 and operates the construction materials business.

Founder: Bernhard Zinke was born in 1950. He studied process engineering at the Freiberg University of Mining and Technology. After graduation he was employed at various research institutes in East Germany until 1990. His main research focus was, and still is, fly ash. He was involved in the generation of over 90 patents related to fly ash until this day, of which 50 patents he registered before the fall of the Berlin Wall. Despite of his outstanding and innovative research output, his findings have had only modest practical impact until 1990. None of his patents have been used in industrial settings by one of the GDR's state run firms. Zinke had no previous experience in management or western business practices before founding his company. At the time of the German reunification Zinke was 40 years old

Development: Most of the electricity in the East Germany was generated by coal power plants. A byproduct of the combustion process in coal power plants is fly ash, which was considered waste and disposed of. In the late 1980s, coal power plants in East Germany generated about 18 million tons of fly ash yearly.

Zinke dedicated a great amount of his professional life and personal time to find environmental friendly and useful solutions for waste and by-products. One of his main findings was to develop a process that would turn fly ash into a concrete-like compound. Zinke was so convinced about the quality of his invention that he build his private home with the new material.

The compound has several advantages over conventional concrete: it required substantially less cement, was a better insulator and conducted less sound.

By 1990 he had full legal control over the compound due to the fact that he held all patents related to the product. He also optimized the production process, so that the compound could be produced in large quantities. Further, with the replacement of East German legal system with West German legal system, companies were required to dispose their waste, which would provide Zinke with his most essential raw material plentiful and almost for free.

Motivated by his wife, he started Zinke Oeko Engineering in mid-1990. His wife would be in charge of the administration of the firm, while Zinke would lead product development and general management. Zinke's initial strategy was to diversify from the start. He would market the compound and offer services in construction (based on the compound) and environmental engineering.

The firm grew rapidly and generated with a workforce of 17 people a revenue of DM 1 million in 1991. But problems started to unfold on three levels. First, the environment for construction businesses changed dramatically at the beginning of the 1990s. Many new firms entered the market and the public sector faced budget constraints, which led to the suspension of construction projects. Second, Zinke is by nature not a business minded person. He failed to adequately supervise his engineers, which resulted in inferior product quality. He frequently missed to close deals by advising potential customers to wait for updated product versions.

Furthermore, he had difficulties in attracting capital as well as motivated and qualified employees. In addition, Zinke had a tendency to buy equipment, rather than renting it, which led to an unnecessary capital lock up. Also he did not pay sufficient attention to marketing. In Germany, where buildings are expected to last for centuries, homes are a very sensitive product. People often spend their lifetime savings on a family residence. Convincing them to trust in a house made of waste would require a significant skillful effort. Third, his wife posed an impediment for growth. Out of an ill-conceived understanding of debt, she opposed to making loans that could finance larger production facilities. Her high level of involvement in the firm as back office manager and head of administration gave her substantial influence.

After filing for bankruptcy the firm was deleted from the company register in 2001.

Extrabau GmbH

Firm: The firm was founded in 1990 and operates in the construction industry.

Founders: Michael Schröder and Wolfgang Wagner were both born in 1952. After three years of training as construction engineers, they worked for 12 years in the construction business. During their employment they received on-the-job training and qualified for managing positions. During their tenure they displayed strong ambition and gained a high reputation for their detection, technical skills and leadership. Both founders have not been exposed to market originated management methods prior to founding their venture.

At the time of the German reunification Schröder and Wagner were 38 years old.

Development: Schröder and Wagner have been employees of *VEB Baukombinat Köpenick*, a state owned construction firm with approximately 700 employees. The firm owned most of the machinery and possessed the necessary know-how to execute larger construction projects on its own (road construction, large industrial building and other general civil engineering projects including related transportation of material). After the reunification, in June 1990, the legal form for the company was changed from state combine to a company with limited liability according to West German corporate law. Apart from the legal form of the company, however, nothing else changed. The combine did not adopt its strategy to the new market conditions, nor were any changes in the firm's organizational structure made.

The monetary union - the replacement of the Ostmark with the West German currency DM - in July 1990 marked a major disruption for the combine. The firm suffered high losses and the Treuhand - the trust that owned all state combines after the reunification - considered so split the firm and to sell it off in several separate parts. The top management became paralyzed. That led to great uncertainty among the work force and an open dispute erupted between the top-management, the middle management and the workforce. The top-management did not fully understand the situation, no alternatives were considered, and no plans were made. The top-management was overtaxed and chose to take a passive approach. Due to the advanced age structure of the top-managers, their behavior is understandable. Short before retirement, risk-adversity usually increases. The middle management, however, demanded a more active approach. Together with the workforce they started to revolt. The situation turned vile and destructive. Schröder and Wagner, belonging to middle management, decided to leave the company and run their own firm. They convinced two capable foremen and 35 high-performing and motivated workers to follow them in their new venture.

Extrabau GmbH started with DM 50,000 capital. Due to their hostile relationship with the former state combine, Schröder and Wagner could not receive any support from their former employer. At the beginning they had no hardware, machines, tools, orders, or office. Schröder and Wagner had no strategy and they did not perform a market analysis, or any other business related planning process. Despite the somewhat chaotic start, Schröder and Wagner moved quickly. They secured a run down but inexpensive business

premises and started their operation. They took any order they could get, mostly small in scale. They also worked as subcontractors for large West German firms. Despite the unfavorable circumstances, Extrabau generated a revenue of between DM 200,000 and DM 830,000 per month during their first year of operation.

The founders were able to secure a credit of DM 500,000 in April 1991, which was largely invested in equipment. Notwithstanding the great effort of management and employees, Extrabau went almost bankrupt on several occasions. The foremost reason for this was the slow adaptation to capitalist management methods. The founders run the company at first according to methods they obtained during their employment in a centrally planned economy. They did not perform client background check for solvency - unnecessary in a central planned economy because the state is backing every contracting party. This led to painful losses and therefore to serious budget constraints. New equipment could not be bought and Extrabau was forced to take on short term orders with immediate payment.

In March 1991, the founders realized their lack of understanding of modern management methods and sought help from a western German consultant. Step-by-step Extrabau implemented cash-flow analysis, capacity control systems, profitability estimations of orders and other tools. The situation improved drastically. Extrabau could accumulate a nest egg. After the consolidation of the firm in late 1991, the founders started carefully to expand into more profitable and sophisticated areas in the construction industry by training their employees or hiring. Extrabau is still in business as of 2013.

Werner Mucks GmbH & Co KG

Firm: The firm was founded in 1950, expropriated by the East German government in 1972 and successfully reclaimed by its founder in 1990. The firm produces upholstered furniture.

Founder: Werner Mucks was born in 1918. In 1950 he established his firm and dedicated his professional life to manage and grow the firm. Mucks frequently traveled to western Europe and carefully followed the developments of capitalist management methods. Since the foundation of his firm, he maintained and developed a wide network in all areas that were of importance to his company. He was active in entrepreneurial related association, took up seats in the board of directors of local banks and local firms. Mucks leadership style was paternalistic. He was met with great respect by his employees due to his skills, knowledge and caring but demanding personality. At the time of the German reunification Mucks was 72 years old.

Development: Mucks started his business after the war out of difficult circumstances. Most of the industrial infrastructure in the Soviet occupied zone has been dissembled and shipped to the Soviet Union. War related casualties reduced the workforce greatly, especially the male workforce between 18 and 45 years of age. Despite the shortages the 1950s were marked by general enthusiasm to rebuild the country. In this environment Mucks grew his firm to a workforce of 215 employees in 1972. In the same year the firm was expropriated by the government. Mucks continued to serve as the company's boss. The firm merged with other furniture manufactures and formed a state combine. Mucks retired in 1984.

After the German reunification Mucks saw the possibility to reclaim his expropriated firm, which was generating a revenue of over 100 million Ostmark. The Treuhand split the state combine and sold a part of it to Mucks for 800.000 Ostmark, including a 2.5 million Ostmark debt. This correlated in size to the firm that was expropriated in 1972.

Mucks began with the restructuring of the firm. He installed a new management team, reduced the work force and sold off unproductive assets. Mucks had a very clear picture of his future company. That allowed him to act fast and with great determination. Still in the restructuring process he changed major design features of the products to adopt them to the taste of western German customers.

The chosen measures were successful. After only three month the Werner Mucks GmbH reached profitability. One year after Mucks took charge the productivity rose to a western German level, the array of products doubled, the inventory turnover increased tenfold. Furthermore, the firm opened a subsidiary in Poland in order to reduce labor costs. In 1991 the firm was able to generate a revenue of over DM 10 million.

Despite the strong start the firm had difficulty to face foreign competition. The Werner Mucks GmbH produced high quality, long lasting furniture with a high percentage of manual labor input. In the early 1990s cheaper furniture by foreign producers entered the mass market. Two of the main distributors forced Werner Mucks to accept lower prices. The firms could not cover its costs anymore. The strong financial base of Werner Mucks allowed him to continue, but gradually reduced the workforce.

Although Werner Mucks GmbH did not go bankrupt production was ceased by 2000 and the firm was deleted from the company register in 2002.

Weissenseer Baugesellschaft mbH

Firm: The firm was founded in 1980 and operates in the construction industry.

Founder: Jürgen Söcknick was born in 1940. He studied civil engineering. After graduation he worked in several roles in the construction business. At the beginning of the 1980s he became the managing director of the state combine in the construction sector. As a leader Söcknick was very demanding, but he was also respected by the workforce for his high level professional knowledge. He gained a strong reputation for delivering quality and to complete projects on time. Before the reunification Söcknick was not exposed to market economy management methods. At the time of the German reunification Söcknick was 50 years old.

Development: As all state owned firms, the ownership of Söcknick's state combine was transferred from the East German state to the Treuhand on the 17th of June 1990 and converted in a limited liability company. Söcknick kept his position as general manager. He immediately started to restructure the firm in order to enhance its chance of survival in a market economy. Already at the beginning of 1990 he started to educate himself about western management tools and methods. Also he sought professional advice from a business consultancy and an international accounting firm. Söcknick also studied successful West German firms in his industry that operated in Berlin. That gave him the advantage to start the restructure measures without delay in June 1990.

Söcknick focused the firm on two sectors: building construction and engineering services. All departments that were not supporting the two

sectors were sold, or if not sellable, closed. A management information system was introduced, which allowed sophisticated profitability analyses of orders and departments. Söcknick reorganized the order acquisition process to be both, more effective and efficient. After the consolidation measures at the end of 1990, the firm had 287 employees and generated a monthly turnover of about DM 1.8 million (up from DM 300,000 before restructuring).

Since the mid 1990 Söcknick has toyed with the thought of buying the firm (management buy-out). The successful consolidation of the firm encouraged him to develop a tangible plan. He approached his top-managers and convinced them to become his partners in the management buy-out. Due to a mixture of incompetent staff, an ill-designed incentive system, and work overload of the Treuhänder, the owner of the firm, Söcknick and his partners could buy the firm for the exceptional low price of DM 1.8 million in January 1991.

Söcknick and his partners formed an outstanding management team. Together they represented a wide array of skills, know-how and experience in field of civil engineering. Furthermore, they were highly motivated and could transfer their enthusiasm on to the workforce.

The management's team market analysis identified northern Berlin as the most attractive market in the medium run. In the short run, however, the firm saw West-Berlin as the market with highest demand. In order to compete in West-Berlin, Weissenseer Bau would have to compete with established West-German firms. Söcknick chose therefore a strategy which would attack the competition with low prices and high quality to gain quick

market share and possibly drive competing firms out of business. The strategy was ill-advised because the firm's capital endowment was too weak for this strategic approach. Söcknick calculated with very thin margins to keep the price low. He further used the full credit line of the company to buy technological advanced equipment and high quality building materials. Furthermore, Söcknick neglect to check on his clients solvency proved to very risky. In August 1991 several large clients delayed their payment. This is a rather common business practice in the construction industry. For Weissenauer Bau this was new and very unexpected. The firm became illiquid and was forced to file for bankruptcy.

Stahlleichtbau Frankfurt/Oder GmbH

Firm: The firm was a state owned enterprise and taken over in 1991 by its management through management-buyout. The firm operates in the light-gauge steel construction industry.

Founder: Gunter Müller was born in 1943. He studied engineering and economics. He later studied law and graduated with a doctoral degree in corporate law. After his studies he worked for several years as a project manager in the chemical industry. Gaining a reputation as turn-around manager, he joined the state combine Stahlleichtbau in 1986. Shortly afterwards he was made general director. Müller had no previous experience with market economy management methods.

At the time of the German reunification, Müller was 47 years old.

Development: When Müller took over the helm at Stahlleichtbau, the firm was in a wretched condition. Stahlleichtbau was formally a subsidiary of a larger state combine, which misused the firm for cross-subsidization. The firm was further forced to run several community projects (restaurant, providing heating for local housing projects, running a training department for students of the University of Frankfurt/O.). Stahlleichtbau was further stifled by typical problems of firms in socialist economies: a large overhead in the administration, inefficient production systems and low motivation of the workforce.

Müller turned the company into a profit generating enterprise. Within two years he managed to isolate the firm from its parent state combine, pushed out inefficient workers, qualified and motivated the existing workforce, and updated the firm's machines and equipment. Before

the reunification, Stahlleichtbau generated a revenue of 68 million Ostmark with about 600 employees. Further, Müller led the firm to a ten percent profit margin, an outstanding figure for an East German state combine receiving no subsidies.

Müller carefully followed the political changes during the fall of the Berlin Wall, analyzed the legal consequences and its economic impact on his firm. He knew that Stahlleichtbau would have to seek new markets in western Europe. He also knew that the firm needed fundamental changes to compete successfully in that market. Müller therefore looked for support from outside experts, mainly from West Germany. He wanted to know which strategy the firm should follow and how to adapt the firm to that strategy.

Still with the legal status of a state combine, Müller managed to find three West German firms that were willing to outsource part of their production to Stahlleichtbau. To Müller's surprise the firms did not require much change in machinery or equipment. Stahlleichtbau could deliver on quality levels that satisfied West German standards. The close contact to the West German firms brought important knowledge spill-over effects. In June 1990 the firm's ownership was transferred to Treuhand, accompanied with the legal change into a limited liability company. Due to good experience with the West German partners, Müller started to seek a closer relationship. He negotiated with several firms about investment in Stahlleichtbau as minority shareholders. Due to the unstable situation West German firms preferred an acquisition, instead of becoming a minority shareholder with limited influence. All negotiations failed.

The Treuhand wanted to sell as quickly as possible. Sensing that he is in a superior position for price negotiations with the Treuhand, Müller developed a management buy-out with his top-management team. In January 1991, the Treuhand agreed to sell Stahlleichtbau to the management team for DM 4 million. Stahlleichtbau generated a revenue of about DM 40 million per year.

After the take-over, Müller continued to restructure the firm. He canceled all activities that were not supporting the core competency, such as the transportation for the local community, or an internship program with a university. He further sold all equipment that did not fit in his strategy. Furthermore, Müller reduced the workforce to about 250 employees.

Despite all measures to restructure the firm, Müller had difficulties to fight off foreign competitors. He responded by relocating parts of the production to Poland, which had significant lower labor costs, and further reducing the workforce. By the end of 1993, Stahlleichtbau had only 150 employees. The firm went out of business in 1997.

Studiotechnik Berlin GmbH

Firm: The firm was founded in 1964. In 1991 the firm was taken over by its CEO through management buy-out. Studiotechnik Berlin produces electronic security and communication systems.

Founder: Ulrich Sommermeyer was born in 1948 in Jena. He studied traffic engineering and economics. Sommermeyer started his professional career in the export department of Studiotechnik in 1974. He passed through several export related positions. For some time he worked at the Ministry of Economy, focusing of export and import related issues. Between 1983 and 1987 he was the sales representative for Studiotechnik in West Germany. This post provided him with access to a broad network, valuable knowledge of western markets and insights in market economy management methods.

Development: Studiotechnik was formed in 1964 with two business premises, the headquarter and main production facility in the city center of Berlin, and additional production facilities on Berlin's outskirts. The firm produced high-tech components for x-ray machines, cameras and optical equipment for industrial use. Most of the products were exported. The company had a prominent brand name and a high reputation for quality products. In the planned economy of East Germany, firms with a large export share were prioritized and often received large subsidies. This was also the case of Studiotechnik. The state combine would not have been able to generate its innovations and quality products out of the revenue alone.

The subsidy scheme ended with the reunification. The top-management resigned shortly afterwards, seeing no possibilities to continue

operations. Sommermeyer was made general manager in January 1990. At that time Studiotechnik employed about 600 people. Immediately after taken over the helm, Sommermeyer restructured the firm. His most important goal was to adapt the cost structure to current market conditions. He also reactivated the network he built during his time as sales representative in West Germany, to find new customers. He was successful and could secure several large orders from West German firms. The product line needed only slightly to be changed.

The state combine was legally transformed in a limited liability company in June 1990. Due to new customer base in West Germany and a strong demand in eastern Europe the situation was good. But the export volume to eastern Europe was already shrinking. It was foreseeable that the demand in the eastern market would completely collapse in 1991.

Furthermore, it emerged that some of the components in Studiotechnik's product line were also produced by Asian firms, which would soon enter the European market. Due to larger scale production and lower labor cost those firms had an initial advantage and would push out Studiotechnik.

Sommermeyer desperately needed to further cut the cost structure. By June 1990, about 100 of the older employees were sent into early retirement. In January 1991 the sales volume dropped from DM 5 million to DM 700.000. Sommermeyer reacted drastically reducing the working hours of 300 employees. By July 1991 Sommermeyer reduced the workforce by 330 employees.

Sommermeyer chose to adopt a profit center organization for the firm. Each profit center was centered around a core competency of the firm

(communication equipment, logistics, security systems, trade) and operated as autonomous as possible. Given the unstable market outlook, Sommermeyer could keep track of each profit center and liquidate it if necessary. Already at the beginning of 1991 Sommermeyer started to prepare for a management buy-out. He founded a company and began hiring employees from Studiotechnik, which somewhat reduced the value of Studiotechnik. He entered negotiations with the Treuhand in April 1991. In May 1991 Sommermeyer took over the firm for DM 1. The Treuhand assumed that the firm cannot withstand free market forces and therefore calculated the low value. The Treuhand sold, however, the business premises in the city center before the deal, so that Studiotechnik was forced to move its headquarter.

Although Sommermeyer was able to beat the odds at the beginning and generated a small profit by the end of 1991, in the long run the firm did not survive. Three factors contributed to the decline of the firm: market pressure from Japanese firms, the loss of the East European market and the adaptation of the West German D-Mark. Although Studiotechnik's products were state of the art, the production costs were too high compared to the Japanese competition. Sommermeyer's firm did not have the resources to outsource parts of the production to countries with lower labor cost. Furthermore, long term East European customers shied away from products made in the form East Block and the limited resources did not allow Sommermeyer to open new international sales channels. The largest effect on the Studiotechnik's downfall was probably the adaption of the West German currency and the replacement of the Ostmark on the 1st of July

1990. The labor and material costs tripled over night while Sommermeyer could not push for a higher sales price.

Appendix B: Items included in the SOEP personality assessment questionnaire

Respondents are asked to rate each item on a seven-point Likert-scale ([1] = fully disagree, characteristic does not apply at all, [7] fully agree, characteristic matches perfectly).

Item	Trait *	Item number in the original BFI 25
(I see myself as someone who) is reserved	E(-)	f02004
(I see myself as someone who) is talkative	E	f02012
(I see myself as someone who) tends to be lazy	C(-)	f02015
(I see myself as someone who) outgoing, sociable	E	f02016
(I see myself as someone who) has an active imagination	O	f02019
(I see myself as someone who) values artistic, aesthetic experiences	O	f02020
(I see myself as someone who) is original, comes up with new ideas	O	f02021
(I see myself as someone who) does a thorough job	C	f02022
(I see myself as someone who) does things efficiently	C	f02023
(I see myself as someone who) worries a lot	N	f02025
(I see myself as someone who) is relaxed, handles stress well	N(-)	f02026
(I see myself as someone who) gets nervous easily	N	f02028

Item	Trait *	Item number in the original BFI 25
(I see myself as someone who) is sometimes rude to others	A(-)	f02030
(I see myself as someone who) is considerate and kind to almost everyone	A	f02033
(I see myself as someone who) has a forgiving nature	A	f02034

* Openness (O), extroversion (E), agreeableness (A), conscientiousness (C), neuroticism (N)

Appendix C: Items included in the SOEP 1990 questionnaire for East Germany

Participants are asked to consider how people should ideally behave in a society. Participants are presented with eight questions and should rate the answer on a Likert scale from zero (that is not desirable at all) to ten (that is very desirable).

Item	that is not desirable at all (0)	that is very desirable (10)
How desirable do you consider it, that someone is ...		
1) conscientious?	<input type="text"/>	<input type="text"/>
2) concerned about safety/ security?	<input type="text"/>	<input type="text"/>
3) dutifully executing his job?*	<input type="text"/>	<input type="text"/>
4) striving for prosperity?	<input type="text"/>	<input type="text"/>
5) enjoying life?	<input type="text"/>	<input type="text"/>
6) independent?	<input type="text"/>	<input type="text"/>
7) helping and supporting one another?	<input type="text"/>	<input type="text"/>
8) striving for personal fulfillment?	<input type="text"/>	<input type="text"/>

*Question 3 is not included in the study. It is ambiguous and could apply to organization man as well as an entrepreneur.

전환 경제의 엔터프러너십 창업 의지와 사업 성공에 관한 개인 수준 연구

엔터프러너십 연구는 지난 30년 동안 학계의 많은 관심을 받아 왔고, 이 기간 동안 기업가들의 활동에 영향을 주는 많은 지정학적인 사건들이 일어났다. 구소련의 붕괴, 중국의 경제 개혁, 독일 통일 등의 역사적인 사건들은 기존의 엔터프러너십 모델로는 설명되지 않는 새로운 현상을 야기했다. 엔터프러너십 연구자료의 방대한 양에 비해 전환경제 내 엔터프러너십이라는 특수한 상황을 설명할 수 있는 연구 결과는 그리 많지가 않다. 따라서 본 논문의 목표는 빠르게 변화하는 전환경제 내의 엔터프러너십에 대한 이해와 지식을 향상시키는 것이다.

본 연구는 널리 알려진 기업가의 유형에 대해 개략적으로 설명하고, 기업가의 성격, 교육 수준, 기존의 사업 운영 경험, 연령, 성별 그리고 역할모델이 창업의지와 성공에 미치는 영향을 분석했다. 본 연구는 전환경제 체제 내 엔터프러너십에 맞는 분류법을 마련함으로써, 엔터프러너십 모델이 특수한 전환경제 상황에서도 적용이 될 수 있게 하고자 했다. 또한 본 연구는 빠르게 변화하는 전환경제 시기, 또는 그 이후 시기에 활동하는 기업가들에 관한 이해를 도울 ‘가치 체계’ 개념을 도입했다.

본 연구는 한 국가가 다른 국가의 법, 경제 및 정치 체계를 따라야 하는 통일 시기 등을 기본 배경으로 하여, 전환경제 내 창업 의지와 성공에 관한 모델을 개발했다. 그리고 이 모델을 바탕으로, 다양한 요소들 (부모의 역할 모델, 타 지역으로 이주를 희망하는 정도, 교육의 효과, 성격, 연령, 성별 그리고 가치 체계)이 전환경제 시기 창업 성과에 미치는 영향에 관해 여덟 개의 가설을 제시했다.

가설을 검증하기 위해 Barley (1990b)가 제안한 대로 질적연구와 양적연구를 병행한 방법론을 사용했다. 양적연구로는 1984년부터 2011년까지의 데이터를 다룬 독일 사회-경제 패널 연구의 SOEP 95% 데이터 세트를 사용했다. 이 데이터 세트는 약 1만명을 대상으로 하여 매년 집계되었는데, 1990년에는 1만 3천명으로 그리고 2000년부터는 2만 2천명 이상으로 데이터 규모가 확장되었다. 독일에 거주하는 내국인과 외국인을 대상으로 하는 이 데이터는 거주민들의 생활에 대한 일상적 태도, 고용 상태, 인간 관계, 교육 환경, 수입, 건강 정도, 미래에 대한 계획, 등의 자료를 포함하고 있다. 특히 2005년부터 2009년의 설문조사는 Big Five 성격 모델에 맞춘 15 항목의 성격 평가를 포함하고 있다. 이 데이터가 중요한 또 다른 이유는 매년 같은 사람을 대상으로 인터뷰하는 추적 조사를 함께 실시하고 있기 때문이다. 약 10%의 인터뷰 대상자들은 연구가 시작된 1984년부터 2011년까지 인터뷰에 참여했다.

본 연구는 질적연구 방법으로 1990년에 설립된 9개의 기업을 중심으로 사례 연구를 실시했다. Koellermeier (1992)의 연구에 따르면 이 9개의 기업들은 당시 구 동독 전환경제의 성공적인 모델로 선택되었다. 이 사례 연구는 이후, 2012년 12월과 2014년 1월 사이에 실시된 전화 인터뷰를 통해 내용이 업데이트되었는데, 더 이상 인터뷰가 가능하지 않은 세 명을 제외한 나머지 창업자들과 회사의 예전 직원들, 지역의 기업등록청 (Gewerbeamt) 직원들, 그리고 기타 그 기업과 관계가 있는 사람들을 인터뷰 대상으로 했다. 이들 9개의 기업은 당시 촉망받는 기업이었지만, 이 중 단 하나의 기업만이 현재에도 운영 중에 있으며, 한 기업은 다른 기업에 합병되었고, 한 기업은 운영을 중단했으며, 6개의 기업은 파산했다.

이와 같은 방법론을 통해, 본 연구는 다음과 같은 결과를 도출했다. 첫째, 동독 출신 중, 체제 전환 시기에 청소년이었으면서, 자영업을 하는 부모를 둔 청소년들은 어른이 되어 거의 창업활동을 하지 않았다. 뿐만 아니라, 기업 활동에 종사했던 부모를 둔 사람들은 그렇지 않은 사람들에게 비해 사업가로 성공할 가능성이 높지 않았다. 반면, 서독에서 청소년 시기를 보낸 사람들의 상황은 이와 달랐다. 서독의 경우를 살펴보면, 기업

가인 부모는 자녀가 나중에 기업가가 되는 것과 기업가로 성공하는 것에 지대한 영향을 미쳤다. 두번째, 체제 전환 시기에 동독에서 서독으로 이주한 사람들은 평균적인 일반인보다 더 많이 기업 활동에 종사했다. 세번째, 구 동독 시기 약간이라도 기업 활동에 종사했던 사람들은 체제 전환 시기에 기업가로 더 성공했다. 네번째, 교육 정도는 창업 의지와 성공 모두에 있어 중요한 예측변수로 작용했다. 구 동독 시기 평균 이상의 교육을 받은 사람들은 체제 전환 시기에 기업가로 성공한 비중이 더 높았다. 다섯번째, 기업가적 성격 (높은 성실성, 외향성, 개방성과 낮은 동조성향 및 낮은 신경증적 성향) 을 지닌 사람들은 전환경제 속에서 더 많이 기업가가 되었다. 또한 이들은 기업가적 성격 지표에서 낮게 나온 사람들보다 기업가로 성공할 확률이 더 높았다. 여섯번째, 나이는 창업 의지에 긍정적인 영향을 미치지 못했다. 일곱번째, 여성의 경우 동독 출신임에도 불구하고, (구 동독 시기에는 다른 통제 경제와 마찬가지로 여성이 노동 시장에 참여할 수 있는 기회가 많았다.) 독일의 전환경제 시기에 창업가가 된 경우가 적었다. 여덟번째, 사회주의 시기에 주입된 가치 체계 (소비에트 인간, Soviet Man)를 여전히 이어가거나 믿는 사람들은 기업가로서 훨씬 높은 실패율을 보였다. 반면, 소비에트 인간의 가치 체계와 멀어진 사람일수록 기업가로 성공하는 경향을 보였다.

여러 개인적인 요소들 가운데서도, 개인의 성격과 가치 체계는 기업가의 성공을 결정짓는 중요한 척도였다. 개인의 성격은 대부분의 경우 거의 변화하지 않지만, 가치 체계는 시간에 따라 변화하기도 한다. 시장 경제의 가치 체계에 빠르게 적응한 사람들은 기업가로서도 훨씬 더 성공하는 경향을 보였다.

마지막으로 본 연구는 전환경제 체제에 맞는 분류법을 제안하고, 가치 체계라는 개념을 도입함으로써 엔터프러너십 연구에 기여하고자 했다. 본 연구의 결과는 빠르게 변화하는 전환경제 속에서 활동하는 사람들에게 두 가지 면에서 도움이 될 수 있다. 먼저, 정책 결정자들은 창업 활동을 장려하는 계획을 수립할 때 이 연구를 통해 기업가들에 대한 이해도를 높일 수 있다. 두 번째, 개인의 가치 체계에 대한 측정법은 벤처 투자자들이 기업가의 잠재력을 예상할 수 있는 신뢰성있는 기준을 제시할 것이다.

키워드: 엔터프러너십, 기업가 정신, 전환경제, 창업 의지, 사업 성공
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