

MIND, SOCIETY & ENTREPRENEURIAL ACTION

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# Abstract

MIND, SOCIETY & ENTREPRENEURIAL ACTION

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The first chapter 'De Gustibus Est Disputandum' theoretically examines the problem of infinite regress in the analysis of human action. An agent's action is dependent on other people's action, which in turn, is affected by a third set of actors, and so on. This irreducible complexity leads to a variety of approaches. It is argued that behavioral move in economics is needed in order to explain how agents evaluate the (humanly imposed) constraints. As individuals' actions are influenced by their ideas, the web of institutional constraints will be affected if there is a shift in ideas. This requires a study of how the emergence of intersubjectively shared ideas can be brought about by human interaction. The next chapter 'Short Run Bias & Long Run Rationality' contains the applied hypotheses that an absence of hierarchical constraints will lead to higher beliefs of internal Locus of Control, and lower preferences for state intervention. It is shown how different groups in east Germany subject to varying degrees of hierarchically imposed



constraints display a different pace of belief and preference adjustment after the reunification of the country.

Finally, the chapter 'Post-socialist Culture & Entrepreneurship' shows empirically how cultural beliefs and preferences that emerged under a prolonged period of socialism can affect economic behavior. At least one third of the gap in self-employment between east and west Germany can be attributed to this effect, after competing explanations, such as credit constraints, education, and adverse selection are accounted for.

# I. Introduction

In the second book of Plato's republic Glaucon tells the famous story of the ring of Gyges, which lends the bearer the ability to become invisible at will. It is one of the earliest texts describing the corrupting influence of power on even the most noble of souls. Gyges, originally a poor shepherd, soon seduces the queen, slays the king, and takes over the kingdom of Lydia.

Classical Political Economy assumes that the story of Gyges describes an essential element of human psychology. Mandeville, Hume, Smith, and later Mises, Hayek, and Buchanan all start from the presumption that men are knaves [see Boettke & Leeson, 2004]. This channels the analysis towards the rules under which human action takes place. The contemporary discussion then takes place on two separate but interconnected themes. The wider one discusses institutional rules in general [Searle, Hodgson, Ostrom, etc]. The narrower one discusses the rules that guide the political sphere. A robust political economy seeks to restrain the scope of political action, as it is the most potent of powers and shapes many of the lower order rules (e.g. laws, ordinances), through constitutional rules. This of course, is the fundamental insight of James Buchanan and can be found in his major works [e.g. Buchanan, 1962, 1975, 1991]. If political power is furthermore tied to knowledge problems [Hayek, 1948], i.e. in the absence of a price mechanism it is hard to impossible to communicate relevant economic

knowledge to political planners and decision makers, and incentive problems [Public Choice], i.e. if it is used to further one's self-interest at the expense of overall utility, the best one can do, it appears, is to restrict it.

It seems furthermore futile to argue against the self-centeredness of human action despite the interesting findings by behavioral economics. If anything biology, and especially evolutionary biology, strengthens its foundations. Individuals, who watch out for themselves and their kin, multiply copies of their genome. Unconditional altruists do not. If the hard nosed, purely selfish homo oeconomicus seems foolish [Sen,1977], the pure altruist is equally so. Human action takes place within the tension of trust and cheating. Recent findings by behavioral economists appear to be minor deviations from the fundamental axiom of self-centeredness [Gintis et. Al, 2003; Fehr & Gaechter, 2000]. The most one can say, that there appears to be a capacity for reciprocal cooperation, as exemplified by Tit-for-Tat [Axelrod, 1984]. Thus, the assumption about self-centeredness appears to be sound.

The classical political economists and their 20<sup>th</sup> century successors prevent the shepherd from taking over power by restricting the power of the ring in the first place. They accept self-centeredness as an unalterable component of human psychology and describe the outlines of a system of rules which attempts to bind the hands of anyone who seeks to extend his actions beyond the realm of the personal sphere. There is a special emphasis on political power as the most potent one.

Restricting power, however, can take multiple forms. It has been suggested that the democratic political process itself is sufficiently competitive to tie the hands of the power-hungry, and the power-drunk [Witman, 1997]. On the other hand it has been shown that voters, with a quasi-zero probability of changing election outcomes, tend to hold “irrational” beliefs [Caplan, 2007] and actually demand queer policies, such as trade restrictions. In this latter case, constitutional restrictions on power become restrictions on the accumulated mistakes of voters, whereas in the classical case it represented a restriction on politicians only. Regardless of the problem, the medicine is, thus, the same.

If political economists and philosophers accept the above, they will also have to confront and scrutinize the second component of the argument: Speaking wisdom ain’t making it so, or, to stay with ancient texts, Cassandra could see the future’s perils and lament, but nobody would believe her nevertheless. The times are long past when the king’s advisor could whisper in his ear and influence directly the ruler’s decisions. Democratic governments are decentralized, complex, and there exist several levels of participation. This critical extension of classical political economy was brought forward by Wagner (2007) but is also based on the work by Menger, Hayek, and Vincent and Elinor Ostrom. Governments are not only hierarchical organizations, they are orders, and as such, they are created through the interactions of a myriad of participating individuals. If we take this notion seriously, it remains doubtful whether the rules of the game can be constructed by a wise philosopher king, after which they are unalterable, and the within-rule game is rendered as a market process. The design of ‘good’ institutions is a game

itself. Runst & Wagner (2011) for example explore how constitutions, though on a higher plane, are in fact changing over time. As constitutions reside not only on paper, but as all ideas, in the minds of the participants, they are not static but respond to human interaction. Texts can be re-interpreted, ignored, or altered as soon as the tension between their content and the commonly accepted ideas about their content becomes too strong.

Having made ‘good’ rules is thus, not the end, but the continuation of an ongoing process in which constitutional players affect shared beliefs and moral evaluations, in short ideas, about what the ‘proper’ rules should look like. It is the dynamic evolution of ideas pertaining to political institutions that ties together the three essays in this dissertation. If political economists want to understand why some countries have ‘good’ institutions, i.e. conducive to mutually beneficial exchange, whereas others do not, they cannot simply announce the importance of secure property right and sound money. One must ask why did exchange-friendly constitutions ‘stick’ in Poland and the Czech Republic, and failed in Moldova and remain fragile in the Russian Federation? The historical constraints that were conducive or hostile to the co-creation of certain ideas about the proper rules have to be specified as it appears that a good deal of path dependency does indeed exist in this area [Alesina & Fuchs-Schuendeln, 2007]. Individuals do not discard their preferences and beliefs instantly. Thus, what cognitive psychologists would call ‘environment-mind’ interaction [Giegerenzer & Todd, 1999] applies to the realm of human interaction as one individual’s action constitutes the constraints for another individual’s action. Of course, this behavioral approach to

institutional and constitutional economics does not endorse the denial of existing power structures. Tangible incentives exist for powerful political players to hold on to their rents [Shleifer & Treisman, 2001]. Yet, as voters can afford to hold ‘bliss beliefs’ , bureaucrats, judges and others are not directly exposed to competitive pressures, their ideas about how rules should like represents a critical factor in the process of rule evolution.

The second common theme of all three papers is entrepreneurial human action. Rational choice assumes deterministic automatons in its noble strive to be scientific. At the same, this undermines any attempt to construct a truly dynamic and endogenous theory of human action. A closed system requires exogenous shocks in order to account for changes. It also represents a caricature of human decision-making. If the outcome is determined by given preferences and constraints, the word choice is misplaced. It is not the individual who is doing the choosing but the environment. On the other hand, given our scientific world view where everything can be broken down to “particles within fields of force” [Searle, 2004], entrepreneurship, the capacity for creative acts of novelty, might require the problematic notion of ‘free will’. It cannot, of course, be the ambition of this dissertation to solve this intellectual dilemma. In fact, in the tradition of the enlightenment, it tends towards the materialistic end. However, the three essays attempt to shed some light on the phenomenon of learning and change. Why do some individuals change their ideas about the world, and consequently their actions? Who are the individuals who initiate discrete novelty? What are the circumstances that undermine or

favor novel ideas and action? The two applied pieces in this dissertation focus on transitional economies, on an interruption of the usual amount of orderliness in human affairs. Such a research agenda hopes to shed light on the linguistic and cultural entrepreneurs, the political entrepreneurs, and the business entrepreneurs, and how they seize opportunities in a situation of tectonic shift.

Chapter one “De Gustibus Est Disputandum – Behavioral Foundation of Constitutional Political Economy” sets the stage by exploring theoretically the philosophical impossibility of treating an agent’s action within institutions without referring to beliefs and preferences. As the title suggests, it is argued that constitutional political economy requires a behavioral underpinning. Chapter two “Short Run Bias & Long Run Rationality” represents an extension of Alesina & Fuchs-Schuendeln (2007). The latter authors have shown how east Germans have a higher preference for state intervention than their west German counterparts. They show that this difference is a direct effect of life under socialism. My extension focuses on the learning process itself. First of all it is argued that Alesina & Fuchs-Schuendeln lack a theory to explain their findings. The second chapter supplies such a theory which, in its simplest form, states that restrictions on an individual’s freedom will ultimately lead to an increased desire for government restrictions. Empirical results support the theory. Finally, chapter three “Post-Socialist Culture & Entrepreneurship” deals with the microeconomic effects of inert beliefs and preferences on self-employment in east Germany. It is shown that higher

preferences for state intervention and lower locus of control beliefs can explain about a third of the gap in rates of self-employment between east and west Germany.



## **II. De Gustibus Est Disputandum – Behavioral Foundations of Political Economy**

### **1. Introduction**

The work on institutions within economics, political science and other disciplines has yielded results in three distinct but related areas. One strand of research attempts to theoretically and empirically show how certain sets of institutions create different economic outcomes (Buchanan, 1962; Hayek, 1960; Acemoglu, 2001; Person & Tabelini, 2003). Another strand of research focuses on the creation and maintenance of institutions that serve to overcome collective action problems in smaller scale settings (e.g. Ostrom, 1990). Finally, work has been done on the foundational theoretical and logical structure of social institutions (Ostrom & Crawford, 2005; Searle, 1995a, 1995b; Hodgson, 2006). While most economists agree on the direct and strong relationship between institutional quality and economic outcomes (Bengoa & Sanchez-Robles, 2003), the question why only some societies develop secure private property rights & sound money remains largely unanswered (Acemoglu et al, 2001; is a noteworthy exception).

This paper reasserts an old and underappreciated hypothesis which, if true, will have consequences for all three strands of institutional analysis: Ideas matter. Ideas are here

defined as beliefs and values that prescribe norms and rules of socially accepted conduct, where beliefs pertain to an individual's constraints or more general causal relationships in the world. Values are moral evaluations of certain types of action and states of the world. Ideas affect the continuous development of social institutions and thereby, political outcomes. In the absence of any truly external interpretation and enforcement of social institutions [Buchanan, 1991], ideas about proper behavior can legitimize, or render ineffective currently existing social institutions. This argument has important philosophical and methodological roots which will be briefly discussed below. There are a number of economists such as Hayek (1960, 1967, 1988), Buchanan (1991), North (1990), Ostrom (1991) and other Institutional researchers that refer to ideas as drivers of institutional change.

Individual beliefs and values are distinct from external, and actually applied institutions as they are prior to human action. For example it is possible to dislike a norm or rule, to regard it as improper, but to follow it nevertheless out of practical cost benefit calculations. Internal evaluation is thus, not necessarily identical with observed behavior. Beliefs and values will nevertheless be correlated with social institutions as individuals will strive to adjust their environment to their internal standards if possible. The importance of political ideas, or Background, is overlooked in many current debates. The field of institutional research would benefit from what may be called a behavioral foundation of Political Economy – an interdisciplinary theoretical and empirical effort to better understand the origins and development of political ideas, their relation to social institutions, and finally political action and resulting institutions.

## 2. The Problem of Infinite Regress

Shared strategies, norms, and rules enter into deliberation. The buyer of a loaf of bread does usually not leave without payment as the violation of the rules of customary transaction enables other parties to take certain action on their part, which will result in a relatively lower expected state of happiness. Following Ostrom's definition both internal factors, such as guilt or shame (e.g. norms about the immorality of stealing), and external sanctions (e.g. rules that prescribe fines for stealing) play a role (Ostrom & Crow, 2005). The syntactic structure of social institutions was discussed by Hayek (1967), and then almost simultaneously revived by Ostrom & Crow (2005) and Searle (1995a, 1995b). There is some conceptual ambiguity whether norms (e.g. regarding stealing) should be seen as a markup price or as preferences ('I dislike stealing').

Ostrom suggests that the distinction between norms and rules depends on whether action by others is required in order to impose a cost on the perpetrator or not. This distinction between norms and rules is not unproblematic. For once, even though there is no direct sanction imposed such as a fine or incarceration in the case of a norm violation, should we not count the raising of an eyebrow, the lost reputation and social standing as an externally imposed cost or sanction, even if there is no immediate response by others? Thus, when a person dresses inappropriately or displays minor violations of social norms, the accompanying change in this person's assessment by others does impose an externally imposed cost or benefit. One neighbor might discontinue associating with this individual, another person will refuse to hire him, whereas a third might be attracted and

will seek out the company of the norm violator. Disregarding these problems of classification, we will now examine the complex interrelatedness of social institutions and its resulting analytical problems.

First we shall discuss a dilemma which concerns the theory of individual utility maximization and institutional analysis: Whenever we shift the analysis of human action one step back, i.e. whenever an external person takes action in the event of a rule violation, we will find other institutions affecting the preferences and constraints of this second critical decision maker (Second order computation). If we ask, why does the police officer choose to incarcerate the criminal, or not, we will have to consider the external and internal costs and benefits of his action, such a being fired/ promoted or rejected/ accepted by his fellow police officers, thus we are evoking another set of internal and external institutions (Third order computation). We could then ask why other individuals within the network of institutions in a police department have an incentive to fire or promote the officer in question and so forth. In a complex and intertwined network of social institutions of a contemporary extended society we will always find antecedent institutions that play into the deliberate choices of any one person, and which require higher order computations. We could unravel the process until we reach one of the most primary social institutions: symbolic communication.

But even here the process will not come to an end because, as both Searle (1995a, 1995b) and Hayek (1967) suggest, communicating individuals already possess social institutions. In fact, language in the wider sense cannot be analytically separated from the creation of institutions; speech already is a social contract – a set of rules and status

functions. Any speech act represents an acceptance of most of these rules. The difference between social and political institutions is not one of kind but of degree, and political institutions represent a subset of social institutions. The proper use of language, as according to the grammatical norms, already assigns status function because the deviant who expresses himself unintelligibly will not be as much part of the group (and its accompanying benefits) as the individuals who comply. It has been noted by early philosophers that there is a human inclination toward society (*'zoon politikon'*).

Biological anthropologists have found that children enforce collective norms as soon as they learn them, as early as age three, which is regarded as evidence for our innate capacity to learn the surrounding culture [Tomasello, 2009]. And this instinct may further our ability to learn the social institutions (such as language) before we are able to describe its underlying logical structure (i.e. grammar) and before there could be actual choice. Infants cannot help but learn their surrounding language (in the absence of physical impairments).

Any deliberation will depend first, on the relative costs and benefits of the resources involved in the transaction (e.g. bread, money, etc.), it will secondly depend on the costs and benefits prescribed by social institutions. The expected utility of actual application of a social institution, as opposed to a rule that exists only on paper, critically depends on the existence of supporting antecedent social institutions. The police man for example will be less likely to act upon the knowledge about the robbery of the bakery if the hierarchy of his commanding officer does not compensate him for the risk, or even presents him with adverse incentives, which itself is the result of preceding political

action, or, if there exists a norm among officers on the street to not bother with small delinquencies. In turn, the existence of these norms depends on other social institutions (e.g. the reward structure), which leads to an infinite regress.

Thus, any rule or norm relies on antecedent norms or rules, i.e. we expect somebody else to take action if we violate them, and individual action cannot be fully explained by reducing it to a rational choice framework without assuming most of what needs to be explained in the first place, without taking into account antecedent political rules and norms. It is thus more appropriate to talk about networks of social institutions, in which each norm or rule sustains adjacent norms and rules.

One solution to this dilemma presents itself. Perhaps, we may refer to Polanyi's dictum about the importance of assumptions at this point. If there is an infinite regress to all types of knowledge we must eventually truncate the process and start from somewhere [Polanyi, 1964]. This is as true for the social scientist's models as it is for the individual. If we hypothesize that an individual can know all relevant social constraints (including all higher order rules) this would overstep all reasonable computational limitations of the human brain, even if we arbitrarily stop at the second or third order computation. If third order computations are possible, constraints of order four and higher would then have to be accepted on faith, and so forth.

It has been pointed out to me that this situation is akin to the well-known Duhem-Quine problem [Quine, 1951]. A scientific prediction relies on assumptions or auxiliary. For example, if our hypothesis states that if we mix chemical A and B the resulting liquid will be black, and if it turns out that it becomes green, can we falsify the theory, or might

it be possible that the hypothesis only holds under certain qualifying conditions (auxiliary assumptions), such as the temperature must be above 32 degrees Fahrenheit? The Duhem-Quine problem usually serves to illustrate the impossibility of a formulaic approach to falsifications. However, in the context in which it is used in this paper it points towards a solution to the infinite regress problem.

Without assumption about the behavior of other people (i.e. constraints) the computational requirements for utility maximization are impossible to meet. Thus, even if their validity cannot be proven, assumption will facilitate human decision-making and action. If the constraints cannot be known perfectly, they can still be assumed to exist with reasonable certainty. They represent the only firm ground to stand on [Loasby, 1989]. In his seminal book “The Psychology of Personal Constructs” (1955) George Kelly based his theory of mind on the premise that individuals hold assumptions (‘constructs’ in his language) which they use in order to categorize experiences. It has also been shown by contemporary psychologists that individual minds rely on rule-like hierarchical processes similar to assumptions [Todd & Gigerenzer, 1999]. These theories of the human mind take serious the notion of assumptions\* as critical determinants for human choice in the presence of infinite regress. They are also based on Herbert Simon’s work on limited human rationality [Simon, 1982].

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\* Beliefs do not only pertain to constraints but also to one’s own preferences rely on assumptions [Earl & Potts, 2004]. Earl and Potts state that, as the number of goods increases linearly, the computational requirements increase more than proportionately. An assumption about what I like and do not like makes computational sense as it is impossible for me to for example rely on perfect preference ordering for the 40,000 items in an average supermarket.

However, following Becker & Stigler (1977) economists do not study these assumptions themselves but treat them as given data (Tullock, 1967; Olson, 1965; Person & Tabelini, 2003; Niskanen, 1968; Becker, 1983). For example when Person & Tabelini claim that presidential/majoritarian systems tend to have smaller governments than parliamentary/proportional system (Person & Tabelini, 2003), or when Tullock presents the cost/ benefit decision of lobby groups as a determining factor for policy outcomes (Tullock, 1967) they are operating within a clearly defined space with certain assumptions.

The complex interrelatedness of institutions, however, limits the application of such an explanatory effort to a snapshot in time. They cannot explain why some societies fail to develop the institutional basis for a functioning market economy. Institutional explanations based on physical force [North, 2006] illustrate this point because the use of a certain institutional structure of violence is itself dependent on antecedent social institutions. It is not clear why we move from one institution of violence to another, apart from invoking external changes. Thus, rational choice explanations are bound to be static as they must assume most of what needs to be explained, and they cannot explain endogenous institutional changes.

However, social institutions are not static. Historical social contracts are continually contested on the margin. Constitutional erosion has been documented and analyzed [Buchanan, 1991; Runst & Wagner, 2011]. There is a number of closed form snapshot explanations for institutional change [Tullock, 1967, Niskanen, 1968; for critiques of these models see Del Rosal, forthcoming, Weingast & Moran, 1983;



Wittman, 1997; Caplan, 2007]. It has been pointed out that constitutional erosion will be unavoidable in any political system without truly external monitoring and sanctioning (Buchanan, 1991).

In summary we may say that agents hold assumptions about their constraints and preferences. It is impossible for the actor to know all the higher order rules that affect his action. The agent holds assumptions in the form of subjective beliefs and preferences. He might think that it is wrong to steal, or that a certain societal situation is unjust. Whatever the agents' ideas (assumptions) are, they will, in certain circumstances, affect the agent's action and can thereby also change social institutions. Laws and constitutional rules are continuously re-interpreted by judges who have some degree of independence. Voters have been shown to hold irrational beliefs [Caplan, 2002]. A behavioral foundation of political economy would focus on the question whether the assumptions used for social science models really coincide with the assumptions that the agents themselves hold, and how these assumptions came to be.

### **3. De Gustibus Est Disputandum**

This author does not accept the opinion by some [Searle, 1995b] who state that rational choice type explanations are completely misplaced, and must make way for other explanations based purely on habit and tradition. One may simply point to the insights which have been generated in the wide field of institutional and constitutional analysis

[e.g. Buchanan, 1962, 1975; Person & Tabelini, 2003; Ostrom, 1991; Acemoglu, 2005, Leeson, 2007] or contrast the successful application of rationality based explanation with its alternatives based on custom and habit in order to see its analytical value. It is simply pointed out that closed form explanations require specific assumptions, one of which is the classification of preferences and beliefs, and, in fact, all subjective perceptions, as data. Closure represents the analytic strength of economic theory, and at the same time, diminishes its importance in analyzing instances of institutional change, as any deterministic system must start with given, unquestioned information, otherwise, and as we have seen above it would fall into infinite regress. Unfortunately, by relying too much on Friedman's dictum about the results of predictions in the past [Friedman, 1953], economists have neglected to question the realism of their assumption, and sometimes to tend to build imaginary castles severed from the actual human condition.

An elegant behavioral solution to the problem of infinite regress is presented by evolutionary game theory and evolutionary psychology. If we take for granted a set of minimal biological preferences necessary for survival (e.g. more food is better than less), a simple Hawk/Dove game introduced by the geneticist John M. Smith predicts the proportion of different types of individual in a mixed strategy equilibrium, i.e. violent types and peaceful types [Smith, 1982,]. Individuals have evolutionarily endowed preferences and rationally choose secondary strategies, which might eventually become preferences, i.e. they become of an individual's character. In this vein, a number of similar applications have been created during the last years [e.g. Güth, 1995; Güth & Kliemt, 1998]. This class of explanations is limited to genetically transmitted,

evolutionary characteristics and cannot be the only explanatory factor. A behavioral foundation must take into account the environment-gene interaction as beliefs and preferences often change faster than could be explained by pure genetic explanation [Todd and Gigerenzer, 1999].

A second solution to the dilemma is represented by theories of emergence, complexity and spontaneous order. The vast majority of social institutions were not planned by either a single individual or a small group. Similarly, many social institutions of the extended order which facilitate the market process were created and are maintained by heterogeneous individuals, in non repeated situations. Most famously, the institution of money has evolved in a spontaneous fashion, and continues to do so [Menger, 1871, Howitt & Clover, 2000]. Models of complexity may thus serve as an important device in explaining the generation of social norms and rules. This class of models evades the difficulties related to beliefs and preferences altogether but it has been stated that complexity models are limited to non-intentional social institutions, and thus would be hard pressed to explain, for example, the American Constitution [Hodgson, 2006] which certainly posses an intentional component despite the fact that its actual manifestation will not be planned by any single mind, and its development over time cannot be foreseen [Wagner, 2007, Runst & Wagner, 2011].

In summary we can say that ideas are prior to human action. More importantly, human action is only possible because individuals hold background assumptions about the causal connections in the world (beliefs) and their own preferences. Infinite regress renders any purely computational solution impossible. The assumptions or auxiliary

hypothesis of the Duhem-Quine thesis cannot only be seen as an obstacle to perfect falsification, but assumptions also represent a starting point for all ideas and human action by avoiding infinite regress. While both, evolutionary psychology/ game theory and complexity science represent social scientific solutions to the problem of the infinite regress associated with utility maximization the development of evolutionary game theory/ psychology in particular is an attempt to move economic analysis into the realm of the subjective, toward the background assumptions.

## **4. Behavioral Foundations of Political Economy**

It has been noted that the most primary social institution, language, cannot be understood without shared beliefs and values [Searle, 1995b, p.130]. The primitive social contract of language requires what has been called Background capacities in order to facilitate mutual understanding. Searle gives examples of simple words, such as ‘grow’, and demonstrates how it holds different meanings depending on its use (“the grass is growing”, “the economy is growing”, etc). “Any intentional state [...] only determines conditions of satisfaction, against a set of Background abilities, dispositions, and capacities that are not part of the intentional content and could not be included as part of the content” [Searl, 1995b, p.132]. Background abilities consist of shared assumptions. If

two people have similar background abilities they can understand the meaning of their words as the context of the speech act points to a specific meaning of the words.

Background assumptions overcome infinite regress problems in all other social institutions. I assume that stealing is wrong and represents a rule violation (First order rule). I assume that the police man will arrest me if I steal the loaf of bread because his incentive structure rewards him for doing so (Second order rule). I assume that some political body has been set up this incentive structure (Third order rule). In contrast to maximization, a person does not have to perform the calculations and search for all higher order rules. The purpose of an assumption is to minimize calculation costs by using a “rule of thumb”, a heuristic. As we have seen above, psychologists are increasingly convinced that human decision making follows heuristics [Gigerenzer & Todd, 1999].

Interestingly enough, F.A. Hayek’s psychological work ‘The Sensory Order’ (1952) can be regarded as an early attempt to understand how individuals form the Background assumptions that enable them to understand social institutions. In modern materialist fashion, Hayek suggests that a mental state, or sensory experience, is caused by the causal connections<sup>†</sup> between neurons within the brain [Hayek, 1952, 5.13]. An external stimulus causes complex neuronal activity, which then gives rise to a mental state, such as the sight of a bear and fear. The causal connections in the brain classify stimuli. Thus, they represent the physiological manifestation of background assumptions.

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<sup>†</sup> He suggests the connections are topological, not topographical. Exact distances do not matter as much as causal relationships. The brain-process is thus not restricted to an organic physiology, but could be realized other algorithmic system, such as computers.

If the baker puts the loaf of bread on the counter and then patiently stares, the customer infers he is waiting for payment. The stimuli caused by the sight of the baker standing and staring causes a certain neuronal activity, which gives rise to the mental state of understanding (classification) that he is awaiting payment. Thought is not infinitely malleable in the short run. It is restricted by the physiological neuronal network of causal connection as all mental states are created by its activity. “Which external events are recorded at all, and how they will be recorded, will thus depend on the given structure of the organism as it has been shaped by the process of evolution” [Hayek, 1952, 5.20]. In a person’s life, repeated stimuli will expand the causal connections within the brain beyond its state at birth. Through repeated stimulation new causal neuronal connections emerge, others disappear. The physiologically based causal connections are in state of continuous flux, which enables us to perceive culturally specific stimuli, such as different languages. In summary Hayek states:

“..the characteristic attributes of the sensory qualities, or the classes into which different events are placed in the process of perception, are not attributes which are possessed by these events and which are in some manner ‘communicated’ to the mind; they are regarded as consisting entirely in the ‘differentiating’ responses of the organism by which the qualitative classification of these events is created; and it is contended that this classification is based on the connexions created in the nervous system by past linkages. Every sensation [...] must therefore be regarded as an interpretation of an event in the light of past experience of the individual or the species. “

Similarly, the psychologist George Kelly (1955) writes that “An event is replicative of another only if one is willing to accept the abstracted similarity of the two” (p.53). Thus, a person “erects constructs of similarity and contrast” (p.50). These constructs are background assumptions, enabling a person to classify, interpret, and evaluate objects and events. “By construing we mean ‘placing an interpretation’” (p.50). Kelly states that the function of these constructs (or assumptions) is prediction: “...the most unusual future can be anticipated in terms of a replicated aspect of the familiar past” (p.58). Without constructs (or assumption) we could not make sense of future events. Undoubtedly, we are born with many classificatory systems already, as when a baby stops crying while being held by the mother, when it “knows” that the mother’s breast is a means of nourishment, or when it has some classificatory system that enables it to learn the surrounding language. Others will be acquired by experience, as when we for example understand our obligation to pay the baker after he puts the fresh loaf of bread on the counter.

Hayek (1952), Kelly (1955), and Searle (1995b) come to similar conclusions – consciousness comes to us with an aspect of familiarity – e.g. different types of sensory input can stimulate the same classification system as when we understand a penguin and sparrow to be in the same category or class, i.e. bird. Hayek writes: “It is not because I know explicitly what physical properties the sound of the word ‘sycamore’ pronounced at different times by different people has in common but because I know that x or y intend all these different sounds or signs to mean the same word, or that they understand them all as the same word, that I treat them as instances of the same class” [Hayek, 1948,

p.61]. Human action is thus, based on Background assumptions which are logically prior to mental deliberation. The particular ways in which social institutions are understood and evaluated by individuals depends on these Background assumptions as well.

Above I used the terms beliefs and values to describe a particular form of Background assumptions pertaining to political institutions. Beliefs and preferences concerning political and economic action are instances of Background capabilities that pertain to social institutions. They are concerned with individual beliefs about the regularities of human interaction and with the moral evaluations of existing rules and norms. Different social rules and norms are classified and can be seen as valid, good, just or invalid, bad, unjust.

Several economists, most notably Sen (1977) have criticized rational choice explanations for not adequately accounting for the distinction between self-interested action in the narrow sense and acting out of duty, obligation etc. Although the two can always be combined in the wider notion of rationality - we may say that an agent has a preference for complying with a rule; this also blurs the line between these recognizably different types of motivation. Thus, if a norm or rule obliges an agent because it is regarded as good, just, etc., if it locks him into a certain way of acting, it is done, not out of self interest in the narrow sense but out of devotion to the underlying principles, ideas, or values and beliefs pertaining to a social institution such as 'You must not steal, even though in any particular instance, it might to your material advantage'.

This characterization of choice is supported by recent findings in behavioral economics. For example, when a painful medical procedure in the past had to be



evaluated by experimental participants, judgments did not so much depend on actually experienced pain, but on its remembered peak- and end intensity (Kahneman & Thaler, 2006). This suggests that individuals weight the memory of the experience higher than the actual experience. If expectations depend on anticipated memories, not actual experience, agents might be willing to choose materially discomforting situation if it turns out to create a memorable experience. An action that is classified as meaningful, i.e. an action that is guided by some set of values (background assumptions), and one that will provide satisfying memories, could be selected even though it might be accompanied with a fair amount of hardship. For example, given that a person believes that market economies are exploitative and if this person has a preference for the well-being of the poorest segments of the population this person's quest for meaningful action might push it into political activism regardless of the initial chances of success or the cost incurred. In fact, if a number of people act in this manner, their meaningful collaboration can create an independent benefit that motivates behavior.

It was also found that the correlation between life satisfaction and income is higher than the correlation between actually experienced happiness and income [Diener et al, 2009]. Wealthier people are more satisfied with their life even though actually experienced happiness is not necessarily higher. This could result from the overall life satisfaction derived from meaningful work. This overall satisfaction does however not mean that people do not sometimes suffer from the longer work hours or more disciplined lives such work might require. The quest for meaning is a motivation for individual action.

It could also explain why empirical research has found that political activism increases with socio-economic status [Verba & Nie, 1987]. Higher income individuals could be individuals who are willing to work even though their increased effort does not increase experienced happiness, but they increase their effort because they seek meaningful lives. Their goals are far-sighted, whereas individuals with lower incomes (necessarily) put more emphasis on immediately experienced happiness.

The empirical findings above suggest that people are motivated by the quest for overall life satisfaction, which might be more a function of meaningful activity than actually experienced pleasure or happiness. If individuals seek 'meaningfulness' in their lives, it is necessary to study the background assumptions, the values, preferences, and beliefs that determine what actions are considered to be meaningful, and what kind of far-sighted activities might be pursued, especially in an environment where most people can actually afford to pursue meaningful activities instead of mere survival related activity.

Of course, this presentation stands in stark contrast to the usual one because it can be argued that feelings of duty are only epiphenomena, justifications, or residuals in the language of Pareto (1935), when the true motives are narrowly selfish. Does the agent really refrain from grabbing the purse which was left behind in an empty train, when the expected monitoring and sanctions are close to zero? On the other hand people experience feelings of guilt and shame if they believe their actions to be in fault. In other words, if narrow self-interest stands conflicts with higher order rules which one will dominate and trigger an action? First of all, economics prescribes that the outcome depends on the relative costs and benefits. A poor individual who would greatly benefit

from the additional disposable income might understandably be more inclined to grab the purse than a person of higher socio-economic status who “can afford” to follow meaningful norms. On the other hand, charitable giving as percentage of household income by income group has been empirically shown to follow a U-shaped curve [James & Sharpe, 2007] which stands in conflict with a straightforward cost-benefit explanation.

Runst (working paper) attempts to answer that question by creating a short run – long run model of action. The mind, in this view, consists of higher and lower order rules (background assumptions) [also see Searle, 2004, Earl, 1986]. In the short run the rule is followed as it minimizes calculation costs. Empirical evidence for inert beliefs and preferences exists [Runst, working paper; Alesina, Fuchs-Schuendeln, 2007; Bardi & Schwartz, 1997]. From an evolutionary psychology perspective there are several advantages of a hierarchical and inert internal rule structure [Gigerenzer & Todd, 1999]. Internal (mental) rules save on information costs: If I hold certain beliefs about the causal relationships in the world, mostly with regard to human behavior I do not have to accumulate information before I act but can rely on my past beliefs about similar situations. Of course, this type of long-term knowledge will become less valuable as the pace of societal change increases and more valuable if regularities exist throughout time. Internal rules also reduce mental processing costs. If the brain is costly to run we would expect that there exist routines which economize on decision making. In the presence of 40,000 items in a super market a simple rule which tells me what I like and dislike will reduce the calculative burden. In their book “Simple Heuristics That Make Us Smart” (1999) Todd & Gigerenzer show how people use simple heuristics with low calculation

costs that are surprisingly accurate when compared to linear regression and other decision rules. Internal rules also overcome time inconsistencies similar to the ones described in political economy and monetary macroeconomics (e.g. dieting).

Finally, inert mental rules (background assumptions) create the regularity which we call “the self” in the first place. Kelly (1955) states “A system implies a grouping of elements in which incompatibilities and inconsistencies have been minimized. They do not disappear altogether, of course. The systematization helps the person to avoid making contradictory predictions” (p.57). Sometimes, the individual will have to change some of the rules when they have become obsolete. “Dare he jeopardize the system in order to replace some of its parts? Here is the point at which he must choose between preserving the integrity of the system and replacing one of its obviously faulty parts” (p.59). If personal beliefs and preferences fluctuate wildly, the feeling of being an integral and coherent person would be weaker or non-existent. Therefore, rule adjustment will be inert in the short run.

Thus, it can be said that the short run is characterized by certain preferences and (perhaps faulty) beliefs, whereas narrowly defined biologic selfishness and rationality (beliefs are updated and norms changed if the net benefit  $>0$ ) is stronger in the long run. Thus, in the long run beliefs and preferences adjust to the structure of the environment; individuals learn and change their mental heuristics to take advantage of their environment. However, and as we have seen from the study of the impact of socialism on beliefs and preferences [Alesina, Fuchs-Schuendeln, 2007; Bardi & Schwartz, 1997;

Runst, working paper] it is very likely that the Long Run is characterized by generational turn over rather than changing individual beliefs and preferences<sup>‡</sup>.

As the emergence of Background capacities such as political beliefs and moral values are causally connected to individual action they may constitute a legitimate field of research within institutional economics, and perhaps social science. One may tentatively label such a field Foundations of Constitutional Political Economy. Its primary task would be to analyze the development of shared individual (political) beliefs and values and their relationship to human action. The ideas that individuals form about the ‘proper’ rules of individual conduct may be the missing puzzle piece, which can explain why a number of people agreed to change the status quo and created a new social contract, such as a constitution, or why people vote one way or the other. It might also be an (partial) explanation for why rules erode over time. The professional experts who serve as the monitors or punishing agents are often somewhat shielded from material costs and benefit considerations, but will decide how to judge a rule violation according to higher principles of goodness, original intent, and others. Similarly, the agents who affect policies might have low incentives for choosing rationally, but vote according to their ‘bliss beliefs’ [Caplan, 2007].

Behavioral foundations of Political Economy does not exclusively concern the human mind, being the realm of Psychology proper, but it addresses the interconnectedness of complex social exchange and the processes within the human

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<sup>‡</sup> It may be speculated that, by calling some of our beliefs and values ‘moral’ (or ‘religious’, i.e. legitimized by a deity) we are elevating the ones that have proven to be useful in the past on a higher plane of internal institutional rules, similar to political constitutional rules which stand above simple political rules.

mind. It starts materialistically by noting the exchange relationships within a given society. It asks in what way individuals channel the ever-present conflict over goods in the private and public sphere. Repeated individual actions, which constitute an orderly pattern by structuring the way individuals live together (i.e. it shapes expectations), affects the individual minds of the participants. It is plausible to assume that beliefs individuals hold about the workings of their society will be as correct as to allow them to conduct their own business and to further their own ends. However, these beliefs do not have to be correct in any (social scientific) sense. They are only required as rules to a complex social landscape through which the individual is maneuvering. The evolution of political ideas needs to be studied on the individual level, social level and the interactions that unfold in between.

Optimization, in the sense of Becker & Stigler (1977), starts from the lone individual. The theoretical problem of choice is, thus, a relatively simple one, based on fixed preferences and a given price structure. It will then be extended to explain social phenomena, such as markets. If we however, start with the notion of people who already live in a social situation, the problem is more complex and the making of opinion itself will be a social process – the exact functioning of this process or processes, however, remains to be discovered. The preferences and beliefs will develop in way that facilitates co-existence and cooperation. This does not, of course, rule out conflict between different beliefs and preferences. It only means if our analytic framework starts from a social situation, beliefs and preferences are no longer given, but become part of the social process themselves.

A behavioral explanation relationship should fulfill a number of criteria. First, it should explain dynamically why individuals in a certain environment hold particular beliefs and preferences (ecological rationality). It should also explain a considerable number of choices in which material incentives are negligible (voters, courts, central banks), or in the short run, before preferences and beliefs yield to long run adjustments. Finally, it should provide testable hypotheses.

During the last decade a literature has emerged that attempts to study the determinants for beliefs and preferences. Most of the literature however, is narrowly concerned with preferences for redistribution. It has been found that life in a socialist country increases preferences for state intervention [Alesina, Fuchs-Schuendeln, 2007; Schwartz & Bardi, 1997; Runst, working paper], that personal tragedies such as unemployment spells or personal traumas increases preferences for redistribution [Alesina & Giuliano, working paper]. It is also affected by different cultural perceptions of wealth distributions as the result of “luck” or “effort” [Alesina & Glaeser, 2004; Alesina & Angeletos, 2005]. For an overview see Alesina & Guilano (working paper). With the help of multiple data sets, the latter authors have confirmed that women and blacks are considerably more likely to favor redistribution, controlling for a host of relevant variables. Education decreases the preference for redistribution but ideology remains important after relevant controls. Education makes people “think like economists” [Caplan, 2002] whereas a considerable portion of this effect can be attributed to IQ [Caplan & Miller, 2010]. Different beliefs and preferences can have economic effects. Runst (forthcoming) shows that cultural differences between east and

west Germany can explain about one third in the gap in self-employment. Tabellini provides evidence that across Europe different cultures have an effect on economic development [Tabellini, 2010]. The author concludes that “this finding in itself casts some doubt on the primacy of formal institutions as determinant of economic development”.

## **5. Conclusion**

The creation and sustenance of institutions by individual agents represents a dilemma for the social sciences. Human action depends on institutional structure, which, again, depends on other institutional structures. The study of human action within this network therefore leads into an infinite regress as one could not understand individual action without understanding the whole network. It has been stated that this situation is akin to the Duhem-Quine problem. It was also suggested that holding background assumptions about constraints as in “I assume it is wrong to steal and I assume I will be punished if I do so” represents the only solution to the problem, the only firm ground to stand on. Actors hold background assumptions (moral values and beliefs) that may not be regarded as narrowly self-interested. Although they may, without problem, be integrated into a framework of rational choice, we should be careful not to lose an important distinction between narrow self-interest and a feeling of moral obligation, or meaningfulness of one’s life. It has been suggested that ideas such as beliefs and preferences are logically



prior to individual action, and can affect the shape of external social institutions and will thereby affect cost/benefit determinants of deliberate choice. Within social contracts, if the monitoring and sanctioning individual were to be insulated from material pressures, there will still be a sense of right and wrong, an idea about the ‘proper’ response. The more materially independent the political agent the greater is this propensity to decide according to what is true or good<sup>§</sup>. Findings from happiness research suggest that individuals are motivated by the quest for a meaningful existence, an evaluation which critically depends on values, preferences, and beliefs. Thus, people might not only act because of narrow cost/benefit motivations, but because they want to create meaningful lives. Even if a belief about the world or a preference is costly the individual will only adjust in the long run, thus, will be guided by possibly wrong beliefs and costly preferences in the short run. It was argued that rational choice alone, without a psychological theory of preference and belief formation, can only partially account for institutional change because of the logical primacy of (political) ideas, and the complex interrelatedness of social institutions. Political economists have implicitly acknowledged this fact by starting to argue about tastes, by theorizing about the causal connection of subjective values and beliefs and by providing empirical evidence. These efforts appear to be fruitful and should be extended in the future.

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<sup>§</sup> Note that even in the case of economics, 50 years of theoretical and empirical debate has not resulted in the anticipated theoretical clarity of the natural sciences but left us with a major divide, especially in macroeconomics. Therefore it is to be expected that, in the absence of scientific unanimity, moral considerations will have to play some role in the discourse concerning economic policy.

### **III. Short Run Bias & Long Run Rationality – The Dynamics of Internal Constitutions**

“Though men be much governed by interest,  
yet even interest itself, and all human affairs,  
are entirely governed by opinion.”

– David Hume

“Because of the restricted capacity of our minds, our immediate purpose will always loom large, and we will tend to sacrifice long-term advantages to them. In individual as in social conduct we can therefore approach a measure of rationality or consistency in making particular decisions only by submitting to general principles, irrespective of momentary needs.”

- F.A.Hayek

#### **1. Introduction\*\***

Economists have been increasingly interested in the formation of cultural beliefs and preferences as they might critically affect economic and political action. This paper analyzes the effects of socialism on people’s beliefs and preferences, and thereby extends Alesina & Fuchs-Schündeln (2007). It presents a theory lacking in the original work, provides additional empirical evidence and overcomes a potential econometric problem

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\*\* The author would like to thank Richard E. Wagner and Martin Binder for useful comments. Generous support by the Mercatus Center is gratefully acknowledged.

in the original study. Finally, it analyzes how policies after the collapse of the socialist regime affect the pace of belief adjustment.

One of the presumptions of rational choice models, constant calculative activity of the human brain, has been criticized before [Veblen, 1919]. In contrast to the super-computer analogy of the mind, one can imagine mental ‘rule-following behavior’ as an evolutionarily rational device (or module) to economize on costly decision making. Human choice does not operate on a single plane, but on multiple, hierarchically structured ones, where higher order rules serve as an internal constitution and define the boundaries of subject matters that are open to deliberate choice, i.e. maximization. This model entails certain routines and habits of the mind that can trigger specific actions when typical circumstances arise without the need for constant deliberation. Todd and Gigerenzer (1999) show that these ‘heuristics’ can be relatively accurate when compared to more costly decision rules such as linear regression or Dawe’s rule and make sense evolutionarily due to lower decision making cost. These internal rules or heuristics are not restricted to recurring actions, such as greeting your neighbor or the choice of beverage in the morning. They can go deeper in the sense that they affect our preferences and the beliefs about the causal mechanisms in our environment, i.e. beliefs about the constraints we face. The rule-based model of the mind incorporates a certain amount of inertia in that changes in constraints do not lead to immediate changes in behavior. People stick to their old habits and mental models (i.e. their internal constitution) for some time before they switch to more accurate ones. Deliberation remains at the core of

such a rule based model of the mind, yet it acknowledges that rational choice itself is a scarce resource and must therefore be used economically.

At the center of the recent interest in the formation of beliefs and preferences stands the examination of preferences for state action [see Alesina & Giuliano, working paper]. First robust findings have emerged from this literature. People who believe that they live in a fair society in which hard work and effort are the primary determinants of social mobility (procedural fairness) are less likely to demand state led redistribution than the ones who believe that luck, privilege and crony connections are the key to success.[Benabou & Ok, 2001; Alesina & Glaeser, 2004; Alesina & Angeletos, 2005]. Other findings pertain more narrowly to individual characteristics such as education, IQ, income, personal traumas, family background and their effect on preferences for state redistribution [see Alesina & Giuliano, working paper].

The present paper focuses on dynamic aspects of beliefs and preferences and uses the collapse of the socialist German Democratic Republic as a natural experiment. Alesina & Fuchs-Schuendeln (2007) have shown that East German's preferences toward the state have been shaped by life under socialism and display considerable differences 12 years after the reunification of the country. Individuals born in the east are more likely to ask for state action in specified areas after controlling for a number of socio-economic factors. The number of years lived under socialism is a primary determinant of beliefs toward the state. The authors estimate that beliefs are converging within a 20 to 40 year period.

Only recently have economists begun to theoretically explain how people adopt certain beliefs as a rational response to their environment they live in. When individuals are allowed to make choices they experience control and develop internal locus of control beliefs (the belief that they can exert influence over their life) [Runst, forthcoming] and will be further developed in this paper. It is argued that rational individuals in socialist economies adopt certain beliefs, such as the one that individual lives are largely determined by external forces other than one's own action, because it corresponded to the reality in a totalitarian police state. Once, however, these beliefs become ingrained in the mind and become part of one's personality they cannot be easily discarded even if the underlying social realities change. Furthermore, the author shows how different beliefs concerning state preferences and locus of control held by individuals born in East Germany can explain at least one third of the gap in self-employment compared with individuals born in the western part of the country after testing for a number of other, more traditional explanations.

The present paper extends previous efforts in several ways. First, a theory is presented. Secondly, rational rule-following individuals will adjust their beliefs in the long run. In opposition to uniform belief adaption, where all individuals display the same pace of learning, it is argued that the diffusion of new beliefs takes place unevenly. Thus it shall be explored who learns what and how fast. Two effects will be analyzed specifically: The core hypothesis states that the pace of belief and preference adjustment depends on the degree of market exposure and related psychological effects. In addition, network effects speak to the social distance between individuals. Here, it is hypothesized

that closer relations such as partnership or friendship increase the likelihood of a change in beliefs. The paper also shows that the effect of socialism on beliefs and preferences is not due to indoctrination, as was suggested by Alesina & Giuliano (working paper) but represents an optimal adjustment to an environment of restricted decision making. The final contribution of this paper lies in the use of the World Value Survey (WVS) data set in order to provide additional evidence for our hypotheses.

With the present paper attempts to lacuna within economics identified by Douglas North (2005). He states: “The proper focus however, should not be on specific norms but on the learning process by which a particular belief structure [...] evolves” [North, 2005, p136]. It shall be explored how and under what conditions people learn in the specific case of state preferences and feelings of control. It is also a first attempt to explore how a more dynamic theory of individual choice could provide further insights in the process of post-socialist transition and economics. Such a theory is potentially applicable to economic development in general and might shed some light on matters of constitutional change and erosion as well. The remaining paper is organized as follows: Section 2 will frame the general problem in terms of how economists model the human mind. Section 3 discusses the specific hypotheses. Section 4 discusses the data and methodology. Section 5 presents results, and section 6 concludes.

## **2. The Cost of Decision-Making, Internal Constitutions and the Limits of the Classic Model**

There are two possible sources of change in a rational choice framework. First, it may result from an external shock that affects the constraints. This type of analysis usually remains static in that it assumes an instant response to an outside force and instant adjustment instead of learning. Secondly, change may result from changing preferences. This type of analysis is widely disliked since Stigler's and Becker's (1977) seminal article, although recent contributions have paid more attention to it [see Bowls, 1998, Rabin 1993, and Rabin, 1998 for an overview].

We may call the model of the mind which underlies the first approach, the computer-model of the mind (CMM). Agents are continually scanning their environment. They are capable of probabilistically detecting the true nature of change. If a new set of constraints emerges it automatically translates into different behavior. CMM is the dominant model in economics and can be found in all elementary microeconomics textbooks. Despite its unrealistic assumptions it is a valuable analytical tool because in the long run rational agents tend to maximize elements that are perceived to further their own happiness.

The CMM could potentially account for a slower pace of belief and preference adjustment by adding a delay parameter 'a' and/or probabilistic belief updating, in which the agent would recognize the existence of new constraints (2) with a probability of less than one initially:

$$\text{Max } U_t(x, y) \quad \text{s. t. (1) } M = 4x + 2y, \quad \text{with probability } a_t$$

$$\text{s. t. (2) } M = 2x + 2y, \quad \text{with probability } 1 - a_t$$

$$\text{where (3) } a_t = \frac{1}{(t + 1)^\theta} ; \theta > 1$$

$$\text{and (4) } U_t \neq U_{t-1}$$

However, every such adjustment (3) would be ad hoc, i.e. the true functional form is unknown and it can only be used in order to retrofit the model to the data. The fundamental problem of the CMM is thus its inability to explain changing values and beliefs (about constraints). Actors are assumed to change their behavior when constraints shift but the process is not understood theoretically. Secondly, the CMM must remain silent on the issue of preference, belief or personality change. It is therefore not surprising that many economists assume constant preferences despite evidence to the contrary [Bardi et al, 2009]. One corollary of stable preferences is the claim that policies, constitutions and the environment in general do not affect preferences. Bardi et al (2009) have shown that relatively stable correlations of personality characteristics within individuals over time can nevertheless lead to meaningful personality change if small changes are not random but systematic. Even if we acknowledge the fact that preferences are relatively constant within one person over time, generational change may cause systematic shifts (4). It has been shown that individuals under the age of thirty do not possess stable personality characteristics [Costa and McRae, 1997] and are thus prone to



environmental influences before they become more rigid in mature adulthood. Schwartz & Bardi (1997) found that basic human values differ significantly between individuals in East-European post-socialist countries and western ones. Yet, only few scholars in economics have approached value change theoretically [Bowls, 1998, and Rabin, 1998 for an overview] or provided empirical explorations [Alesina and Fuchs-Schuendeln, 2007, Alesina & Giuliano, working paper].

An alternative model of the mind may be called ‘Internal Constitutions’. In such a model, the essence of rational choice is retained, but it also allows for higher order rules that confine these choices. Rules can fulfill important functions in the policy sphere [Buchanan, 1975, 1985], or in the case of central bank discretion [Kydland & Prescott, 1977] where time inconsistency problems prominently surfaced. Of course, time inconsistency problems are equally valid on the individual level where they are better known as self-control problems – e.g. when I am eating a cake and then regret it in the morning. Rules are an important solution to these temptations although, in the case of a person, we usually call them ‘strong will’ or ‘character’.

The model of internal constitutions acknowledges that the human brain is costly to run. It consumes an un-proportionally high amount of energy relative to its size and requires us to have a special diet [Leonard et al., 2007]. There would be evolutionary selection pressures toward economizing brain activity when possible. The role of tradition and routines, i.e. internal rules, has been explored by modern philosophers, such as Searle (2004) and Gadamer (1960) and has been discussed by economists such as Pareto (1932) and Hayek (1988). The cognitive scientists Todd & Gigerenzer (1999)

provide a comprehensive recent discussion on this topic and, amongst other things, they present evidence that simple heuristics can be accurate when compared to costly decision rules such as linear regression or Dawe's rule.

The model of internal constitutions opens up leeway for certain mental constructs of individuals that do not necessarily match with reality at every point in time. In the short run, individuals can hold beliefs about their preferences that are wrong: "I thought I disliked spinach until my neighbor came over the other day, and it actually tasted great". The mental rule of "I dislike spinach" reduced complexity in decision making and in the face of more than 40,000 items in an average supermarket this appears to be an appropriate device. However, it also opens up the possibility of error as your true preferences may have changed<sup>††</sup> (in this case the taste area of the brain). Unpredictable events such as the neighbor's intervention and the human predisposition to experiment ('trying out new things') can potentially rectify these false beliefs about my preferences in the long run.

Internal constitutions also pertain to the beliefs we hold about our constraints. If I live in a society in which it is expected that I present valuable gifts of some sort to bureaucrats in charge of distribution for various consumer goods I can save on belief updating costs by adhering to a simple rule that states 'all economic transactions are

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<sup>††</sup> Buchanan (1975) makes a similar argument pertaining to political constitutions. He says that it might be the case that preferences of individuals within a society have changed so that they stand in conflict with the constitutional rule that were made in the past. He nevertheless argues for the primacy of the original constitutional rules. In contrast, Runst & Wagner (forthcoming) have shown that constitutions itself are never unanimously accepted and will be subject to conflict and continuous change. Similarly on the individual level, an internal constitution is a relative absolute. Despite its relatively more rigid nature it will change over time.

politicized, without bribing and personal connections one cannot get things done'. On the other hand, individuals can also hold false beliefs about their constraints. It has been shown that voters hold wrong beliefs about the effectiveness of economic policies because it is not costly for them to hold these views, i.e. the near zero probability of changing the election outcome [Caplan, 2007]. However, internal constitutions also allow for wrong beliefs if they are costly to the individual as long as they are less costly than instant updating in a world of constant change.

Finally, the inert nature of internal constitutions is necessary to guarantee a coherent 'sense of self'. If I am vegetarian, hard working and I believe that I have control over my life today, I cannot eat meat, be easy-going and believe in the dominant role of social structure tomorrow without losing the sense of permanence in regard to my own personality [Searle, 2004; Akerlof & Kranton, 2000] It has been noted before that it takes time and effort to justify changes in our own behavior to our selves [Schlicht, 1998, p.126-128]. It is a well-established statement in the psychology literature that measures of personality are highly correlated over time [see Bardi et al, 2009].

Thus, changing beliefs and preferences takes time. In many economic models however, we can safely avoid these complexities because they are either concerned with the long run, when beliefs are already updated, or when individuals can rely on non-costly institutions that provide knowledge efficiently (e.g. money and prices).

Yet, there are genuine economic applications in which these assumptions do not hold, mostly in uncertain (e.g. entrepreneurship) or non-market environments (e.g. institutional change itself). The act of opening a business for example, does not recur many times and

the agent will not know her true constraints until after the fact. Thus, the number of repeated events is too low to facilitate perfect belief updating and beliefs can affect the decision even if they deviate from the true state of the world (e.g. I decide to not open a business although I would have been successful). Finally, even if beliefs are eventually updated, many economic questions concern short and medium term processes, such as the ten to twenty years after 1989 in transitional economics, i.e. the focus of this paper . If the median voter in these countries holds beliefs that were formed in the socialist past it might lead to a slower pace of reform or policy reversals.

### **3. Locus of Control and State Preferences in East Germany**

#### **3.1 Socialist Practice and Internal Constitutions**

The present paper applies the alternative formulation of the mind to the case of East Germany after reunification. Alesina and Fuchs-Schuendeln (2007) have shown that East Germans display stronger preferences for state intervention between 1990 and 2002. According to the authors, these preferences cannot be explained by socio-economic factors such as income differences or unemployment rates but are caused by “years spent under socialism”. This variable is the primary determinant of holding pro-state

preferences. Conversely, individuals who were born before 1931 and after 1975 are less prone to these beliefs. Runst (forthcoming) builds on these considerations. The author constructs a theory for why individuals under socialism would adopt heightened state preferences and a lower sense of agency beliefs (it is believed that external forces control one's life and personal ability is underestimated). It is explained that these beliefs change only slowly after reunification because they have become part of people's personalities and cannot be easily discarded. The author then goes on to show empirically that typical east German beliefs explain at least one third of the gap in self-employment compared to the western part of the country between 1996 and 2004 after testing competing hypotheses. However, Alesina & Fuchs-Schündeln (2007) lack theory. The statement by Alesina & Giuliano (working paper) that the effect is the result of indoctrination is surely wrong as individuals would simply discard cheap talk. The benefit has to outweigh the costs if people are to change preferences and beliefs.

The question of belief and value persistence was also analyzed by scholars outside of economics. The psychologists Schwartz and Bardi (1997) show that individuals in former socialist European countries (teacher and student samples) are higher in conservatism and hierarchy beliefs, compared to their western peers. Unfortunately, the authors do not show conclusively that socialization, and not income levels, is the best predictor of different values in their empirical work. Schwartz & Bardi (1997) plausibly theorize that individuals respond to constraints but do not change their values because of ideological indoctrination (cheap talk), i.e. an individual does not believe in state action because it is taught in school. However, individuals will develop beliefs

that allow them to live reasonably under the circumstances. First, if one is forced to keep a 'low profile' (avoiding initiative and risk) in the presence of constant surveillance, individuals acquire the belief that hierarchy, propriety and restraint are desirable as they justify their cautious behavior to themselves. If these individuals would not change their values, they suffer a utility loss from the discrepancy between what they do and what they want to do. In such a situation it is rational to acquiesce. The effect is well established in psychology and is often referred to as 'rationalization' [see Jost & Banaji, 1994; Lerner, 1980]. Similarly, Eidelman et al (2009) have shown that people overvalue existing states of the world. Several experiments are run in which individuals prefer the status quo location of firms; prefer the taste of an imaginary long existing brand drink to an imaginary new brand, etc. This phenomenon is called 'existence bias' and differs from 'status quo bias' [Kahneman, Tversky, 1991] in that the evaluation is independent of choice. In contrast, to the authors I contend that the effect should not be called 'bias'. It is rational to value existing states of the world that have proven to possess survival properties. Thus, the mere long existence of the soft drink shows that its taste formula is pleasant to a number of individuals, the fact that the firm operates in the status quo location shows that it is a viable strategy. In the presence of uncertainty it is not irrational to rely on precedent [Hayek, 1988].

### 3.2 Market Practice and Changing Internal Constitutions

In addition to the arguments by Schwartz & Bardi (1997), the main theoretical claim of this paper can be stated as: In the absence of political hierarchies and absence of government interventions, individuals will acquire a feeling of being in control. Individuals understand their choices to be causally related to outcomes (and not related to forces outside their control). This translates into regarding society as fair because it is thought that success or failure can be traced back to individual action or lack thereof. The perception of fairness in turn, stimulates decreased demand for intervention. This explanation originated in the Psychology literature [Bardi & Schwartz, 1997] and is consistent with the empirical results [Alesina, Fuchs-Schuendeln, 2007].

Alesina & Angeletos (2005) offer a similar, yet distinct economic explanation. The authors model the effort-decreasing effect of high taxes, which will lead to a larger proportion of final pay-offs to be determined by a random error term, and a smaller proportion determined by individual effort. Finally, individuals perceive a higher need for redistribution due to the “unfairness” of society in the high tax equilibrium and lower need for redistribution in the low tax equilibrium [also see Benabou & Ok, 2001; Alesina et al. 2005].

The latter model may be termed the economic explanation, whereas the former might be called psychological<sup>‡‡</sup>. The two models are very similar but nevertheless

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<sup>‡‡</sup> It should be noted the economic model also relies on psychological arguments.

distinct for the following reasons: First, the economic explanation proceeds along the lines of taxation and effort whereas the psychological one is concerned, not primarily with taxes, but all government interventions that restrain individual decision making and thereby discourage internal locus of control. Secondly, if payoffs are not determined primarily by effort due to high taxation, luck will not necessarily be seen as the alternative. Rather, it might be attributed to external, hierarchical political powers, which is different from a normally distributed error term but a systematic distortion of human action. The most important distinction however, pertains to institutional change. If the legal and economic rules of a society shift drastically toward less intervention (e.g. collapse of socialism in CEE countries), an economic, purely rational choice based theory predicts that lower taxes lead to higher effort and internal LOC, and decreased demand for state intervention. The psychological alternative emphasizes the inert, and rule based nature of preferences and beliefs. There will be a necessary time lag before people fully adjust to the new equilibrium. Given the evidence from post-unification East Germany, the psychological, slow adjustment hypothesis appears to be more accurate [Alesina, Fuchs-Schuendeln, 2007; Runst, forthcoming].

It can be seen that informal institutions, such as beliefs, and formal institutions are inextricably linked. Lack of control feelings will not be abandoned if the new legal rules do not allow for a minimum of freedom of choice. Individuals require spaces in which they can experience their control over life events or they will continue to believe that supra-individual structures are dominating. Furthermore, if the formal institutional



landscape does not allow for a minimum of overt entrepreneurial activity, people may not come to appreciate the benefits of market activity and instead prefer state intervention.

Partial reform in democratic transitional economies, thus, involves the risk of inadequate belief adaptation and possible policy reversal as the median voter does not move away from the left end of a single-dimensional issue space. In the analyzed sample of East German individuals adjust their internal constitutions over time as can be seen in the empirical section below, despite considerable persistence as illustrated by the strength of the communist party in the eastern states.

In order to understand the relationship between internal constitutions and the degree of market exposure several sets of hypotheses will be tested. First, recipients of unemployment benefits would be more likely to believe that the society they live in is inherently unjust, that the wealthy enjoy undeserved gains, and that transfers are required to alleviate these perceived ills of inequality, instead of acknowledging the impersonal micro- and macroeconomic, political and institutional problems surrounding the transition process. In popular opinion, a transfer by its very nature bears a label of deservedness and entitlement. In this view, it represents a confession of the political elite about the inability of markets to provide goods and services to the bottom income strata. On the personal level, the feeling of entitlement may help to overcome the severe psychological distress as a result of unemployment; which is well documented in the economics literature [see Theodosiou, 1998; Clark et al, 2001; Frey & Stutzer, 2003]. Furthermore, and most importantly, it reduces the incentives for market participation. As we have seen above, without market participation the individual will not confront the

sense of personal decision making which creates a feeling of control. Without a feeling of control, markets will be regarded as 'unfair', and more state intervention will be demanded.

Secondly, I will test the hypothesis that non-socialist beliefs spring up in confined network locations after which they spread. Entrepreneurs are natural centers of non-socialist beliefs and it will be tested whether persons in their social proximity, such as partners and friends will adopt their beliefs first. Finally, it is hypothesized that children in entrepreneurial households, who are indirectly exposed to markets through their parents, tend to hold similar beliefs as their parents and therefore ensure their intergenerational transmission.

Third, if it is correct that an absence of markets stimulate a certain adjustment of internal constitutions, and if an increased exposure to markets stimulates an opposite adjustment, it should also be true that a certain group of individuals with unusually high exposure to markets during the period of socialism will significantly differ from individuals without such exposure. One such group are black market entrepreneurs. Finally, the World Value Survey is used in order to test whether lasting effects on cultural attitudes exist in other CEE countries.

## 4. Data & Methods

The German Socio Economic Panel (GSOEP) Data set is used. It is collected by the German Institute for Economic Research (DIW). The data set contains about 18,000 individuals per year. The main analysis focuses on individuals who were born in the eastern part of Germany and their descendants for the years 1994, 1996, 1997 and 2002, for they are the years in which information on individual values are available. For more detailed information on the GSOEP consult Wagner (2007).

First, and in accordance with, Fuchs-Schuendeln (2007) probit regressions for the whole (eastern and western sample) are run. Five independent variables measure whether an individual prefers state intervention in the case of unemployment, illness, families, old age, and people who need care according to a five point Likert-scale. If the individual agrees or agrees strongly it is coded as one. State preference information is available for the years 1997 and 2002. The independent variables of interest are whether the individual was born in the east; a dummy for the year 2002 that crudely captures changes in beliefs over time, and the interaction term 'east\*year02' which captures if learning in the east proceeds at a different pace than in west Germany. A number of socio-economic control variables are used. Overall, descriptive variable statistics are almost identical to the ones reported in the web appendix of Alesina and Fuchs-Schuendeln (2007).

The original paper also tests whether LOC beliefs are different in East and West Germany. They are using the independent variable 'Social Conditions' which is coded

one when the individual agrees or strongly agrees with the statement ‘The possibilities I have in life depend on social conditions’. This measure is only available for the year 1999 and cannot be used for dynamic analyses.

Two new specifications were added that were not part of the original paper. In the first one, the dependent variable external locus of control (extLOC) is a measure of whether the individual believes that her life is mostly determined by external forces. External LOC is coded one if the individual agrees or strongly agrees with all of the following statements: ‘Personal plans can hardly be accomplished’; ‘No one can escape their fate’; ‘I often get something because of luck’; ‘It doesn’t make sense to follow strict individual plans’ and ‘Things always turn out different than one expects’. Cronbach’s alpha is equal to 0.79. The second measure of whether the individual believes in her own control (intLOC) is coded one if the individual agrees or strongly agrees with all of the following statements: ‘I can control many things that happen to me in my life’; ‘My life is determined by my behavior’; ‘When I make plans I am confident that they will come true’. Cronbach’s alpha is lower for this second measure (0.58). Information on LOC is available for 1994 and 1996.

The variables ‘intLOC’ and ‘extLOC’ are however, too narrow. They do not capture whether the individual believes that events in her life are controlled by powerful others (state hierarchies). Similarly, it is possible that the individual believes that she can control her life *within* the narrow confines of an omnipresent state apparatus. As people have lived under constrained conditions for an extended period it is plausible that they do not consider certain options that were foreclosed by state action as subject to personal

decision making any longer. 'extLOC' understates the true external control belief and 'intLOC' overstates the true internal LOC belief. The variable 'social conditions' captures the effect most accurately.

In a second step, a number of independent variables are added in order to test the hypotheses discussed above. The dummy 'black market' is equal to one if the individual answered yes to the question: "Aside from job, school, household or retirement earnings, do you pursue one or more of the following activities? - Doing occasional work for pay" in the interview wave in 1990. The variable 'benefit' takes on a value of one if the individual received one of the following social transfers: unemployment benefit or security, maternity or training support, and participation in a government employment scheme. The dummy 'partner\_startup' was created in order to capture individuals whose partner became self-employed in the period after 1990. The variable 'friend\_startup' similarly captures whether a friend of the surveyed person became self-employed in this period. However, this second variable is not readily available in the data set, but had to be constructed artificially. Available socio-economic information for friends, such as age, gender, education level, unemployment and place of birth was used in order to predict the likelihood of becoming an entrepreneur. If the predicted likelihood exceeded 0.8 percent the person was coded as a potential entrepreneur. This cut-off value was chosen because 75 percent of non-entrepreneurs have a predicted likelihood of less than 0.8 percent and half of all entrepreneurs have a predicted likelihood of at least 0.8 percent. The variable is rather noisy and captures whether a friend of the surveyed individual is in fact an

entrepreneur with an accuracy of 50%. However, the created group will contain a much higher proportion of entrepreneurs than the general population.

Unfortunately, Alesina and Fuchs-Schuendeln (2007) do not report if and how they deal with the problem of interaction effects in their probit models. Ai and Norton (2004) have shown that the marginal effect of the interaction term which can be directly interpreted in linear models delivers erroneous results in the case of non-linear models. The marginal effect of the interaction term  $x_1x_2$  [see equation (2)] is not equal to the true interaction effect where we take the cross partial derivative of the expected value of  $y$  [equation (3)].

$$(1) \quad E[y | x_1, x_2, X] = \Phi(\alpha x_1 + \beta x_2 + \gamma x_1 x_2 + \delta X) \\ = \Phi(u)$$

$$(2) \quad \frac{\partial \Phi(u)}{\partial (x_1 x_2)} = \gamma \Phi'(u)$$

$$(3) \quad \frac{\partial^2 \Phi(u)}{\partial x_1 \partial x_2} = \gamma \Phi'(u) + (\alpha + \gamma x_2)(\beta + \gamma x_1) \Phi''(u)$$

As suggested by Ai and Norton (2004), the delta method presented in Greene (2003) delivers correct results in these cases and will be reported in this paper. In addition, robust LPMs will be run.

Finally, World Value Survey (WVS) data shall be used in order to confirm the presence of lasting effects of socialism in other Eastern European countries.

Descriptive statistics for all control variables can be found in table four. An ordered probit regression will be run for the categorical dependent variable 'Gov' which records answers on a scale from '1 – People should take more responsibility' to '10 – Governments should take more responsibility'.

Table three displays descriptive statistics for the variable 'Gov'. Individuals in socialist countries are more inclined to demand government intervention. Although, this result may be partly driven by income differences as the wealthiest countries are also the ones with the lowest demand for intervention. Note how the difference between France and the US appears small when compared to the high values for most post-socialist countries. However, even if we compare the post-socialist bloc with countries of similar income levels, the former still demand more intervention. Note that two post-socialist countries stick out as their value for 'Gov' is comparable to the western world. Incidentally, historical events confirm that individuals in these two countries appear to more willing to engage in subversive action against the Soviet Union. Table four presents other control variable.

Table 1 - Descriptive Statistics East German Sample

Variable	1994		1996		Variable	1997		2002	
	Mean	Std. Dev.	Mean	Std. Dev.		Mean	Std. Dev.	Mean	Std. Dev.
<i>Social Conditions</i>	(1999, east)		(1999, west)		state_unemployed	0.788	0.409	0.749	0.434
	0.734	0.441	0.609	0.487	state_illness	0.389	0.488	0.374	0.484
					state_families	0.489	0.500	0.441	0.497
					state_oldage	0.559	0.497	0.481	0.500
					state_care	0.338	0.473	0.337	0.473
extLOC	0.244	0.429	0.186	0.389					
intLOC	0.917	0.275	0.931	0.251					
parents_entrepr	0.049	0.216	0.055	0.228	parents_entrepr	0.059	0.235	0.056	0.230
Benefit	0.178	0.383	0.183	0.387	Benefit	0.176	0.381	0.177	0.382
partner_startup	0.040	0.196	0.042	0.200	partner_startup	0.043	0.203	0.039	0.194
friend_startup	0.117	0.322	0.131	0.337	friend_startup	0.135	0.341	0.168	0.374
civil_servant	0.192	0.394	0.175	0.380	civil_servant	0.170	0.376	0.152	0.359
civil_servant*year96	0.000	0.000	0.175	0.380	civilyear02	0.000	0.000	0.152	0.359
benefit_year96	0.000	0.000	0.183	0.387	benefit_year02	0.000	0.000	0.177	0.382
partner_year96	0.000	0.000	0.042	0.200	partner_year02	0.000	0.000	0.039	0.194
friend_year96	0.000	0.000	0.131	0.337	friend_year02	0.000	0.000	0.168	0.374
Age	43	16	44	17	Age	44	17	46	17
age2	2153	1566	2179	1574	age2	2203	1585	2423	1686
age3	118605	126695	120610	127070	age3	122588	127840	140379	137893
tertiary_edu	0.228	0.420	0.228	0.419	tertiary_edu	0.230	0.421	0.227	0.419
Vocation	0.620	0.485	0.614	0.487	Vocation	0.606	0.489	0.610	0.488
sec_school	0.122	0.328	0.121	0.326	sec_school	0.120	0.325	0.114	0.318
Male	0.471	0.499	0.471	0.499	Male	0.475	0.499	0.478	0.500
Hhchildren	0.705	0.923	0.667	0.899	Hhchildren	0.619	0.867	0.461	0.776
Hhadults	2.275	0.801	2.250	0.796	Hhadults	2.262	0.800	2.219	0.839
Married	0.658	0.474	0.637	0.481	Married	0.626	0.484	0.565	0.496
Divorced	0.058	0.234	0.061	0.239	Divorced	0.060	0.238	0.076	0.266
log_hh_income	7.446	0.494	7.517	0.472	log_hh_income	7.518	0.483	7.642	0.568
Fired	0.037	0.188	0.035	0.183	Fired	0.032	0.177	0.043	0.202
self_employed	0.007	0.081	0.044	0.205	self_employed	0.048	0.214	0.057	0.231

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Table2 -Regression - Average Marginal Effects (Delta Method) - Locus of Control

	extl LOC (1994, 1996)	int LOC (1994, 1996)	Social Conditions (1999)
Born_east	0.006	-0.010	0.123
p	0.646	0.136	0.000
year96	-0.0334	-0.000	--
p	0.005	0.983	
B_east*year96	-0.015	0.009	--
p	0.437	0.287	
age	-0.011	-0.015	0.003
p	0.083	0.000	0.562
controls	not reported		
obs	20783	20783	11283

Table 1 - Descriptive Statics - Demand for State Intervention

Country Name	Gov	Country Name	Gov	Country Name	Gov
Non-Socialist	6.07	Socialist	6.89	<i>Poland</i>	5.76
<i>GNI&gt;10,000</i>	5.93	Socialist	7.03	Romania	6.15
<i>GNI&gt;20,000</i>	5.85	w/out Poland & Czech Republic		Russia	6.65
USA	4.34	Albania	6.73	Slovakia	7.1
Germany West	5.83	Azerbaijan	7.41	Slovenia	6.57
France	5.11	Armenia	7.47	Ukraine	7.39
Low Income	5.99	Croatia	7.63	Germany East	6.96
Argentina	5.91	<i>Czech</i>	6.02	Montenegro	7.82
Brazil	5.8	Estonia	7.27		
Iran	6.51	Georgia	7.53		
Mexico	5.74	Hungary	7.62		
South Africa	5.81	Lithuania	6.57		
Turkey	6.33	Kirgizstan	6.54		
		Moldova	7.06		

Table 2 - Descriptive Statistics

	All	Socialist	Non-socialist
Socialist	0.315	1	0
Male	0.481	0.457	0.491
Age	40.85	43.07	39.83
Married	0.57	0.63	0.57
Cohab	0.05	0.03	0.06
Divorced	0.04	0.05	0.03
Single	0.21	0.18	0.22
Children	1.85	1.63	1.96
Edu Level	4.52	4.8	4.4
Full_time	0.36	0.37	0.35
Part_time	0.08	0.05	0.09
Self_employed	0.09	0.05	0.11
Housewife	0.13	0.06	0.16
Student	0.06	0.05	0.07
Unemployed	0.09	0.08	0.09
GNI 1995	8,330	5,600	9,574
Obs	~78,000	~24,800	~53,000

## 5. Results

The unreported replicated results are similar to Alesina and Fuchs-Schuendeln (2007). It can be seen that East Germans are between 7% - 16% more likely to hold pro state preferences in 1997. During the five year interval between 1997 and 2002, eastern preferences for intervention decline by 0% - 6.2%, with an average convergence of 2.5% across categories. In comparison Alesina and Fuchs-Schuendeln (2007) report a 14.5% to 17% gap in 1997 and their estimated convergence is slightly higher (2.3-6.9%).

Compared to the western group where no clear relationship between age and state preferences exists, age has a positive effect on holding pro-state preferences in the east, suggesting that years spent under socialism increases the likelihood of pro state beliefs. Likewise, individuals born before 1933 were reported to have lower preferences for state action.

Table five presents the results for LOC. The coefficients for 'intLOC' and 'extLOC' show only minor differences between east and west. Alesina and Fuchs-Schuendeln (2007) find an 11% higher belief in the fact that social conditions affect one's life in East Germany. This result is confirmed in five four where 12% are reported. Unfortunately, the preferred social conditions variable is only available for the year 1999 and cannot be used for the dynamic analysis. Younger East Germans (below age 30) are less likely to believe in the dominance of social conditions (67%) than individuals above

age 30 (74%) or individuals above between age 60 and 65 (82%) who spent almost their entire life under a socialist regime. Similarly, 16% of all individuals below thirty believe that Locus of Control is external whereas 23% of the individuals above 30 do so. This first set of results is consistent with inert beliefs. Personality measures below the age of 30 are not as fixed as they are in individuals above 30 [Costa & McRae, 1997], and we would therefore assume that younger people adjust more quickly to the new market conditions. Younger people spent less time under socialism and are therefore less affected by it in the first place.

The second set of dynamic results is reported in table six. As you can see, there is no evidence that civil service employment has any effects on beliefs or the pace of learning. However, the most striking result is the effect of benefit receipt on beliefs. Transfer recipients do not hold different beliefs at the beginning of the period than the average East German individual. However, there is evidence that the receipt of transfer payment slows down the pace of state preference adjustment to zero in three out of four categories, while the preference for state intervention for non-recipients decreases over time.

Let us now turn toward the results for the network hypotheses. Entrepreneurs can be seen as centers of new beliefs: 75 percent East Germans who opened a business between 1991 and 2007 believed in at least one of the five state-intervention (mean=2.1) categories, compared to 88 percent in the overall eastern population (mean=2.5). Similarly; 30 percent of eastern entrepreneurs believed in external locus of control compared to 70 percent of the overall eastern population. Thus, entrepreneurs are less

likely to hold 'socialist-beliefs'. The individuals with the smallest social distance to entrepreneurs (partners) are in fact less likely to believe in state intervention than the eastern population average (-13% to -24%). Although the coefficients for 'friend\_startup' are also negative most of them are not statistically significant. However this *association effect* does not translate into learning behavior. Individuals are choosing partners who are similar to them [Rose, 2002]. As the partners already hold 'non-socialist' beliefs they either do not change their beliefs at all or change them more slowly than the overall population. Table three also shows that ideological values, such as state preferences do appear to be transmitted within the family although the effects are not consistent across categories.

Another set of regression is run (table seven). This time only entrepreneurs who believed that the state should not intervene in any of the five categories were used. As you can see, this group of individuals does also not influence the pace of learning of their partner over time. Their partners have again, lower state preferences as well. On the other hand, the results for their children are weaker than in table 3, suggesting that individuals do not learn from people with radically different beliefs than the public. Rather, they take on values from people if they are moderately different than the average population.

The third set of results adds further evidence. Table seven and eight show that individuals who had experience with black markets in 1990 were significantly less convinced that social conditions are shaping life events in 1999. They are more likely to believe in internal LOC and less likely to believe in external LOC. They also demand slightly less state intervention.

Finally, table nine summarizes the results for the WVS data. The socialist dummy remains strong and significant after controlling for national income and a number of other variables. From the table it can be seen that the socialist dummy increases the variable 'Gov' by at least one, sometimes almost two ranks. Of course, it cannot be entirely ruled out that another factor is driving these results; however it is not readily apparent what this would be.

Table 3 - Probit Regression - Average Marginal Effects (Delta Method) - Sample East

	unemployment 1997, 2002	illness 1997, 2002	families 1997, 2002	old age 1997, 2002	people who need care 1997, 2002
benefit	-0.001	-0.021	-0.002	0.022	0.006
p	0.940	0.341	0.945	0.322	0.792
partner_start-up	-0.201	-0.130	-0.150	-0.245	-0.204
p	0.014	0.081	0.050	0.001	0.001
friend_start-up	-0.033	-0.016	-0.026	-0.029	-0.016
p	0.127	0.511	0.282	0.222	0.478
civil_service	0.022	0.025	-0.014	0.019	0.030
p	0.251	0.271	0.534	0.399	0.169
parents_start-up	-0.005	-0.079	-0.146	-0.010	-0.045
p	0.907	0.077	0.001	0.829	0.309
year2002	-0.039	-0.021	-0.062	-0.082	0.003
p	0.001	0.122	0.000	0.000	0.796
benefit_year2002	0.039	0.054	0.070	0.017	0.008
p	0.084	0.054	0.013	0.542	0.764
partner_start-up *year02	0.016	-0.003	-0.025	0.106	0.159
p	0.845	0.981	0.824	0.330	0.229
friend_start-up *year02	0.048	0.026	0.030	0.051	0.029
p	0.038	0.395	0.319	0.086	0.332
civil_service*year02	-0.028	0.025	-0.014	0.019	-0.021
p	0.273	0.271	0.534	0.399	-0.075
controls	not reported				
observations	8923	8927	8918	8939	8945



Table 4 - Probit Regression - Average Marginal Effects (Delta Method) – Entrepreneurs with strong ‘non-socialist’ beliefs

	unemployment 1997, 2002	Illness 1997, 2002	families 1997, 2002	old age 1997, 2002	people who need care 1997, 2002
benefit	-0.003	-0.022	-0.003	0.021	0.005
p	0.889	0.308	0.875	0.346	0.824
partner_ start-up	-0.219	-0.107	-0.204	-0.189	-0.115
p	0.047	0.299	0.040	0.067	0.227
civil_service	0.022	0.026	-0.012	0.019	0.031
p	0.250	0.245	0.581	0.393	0.157
parents_ start-up	-0.064	0.007	-0.101	-0.114	-0.059
p	0.321	0.923	0.156	0.113	0.372
year2002	-0.032	-0.017	-0.059	-0.075	0.008
p	0.004	0.178	0.000	0.000	0.498
benefit_year2002	0.041	0.055	0.070	0.019	0.009
p	0.068	0.051	0.013	0.486	0.738
partner_ start-up *year02	-0.176	-0.021	0.115	-0.072	-0.084
p	0.243	0.894	0.470	0.662	0.565
civil_service*year02	-0.027	-0.027	-0.012	0.006	-0.021
p	0.295	0.335	0.581	0.832	0.441
controls	not reported				
observations	8923	8927	8918	8939	8945

Table 5 - Black Market Entrepreneurs & Locus of Control Beliefs

<i>independent variable</i>	(1) <i>social conditions</i>	(2) <i>internal LOC</i>	(3) <i>external LOC</i>
<i>year</i>	<i>1999</i>	<i>1994, 1996</i>	<i>1994, 1996</i>
black market	-0.069**	0.032***	-0.080***
male	-0.038***	0.017**	-0.054***
age	0.013	-0.017***	0.010
age^2	0.001**	0.000***	-0.000**
age^3	-0.000**	-0.000***	-0.000**
tertiary edu	-0.022	0.006	-0.216***
sec school	-0.012	0.032	-0.022
vocation	-0.016	0.020*	-0.034
hh_children	0.018*	-0.001	0.032***
hh_adults	0.008	-0.010*	0.057***
hh_income	-0.000	0.000***	-0.000***
fired	0.061*	-0.019	0.046
married	-0.009	0.003	-0.055***
divorced	-0.002	0.028*	0.069*
self_employed	-0.090***	0.025	0.031
observations	3884	4368	2713

Table 6 - Black Market Entrepreneurs & State Preferences

	(1)	(2)	(3)	(4)	(5)
<i>independent</i>					
<i>variable</i>	<i>unemployed</i>	<i>illness</i>	<i>families</i>	<i>old age</i>	<i>care</i>
<i>year</i>	<i>1997, 2002</i>	<i>1997, 2002</i>	<i>1997, 2002</i>	<i>1997, 2002</i>	<i>1997, 2002</i>
black market	-0.011	-0.039*	-0.055***	-0.014	-0.021
male	-0.031***	0.027***	-0.006	0.014	0.038
age	-0.030***	-0.012*	-0.0167**	-0.019***	-0.009
age^2	0.001***	0.000*	0.000***	0.000***	0.000
age^3	-0.000***	0.000*	-0.000***	-0.000***	-0.000
tertiary edu	-0.031***	-0.053***	-0.015	-0.050***	-0.072***
sec school	0.013	-0.034	0.035	-0.040	-0.017
vocation	0.042***	0.004	-0.008	-0.019	-0.002
hh_children	0.020***	0.010	0.026***	0.004	0.013*
hh_adults	0.020***	-0.021***	0.007	0.017**	-0.018**
hh_income	-0.000***	-0.000***	-0.000***	-0.000***	-0.000***
fired	0.023	0.052**	-0.006	0.003	0.004
married	0.021	0.036**	0.037**	0.054***	0.040***
divorced	0.014	0.032	0.014	0.006	0.005
self_employed	-0.091***	-0.035	-0.117***	-0.108***	-0.009
observations	9092	9097	9087	9105	9116

Table 7 - Ordered Probit Results World Value Survey – Independent Variable ‘Gov’

	(1)	(2)	(3)	(4)
Socialist	0.41***	0.37***	0.41***	0.35***
log_GNI 1995		-0.13***		-0.16***
Male			-0.06***	-0.08***
Age			-0.00	0.002***
Married			-0.05***	-0.06***
Cohab			-0.15***	-0.07***
Divorced			-0.09***	-0.03
Single			-0.05***	-0.04**
Children			0.01**	0.00
Edu Level			-0.04***	-0.03**
Full_time			-0.03**	0.02
Part_time			-0.05***	-0.02
Self_employed			-0.02	-0.03*
Housewife			-0.06***	-0.06***
Student			0.03*	0.05**
Unemployed			0.13***	0.15***
cut 1	-1.18	-2.33	-1.41	-2.67
cut 2	-0.94	-2.09	-1.18	-2.43
cut 3	-0.62	-1.77	-0.86	-2.11
cut 4	-0.41	-1.55	-0.64	-1.89
cut 5	-0.21	-1.35	-0.44	-1.69
cut 6	0.13	-1.01	-0.09	-1.35
cut 7	0.34	-0.8	0.1	-1.14
cut 8	0.62	-0.52	0.38	-0.86
cut 9	0.87	-0.26	0.63	-0.61
Obs	72,000	66,000	69,200	62,700

## 6. Conclusion

Economists have become increasingly interested in the formation of cultural beliefs and preferences. Alesina & Fuchs-Schündeln (2007) have studied preferences for state intervention in East and West Germany. They found that increased preferences for intervention in the east are a result of the socialist past. The present paper has undertaken various extensions. First, the original paper lacks theory. Alesina & Giuliano (working paper) suggests indoctrination as the primary cause. This explanation is unsatisfactory because it is not clear why east German individuals would not just discount ideological cheap talk. A psychological explanation has been presented in this paper based on the fact that beliefs and preferences must be rational adaptations to an environment (Todd & Gigerenzer, 1999) in the long run. However, they will only be adjusted over time because the cost of instant belief and preference change would be excessively high. The theory and the evidence point to a relationship between formal institutions and individual beliefs and preferences. Although no single political agent can directly control people's minds [Wagner, 2006] by creating different constraints, policies force people to adjust to often unintentionally emerging environments (constraints).

The core hypothesis states that individuals who act in market spheres are more likely to acquire the feelings of control over their lives, regard society as more fair, and are less likely to acquire demand for state intervention compared to command economies,

in which the opposite is true. Institutions are therefore path dependent to some degree as the type of system re-enforces the desire for or aversion to market principles.

It was shown empirically that increased pro state preferences in East Germany are a direct result of life under socialism. Locus of control beliefs were shown to be different as well but the available data could not be used for dynamic analysis. Younger people are less affected by their socialist past and/or they change their beliefs more quickly. Secondly, different levels of market exposure lead to differences in the pace of belief adjustment. Recipients of social transfers did not reduce their preferences for state intervention despite the general decline of these preferences in the overall population after 1989. Third, social distance does not affect the pace of learning in the case of partners and friends but individuals connected by these strong ties are more likely to hold similar beliefs in the first place. There also exists evidence that values are transmitted within the family. Fourth, in accordance with the core hypothesis socialist black market entrepreneurs did not adjust their internal constitutions to socialist practice as much as non-entrepreneurs did, and they are also more likely to open a business during the 20 years after reunification. Finally, data from the WVS survey suggests that individuals in most other formerly socialist Eastern European countries also displayed a higher demand for state intervention in 1995, suggesting that the effect is a general one.

## **IV. Post-Socialist Culture and Entrepreneurship**

### **1. Introduction**

The collapse of the communist bloc and accompanying abrupt changes in the lives of many million people represents a profound transformation that touches on deep constitutional and institutional issues. Ultimately, it is a question of how a complex system, such as human society endogenously renews itself so that it might eventually provide a framework in which entrepreneurship is channeled toward productive activities, despite being grounded in a history of zero sum exchange and political corruption.

A successful transformation is intricately linked to the notion of entrepreneurship. Despite a lack of consensus concerning the precise meaning of the term, scholars agree that entrepreneurial behavior represents a key aspect of the workings of a market economy. One scholarly approach to entrepreneurship may ask the question “how, by whom, and with what effects opportunities to create future goods and services are discovered, evaluated, and exploited” [Shane and Venkataraman, 2000]. Of course, entrepreneurs are not necessarily involved in the creation of societal wealth as in the case of arbitrage or innovation. Depending on the incentivizing framework, they may also engage in rent seeking and thereby reduce overall prosperity [Baumol, 1996]. The

question is thus, not whether entrepreneurship exists at all but about the specific manifestation it takes. The ubiquity of the human drive toward individual betterment may be channeled into different directions depending on the perceived whereabouts of the most lucrative opportunities.

The framework that guides entrepreneurs toward productive or unproductive activities has been studied under the name of Institutions [see North, 1990; and North, 2005]. Institutions have been defined as the “rules of the game”. There exist three sources of rules: the constitution, policies and informal social rules. In close analogy to Buchanan (1974, and 1985), the game metaphor invokes a two stage process. The first stage is characterized by the creation of rules (e.g. in the form of a constitution). The second stage is then characterized by interactions within the generated set of constraints (e.g. market interaction). The static game-like formulation is utilized by economists who regard themselves as advisors and active manipulators of the social process. In contrast, I will take a positive approach that tries to analyze some of the deep social complexities concerning transitional economies.

Without denying the effect of constitutional and political rules on policies and market outcomes [see Pearson & Tabellini, 2003; Acemoglu and Johnson, 2005], the different development trajectories for highly successful countries such as Poland or the Czech Republic and less successful ones, such as the Ukraine or Russia twenty years after the fall of the Berlin Wall confront us with the limits of the human ability to device and plan complex systems – a theme that has been most potently portrayed by Hayek (1960, 1973). Although we do know that market institutions such as



secure property rights and sound monetary policy are the reason for diverging trajectories [See Frye & Shleifer,1997], we know very little about why some countries transformed their institutions more successfully than others. The transplantation of a western-style constitution into a post-socialist economy is riddled with a myriad of problems and cannot be seen as a copy-paste approach to development. As Boettke et al (2008) demonstrated, institutional transfers are dependent on the structural context in the host environment as influenced by economic, political and social realities that cannot be anticipated in its entirety.

Disregarding bigger issues of constitutional change I intend to explore how minds that developed during a prolonged period of socialism will be influenced in their actions even after the constraints that molded such minds have long vanished into the dust of history. The paper contributes marginally to questions of ideology formation and change [Higgs, 2008]. Most importantly, it combines the particular strand of institutional/transitional economics [North, 2005; Boettke et al.2008] with entrepreneurship research (Kirzner, 1979; Shane& Venkataraman, 2000) and economic sociology. In response to Pryor (2007) who, on the basis of cluster analysis, claims that there is no cultural difference between east and west Germany, this paper shows that rates of self-employment in East Germany are reduced as a result of finer, less aggregate, finer, and well established cultural differences, namely people's agency beliefs and preferences for state interventions.

The remaining paper is structures as follows. Section II describes the process by which individuals develop certain inert agency beliefs and preferences concerning state

intervention in socialist environments. Section III applies these insights to entrepreneurship theory. In section IV the empirical analysis is set up by focusing on rates of self-employment in the eastern and western part of Germany after 1990. Section V presents alternative hypotheses. Data and results are discussed in section VI, VII, VIII, and IX. Section X concludes.

## **2. Imprinting & Societal Change – The Case of East Germany**

East Germans lived under totalitarian rule between 1933 and 1989. The conscious design of a new fascist or socialist image of man was, of course, as futile as economic planning itself. As it is impossible to gather and process enough knowledge in order to centrally plan an immensely complex network of production processes efficiently, it is equally impossible to gather enough knowledge and process it in order to engineer millions of minds in a detailed manner. Apart from the knowledge problem, the structure of the polity is another reason for why unintended consequences prevail. The state does not act as a single planner. It is a polycentric arrangement of multiple organizations that represents an array of partly compatible and partly conflicting interests. On the other hand mind and society are not independent and whatever policy emerges from the political network will have some unintended consequences and changes individual perception and therefore, behavior [see Wagner, 2006; Wagner, 2007. p.190]. I

claim that a typical set of preferences and beliefs which represents an optimal adjustment to a life under socialism can be described. Preferences are defined as elements in a utility function. Beliefs essentially pertain to constraints, but also to general causal connections in the social world and morality. Once the institutional environment changed, beliefs and preferences traits did not adjust immediately, but displayed inertia.

In contrast to a evolutionary framework in which preferences and beliefs are subject to choice and will be adopted if optimal [see Frank, 1987] or given as genetic endowments [Becker and Stigler, 1977], an alternative approach renders the dynamics of the mind as at least partially resting above the realm of choice. A distinguished minority of economists, such as Adam Smith (1759), Hume (1740), Pareto (1935) and North (2005) have followed a similar approach. In their frameworks, the individual does not have complete control of its inner world, but it is formed by social processes. Smith and Hume stress adolescence as the critical period for the formation of one's character. Individuals discover successful ways and less successful ways of actions. When successful actions are repeated beliefs about causal connection are engrained in the mind. This belief then serves as a short cut approach to decision making in the future. Despite being a distinct category, beliefs are correlated with personality traits [Rallapalli et al, 1994]. It has been shown that measures of personality, such as Myers-Briggs have been found to be volatile up to the age of thirty, after which they stay remarkably constant [see Costa and McRae, 1997]. People cannot discard their beliefs, preferences, or personality as they see fit. But neither are people trapped in their views of the world. Beliefs are dearly held, like a worn out hat which does not fit this year's fashion trend. At some point

the owner is going to exchange it for a new one, but not without a feeling of parting and loss. There is a necessary and ongoing time lag between the change of the external environment and the personal adjustment to it.

Buchanan (1997) suggests that a conjectural history that is not based on free exchange between independent individuals, but one of collectives, where a leader assigns tasks, and no viable exit strategy exists creates a command culture with different presuppositions concerning the economy compared to the one that we take for granted in western societies. In such a context, the person who engages in profit seeking activities necessarily neglects to work toward the assigned group quota and is therefore regarded as a rule breaker. It is true that in this environment the pursuit of individual profit creates spillover damage for the remaining group. Thus, it evokes 'a heightened sense of envy at the differential success at anyone who is seen to have secured such success by departing from group rules (Buchanan, 1997, p.100). Furthermore, in a mostly zero-sum politicized economy with prices below market clearing levels, sellers will not behave as if the customer's interest is his own – but possesses some degree of monopoly power which can be used to receive non-pecuniary payments.

In addition to Buchanan's insight it can be claimed that command economies affect personal agency beliefs which are defined as subjective beliefs about the extent to which one is able to exert influence over the events in one's life. The concept was first introduced by Rotter (1966) and can be subdivided into the related concepts of Locus of Control (LOC) and self-efficacy beliefs. LOC captures whether the individual believes she can manipulate external events or whether they are dependent on luck, fate, powerful

others, or other external forces. Self-efficacy refers to the individual belief about whether one possesses the mental capacity and skill set that is required to make things happen. Where LOC pertains to the general possibility of an individual's influence over its environment, self-efficacy (or competency) beliefs pertain much more narrowly to its ability of actually doing so.

Powerful others are a primary determinant of one's path in life in a command economy. Personal inclinations and effort for example play a smaller role for career trajectories. Instead, factors not subject to rational choice as construed by economics (family ties and background, religious beliefs and so forth) affect what school you attend or whether you would go on to college. The link between deliberate choice and payoff at work is blurred when every worker receives a flat wage in addition to guaranteed job security. The daycare a child attends and the apartment one lives in are assigned, and not a result of conscientious choice. The consumption goods one buys, which reflect a deliberate choice by the individual in western societies, are standardized to a much greater extent. Many East Germans were overwhelmed by the range of choices that grocery shopping involved when they ventured into the West Germany for the first time. Yet, every such choice makes the individual see herself as the ultimate source of change in her life. It reinforces a sense of deliberateness as opposed to being tossed around by forces beyond its reach. Thus, socialism furthers the belief that external forces are the primary determinants of the individual's life events.

The German Democratic Republic was a totalitarian police state. Within a society of less than 20 million, comprehensive files were kept on 6 million citizens, the majority of

the adult work force [Fisher, Gelb, 199, p.92]. An intricate network of about 185,000 existed [Fullbrook, 1995,p.46-50]. It included ordinary people who spied on their neighbors and “friends” (*Informelle Mitarbeiter – IMs*). Apart from the inner most private family circle, an individual stands under permanent political surveillance. Because the results of this monitoring feeds back into decision that are made about people’s life by political authorities, it can be seen how extra-family sphere requires one to be cautious and constantly alert. It is important to develop a sense of what others think about me. If this practice is repeated a feeling of being judged and evaluated by others becomes an important input into one’s beliefs about one’s competency. In contrast, a western society in which there is a much weaker link between other’s assessment of my behavior and personal gain provides ground for genuine learning about one’s self-efficacy in various areas of life. If I get a feedback from my choices and if the feedback signal is not dominated by political views, clothing or religious preferences it is easier to develop feelings of competency. If the other’s judgment affects the quality of the individual’s life, it is critical to keep a low profile in a public setting. Self-confidently departing from expected behavioral patterns marks the individual as a deviator and makes him subject to suspicion and gossip.

As discussed above, it is impossible to engineer the socialist man who acts in accordance with official doctrine. People respond to incentives. Effort is a function of pay and monitoring, not a generalized love for the proletariat. After all, it was due to the disillusionment with their state, that millions of East Germans marched on the streets in order to demonstrate their protest. Yet East Germany lacked a history of markets. The

natural human instinct towards planned order [Hayek, 1988] was nourished through a lack of counterexamples. Despite their knowledge of the prosperity in western economies individuals in East Germany are critical of the market on justice grounds. They did not experience how the poorest members of society are made better off as a result of developing markets. Thus, even if East Germans were not satisfied with results of the particular socialist state the opposition movement never claimed that socialism is not viable in principle [see Dale, 2005, p.4]. On October 23<sup>rd</sup>, 1989, when more than 300,000 citizens marched through the streets of Leipzig in order to start a ‘revolution from below [...] all of the speakers advocated changing the *DDR* [translated GDR], not abandoning it’ [Allen, 1991, p.187]. Psychologists Schwartz & Bardi, 1997 have shown how beliefs in hierarchy, propriety and constraint are adopted in order to reduce the discrepancy between what is desired and what can be done. The effect is well established in psychology and is often referred to as ‘rationalization’ [see Jost & Banaji, 1994; Lerner, 1980].

Of course people will adjust their beliefs once the external environment does not confirm the old mental constructs any longer. The process is not instantaneous and critically depends on individual incentives. People continue to make choices assuming that the socialist constraints are still partially valid. On the hand we would expect the shop owner who was raised in the Soviet Union to abandon his condescending attitude toward customers quite quickly if his income depends on how customers are treated. On the other hand, agency beliefs and attitudes toward socialism are not just behavioral rules as in the case of the customer care. They have become part of an individual’s identity a

concept that recently surfaced in economics [Akerlof & Kranton, 2000; Chong, Guillen, Rios, 2010]. People's identity, the belief about who they are depends on it. Any change of such a fundamental concept as people's own self, needs to be justified and cannot be achieved over night. Imagine an American male who was raised believing in manly virtues (resilience, strength, stoicism, etc) as characterized by the game of football who is then plugged into a 17<sup>th</sup> century French aristocratic court. We would expect such an individual to engage in an inner struggle. He knows that this environment demands a new understanding of his manly self which involves appreciation of poetry, dance and sophisticated conversation but he would find this transition to be a hard one nevertheless. The topic of inert preferences and beliefs as an instance of mental rule following behavior has been developed in more detail elsewhere [Runst, working paper] and has been empirically validated [Alesina & Fuchs-Schuendeln, 2007; Schwartz & Bardi, 1997; Runst, working paper].

It is important to note that inert beliefs and preferences have a twofold effect. First, they feed back into the policy sphere. If people do not change their beliefs they will display different voting behavior. In East Germany, 27% of the population voted for the socialist party 20 years after reunification. If the constitutional basis for a market economy is not strong enough policy reversals may follow. In the present paper I am primarily concerned with the second, direct effect of beliefs and preferences on individual action. It is hypothesized that market entrepreneurship as measured by rates of new self-employment can be negatively affected by the typical beliefs and preferences individuals in East Germany have developed.



### **3. Mind, Alertness & Entrepreneurial Action**

The resurgence of scholarly interest in entrepreneurship can be traced back to the seminal works by Kirzner (1979, 1985). In contrast, to Shane and Venkataram (2000), he regards entrepreneurship as an element of choice that pertains to all human activity and is not confined to the supply of goods and services. Kirzner describes his theory as a necessary tool in order to overcome the problems of microeconomics. Without the entrepreneurial role it is not conceivable how we should move from a period of disequilibrium toward a situation where consumer desires and productive capacities are properly aligned. The central part of this theory is occupied by the concept of “alertness”. Every individual is a potential entrepreneur and ultimately becomes one by discovering a profit opportunity. This discovery process is not a function of increased knowledge. In fact, even if the individual holds the same stock of knowledge in consecutive periods, she can discover an opportunity that was previously overlooked. If the hunch turns out to be correct, this individual becomes the first person that has spotted this arbitrage profit, seizes it and pushes the price toward equilibrium. Alertness is costless because it is a byproduct of human conscious existence and it is not subject to choice.

Despite his crucial insight into the subject, I contend that Kirzner truncates the entrepreneurial role. By focusing on alertness alone, it appears as if the conviction that one has spotted an arbitrage possibility automatically translates into all the necessary action steps that generate a profit in case the initial insight was indeed

correct. In reality, the initial “aha” moment would surely not suffice. The saying “build a better mousetrap and the world will build a path to your door” ignores the complex, uncertain and laborious intermediate tasks required if one intends to sell a product. If a potential profit opportunity is spotted it is not guaranteed that the visionary does in fact act upon it even if he is convinced of its existence. The wanna-be-entrepreneur might feel overwhelmed by the magnitude of the problems ahead or feel incompetent in the face of it. That does not mean the opportunity does not exist, but simply that the task is not taken up. Thus the feeling of infeasibility must not be subsumed under the heading of alertness which speaks to the discovery of an opportunity. If the individual opts out during the entrepreneurial process it does not even mean that, she/he in fact thinks that the task is an impossible one in general. It simply means that she/he holds the belief that the task is an impossible one for her/him at that specific moment in time. She might think that her/his current life circumstances with two young children would not allow for the successful conclusion of her/his plan, but hopes to return to the task at a later date.

The subjective probability which the individual has attached to entrepreneurial success might well have been too low and if the person had continued she/he would have been rewarded. In direct opposition to Kirzner’s smooth and direct link between alertness and action, her/his inner struggle might have been a fierce one. Yet, a feeling of incompetency might be well engrained in her/him which finally leads her/him to surrender. On the other hand, her/his neighbor across the could have the same insight and act upon it because he/she believes more strongly in his ability. It is precisely because

entrepreneurship is linked to personality that human resource managers and head hunters spend time on screening for such character traits as resilience and self-confidence.

Kirzner's conception of entrepreneurship does not do justice to the procedural character of entrepreneurship either. Individuals do not see all the necessary action steps at once. They are not revealed in one major epiphany. Rather, it's a complex process where alertness is but the first step. Once the individual is sufficiently convinced that the lure of revenue indeed exists, he will start utilizing more and more resources toward its realization. These first steps might well take the form of cautious probing after which more and more effort is spent on the realization of the goals. When the financial feasibility is reviewed, the land prices and the suitability of the alternative properties are estimated, and the availability of compatible employees is assessed, the alert individual might be willing to make the final plunge into the project. In fact, it might not even be possible to pinpoint an exact time when the individual has turned entrepreneur.

Entrepreneurship properly understood is thus not costless<sup>8</sup>. The probing and evaluation takes up resources. Entrepreneurship is a complex process and not a single moment in time. The steps that are necessary to bring the project to fruition cannot be anticipated fully because the future is inherently uncertain. The entrepreneurial process is affected by one's agency beliefs. A more cautious person with a constant fear of failure, who thinks that her/his own action have very little impact on outcomes, will estimate a different subjective probability of success than a person who believes in her/his own ability and who has a high degree of resilience. In contrast to Harper (2003) who argues

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<sup>8</sup> For a different critique of Kirzner that is also based on his notion of 'costless' entrepreneurship see Casson & Wadeson (2007)

that agency beliefs affect if and how profit opportunities are discovered, I claim that not only alertness, but more importantly, the willingness to engage in the costly entrepreneurial process is affected by Locus of Control and Efficacy beliefs

## **4. Post-Socialist Culture & The Entrepreneurial Process in East Germany**

For the purpose of this empirical study I define entrepreneurship narrowly [Shane & Venkataraman, 2000]. It is not defined as the general discovery of unnoticed opportunities but will exclusively be applied to individuals who open businesses, i.e. they become self-employed. This is a particular manifestation of entrepreneurship, albeit an important one. Although initial measures of job creation by new firms [see Birch, 1979] have been biased upwards [Haltwanger and Krizan, 1999] start ups are an important contributor to employment and innovation [Reynolds, 1987] and was found to affect GDP growth positively [Audretsch et al, 2002; Audretsch and Thurik, 2002]. The debate on the relation between entrepreneurship and aggregate variables is not yet settled [see for instance Carree & Thurik, 2008; Fritsch & Mueller, 2008; Acs & Mueller, 2008; and Praag & Versloot, 2007 for an overview]. There also exists a wide literature on entrepreneurship in central and eastern European transitional economies in general [ Peng, Mike W., 2006; Tyson et al, 1994; Smallbone & Welter, 2001; Earle & Sakova,

2000; Meyer & Peng, 2005; McMillan & Woodruff, 2002; Estrin & Mickiewicz, 2010; Aidis & Estrin, 2008; Frye & Shleifer, 1997]. In this paper, I will exclusively focus on east and west Germany.

Figure one displays newly founded firms by inhabitants of the former socialist state, adjusted for population size, and as a fraction of western startups. Especially in 1991 and 1992, new eastern startups exceed western ones many times as the restrictions on private enterprising were lifted and entrepreneurs rushed in to fill the market gaps. After this initial spike, the number of eastern entrepreneurial ventures fluctuates around the western one. It is likely that potential entrepreneurs caught up on human capital in this period which enabled them to enter self-employment. It is fair to say that by 1996, the reunification boom had largely faded out. During the following 12 years the polynomial trend line (of degree 2) is consistently below one. Starting in the year 2000 however, eastern startup counts increase slowly and steadily relative to western ones. In 2005, the gap had shrunk to 15 percent.

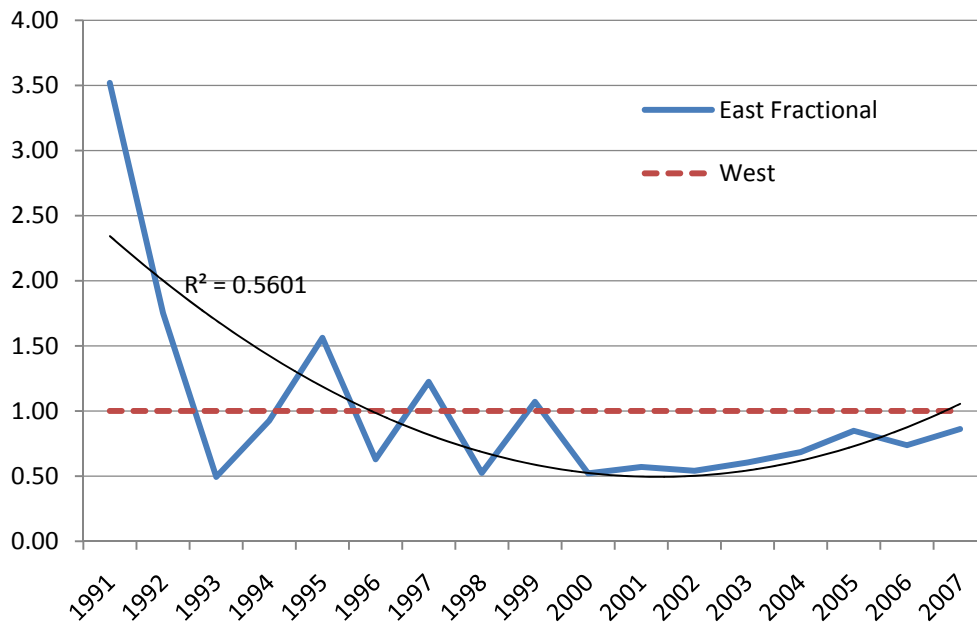


Figure 1 - East German Startups as Percentage of Western Ones

The claims I make in the empirical part of this paper tie together the two literatures of institutional/transition economics and entrepreneurship research. Specifically I test whether agency beliefs that were shaped by 40 years of socialism can explain some portion of the gap in self-employment in East and West Germany between 1996 and 2004. Similarly, I claim that a rejecting attitude toward the market process leads people to prefer employment over firm creation. If the market is seen as chaotic and unjust an individual prefers to not be seen as a profiteer who is entangled in political relationships in order to make things happen.

Empirical Entrepreneurship scholars have argued that individuals with strong agency beliefs, who affirm free market institutions and private property [e.g. Kaufmann

et al, 1995; Beugelsdijk & Noorderhaven, 2005; KfW, 2008] choose to be self-employed more frequently. Psychological entrepreneurship research was pioneered by McClelland (1961), and Hofstede (1980) and is not without critics [see Gartner, 1988, and more recently Beugelsdijk & Smeets, 2008]. Recent scholars in the Psychology literature find that the two relevant determinants of entrepreneurship appear to be weaker in the east. First - agency beliefs. Oettingen et al. (1994) find that beliefs in self-efficacy is underdeveloped in East German School Children based on the analysis of survey results from over 800 children about three months after the fall of the Berlin Wall. Frese et al (1996) have shown that East Germans display lower levels of initiative, where initiative can be defined as an active approach to work where the individual goes beyond what's formally required. They present evidence that this effect is explained better by socialization than by selection. Their results are based on about 1,300 qualitative interviews. Second – affirmation of private ownership and the rejection of external intervention. On the basis of the German Socio-economic panel data set, Alesina and Fuchs-Schündeln (2007) show that preferences are not exogenous, but shaped by years of communism. They conclude 'East Germans are much more pro state than West Germans'.

## 5. Competing Hypotheses

There are several hypotheses competing with a cultural explanation. First, following North (1990) authors who have studied transition economies and entrepreneurship naturally focus on differences in formal institutions. Sound formal institutions reduce uncertainty and provide structures to guide individual human interactions. For example, the risk of state predation determines whether entrepreneurs will inefficiently circumvent the official sector and enter the shadow economy. Alternatively, individuals may enter the state sector itself if the profits to be made exceed the ones in the private sector[Baumol, 1996]. Formal institutional variance must be seen as a fundamental explanation for differences in economic development. As Boettke (2001) asks: ‘Where is the example to the contrary? Where has an economic system which can be characterized as respecting private property, maintaining sound money, free pricing, and freedom of contract collapsed into economic deprivation?’ Therefore, in order to explain the entrepreneurial gap between East and West Germany, the first task must be to confront claims of formal institutional variation. Johnson et al (1998) for example show that countries with lower institutional quality and higher incidents of corruption exhibit a larger informal sector. Multiple studies have shown that there exist a clear and stable relationship between economic freedom, FDI, and growth [e.g.Bengoa & Sanchez-Robles, 2003; Easton & Walker, 1997]. Similarly, Frye and Shleifer (1997) suggest that institutional quality explains the gap in economic performance between Poland Russia



after 1990. Aidis & Estrin (2008) show empirically that institutional quality explains different start-up rates in Eastern Europe. However, Estrin & Mickiewicz (2010) show that institutional differences cannot fully explain lower rates of self-employment in eastern European transition economies.

Second, lower levels of entrepreneurship in the East could be caused by tighter credit constraints there than in West. East German Individuals did not own valuable assets that could serve as collateral at the time of the reunification. However, this constraint becomes less important when we consider the multitude of government sponsored investment subsidies, the subsidies in question included write offs that covered up to 50 percent of investment costs and other investment subsidies that covered between 8 and 12 percent of costs between 1990 and 1995 and investment supplements which covered up to 23 percent of founding investments plus infrastructure. Medium sized companies could receive up to 35 percent of inexpensive loans. In addition, multiple support programs provided by the KfW (Kreditanstalt für Wiederaufbau), the DtA (Deutsche Ausgleichsbank) and the EU offered additional assistance [see Friedrich Ebert Stiftung, 1991]. In 1999, the federal-, country- and community level government investment support expenditures for East Germany accounted for €17.6 billion (\$ 19.3 billion); which amounts to about €1350 (\$1485) per capita<sup>9</sup>, or roughly €37,250 (\$ 41,000) per self-employed person<sup>10</sup>. 28-58% of all companies were subsidized between 1997 and 2001 [IWH, 2003, p.4-11], which means that those entrepreneurs who were supported received considerably more than those figures suggest. Furthermore, infrastructural

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<sup>9</sup> Note that the average exchange rate of about 1.1 was exceptionally low in 1999.

<sup>10</sup> Assuming that 3.5% of all individuals are self-employed - according to the Statistical Office for the state of Thuringia [Thüringer Landesamt für Statistik, Erfurt 2008]

services provided by the state, such as the construction of road and rail access to manufacturing sites are not included in the above figures.

Third, lower levels of human capital could be an obstacle to entrepreneurship. Bird et al. (1994) and Franz and Steiner (2000) find the returns to human capital in the form of schooling in east Germany were quite high after 1990, whereas the returns to socialist job market experience was small. Thus, lower levels of human capital are caused by a lack of experience, not formal education. The latter authors, however, also find that after 1990, the return to job market experience in the east increases rapidly for those individuals who keep their jobs [Franz and Steiner,2000, p,260]. Thus, individuals in the east caught up with their western peers.

Fourth, if many potential entrepreneurs migrated from east to west; the east might have been trapped in an adverse selection scenario where only those people remain who are least likely to open a business. In fact, between 1991 and 2003, about 850,000, or almost 6 percent of the overall population, have moved to the West [see Bundesregierung, 2004]. In order to test for adverse selection, I will examine the likelihood of opening a business for people who were born in East Germany but moved to the west compared to the ones who remain in the East. In order to show that adverse selection is not the primary driver of the self-employment gap I will use the variable “born in the east” throughout the analysis.

Finally, infrastructural disadvantages, especially traffic infrastructure, in the east raise the cost of entrepreneurial ventures and could be responsible for the lower start up count. In order to rule out this effect I present and compare a measure of infrastructure

below. Furthermore, I will control for the most important remaining ‘traditional’ determinants of self-employment suggested in the literature, namely: unemployment, gender, marital status and age (see table 10). If an individual cannot find gainful employment he/she may be pushed into self-employment in order to generate income. Men are expected to have a higher likelihood of self-employment because of different risk attitudes between men and women, lack of career interruptions through child birth and comparatively lower involvement in domestic tasks. Being married may have a negative effect on the self-employment variable because it increases risk aversion. However, it has been argued that it can have a positive effect when monitoring costs when family members are working in the newly founded firm [see Borjas, 1986]. Younger individuals are more likely to open a business as they possess less wealth they respond to earning opportunities more strongly, and the wages they can obtain in employment are comparatively lower to older individuals with more specialized work experience and tenure.

Table 8 - Literature Overview

Explanatory Variable	Positive Effect	Negative Effect	Synthesis and Supportive Evidence
1. Traditional Factors			
Education	Borjas (1986), Rees & Shah (1986), Evans & Leighton (1989), and Robinson & Sexton (1994)	Evans (1989), de Wit & van Winden (1989) and de Wit (1993)	U-shaped relationship Blanchflower's (2000) Uhlaner & Thurik (2004) KfW (2008), Grilo & Thurik (2004), Delmar & Davidsson (2000)
Experience	Borjas (1986)	Bernhardt (1994)	
Unemployment	Evans & Leighton (1989), KfW (2008)	Wennekers (2006), Blanchflower (2000)	Positive effect on micro level, negative effect if macro data is used
Credit Constraints	Bernhardt (1994), Kidd (1993)		
Male	Blanchflower (2000), Grilo & Thurik (2004), KfW (2008)		
Married	Borjas (1986), Bernhardt (1994)		Weak effect
Age	Brock & Evans (1986), Rees & Shah (1986), Borjas & Bronars (1989), Kidd (1993), Grilo & Thurik (2006), KfW (2008)		Inversely U-shaped, Most entrepreneurial between age 25-45
2. Psychological Factors			
Over-optimism	Arabsheibani et al.(2000)		
Agency Belief (individual effort/self efficacy)	KfW (2008); Beugelsdijk & Noorderhaven(2005); Utsch (2004)		
Believe in Private Ownership	Beugelsdijk & Noorderhaven (2005) Utsch (2004)		
Agency Beliefs (LOC)	Beugelsdijk & Noorderhaven (2005), Utsch (2004); Schiller & Crewson (1997), Evans & Leighton (1989), Kaufmann et al (1995)		

## 6. Data & Methods

In accordance with the literature I run binary probit regressions in order to overcome the problem of probabilities outside the zero to one range of the Linear Probability Model. I am using the German Socio Economic Panel (GSOEP) collected by the German Institute for Economic Research (DIW) for the years between 1990 and 2007. For a more detailed description consult Wagner, Gert G. (2007). The dependent variable ‘Become’ is equal to one if the individual opens a business in a specific year throughout the 1996-2004-period. The variable ‘born\_east’ equals one if the person was born in the eastern part of Germany before 1989, and zero if the person was born in the western part. Since most entrepreneurs are between 20 and 60 years old, and the period of interest lies between 1995 and 2005, this variable captures satisfactorily whether the person was socialized in the east or the west. Foreigners have been excluded from the sample. ‘Exp’ represents labor market experience and is measured in years. For easterners, I have only counted years worked in post-socialist organizations. Finally, I have included a dummy that denotes if the person owns territorial or residential property (‘house’). In table eleven, all variables are summarized. Please consult the appendix for a correlation matrix.

Individuals who are working in the construction sector have been omitted from the data set, deleting about 10,000 of overall 266,000 observations. The construction industry boom was fueled by government expenditures throughout the early 1990s, be they in the form of infrastructural construction (roads, utilities, school, etc) or on the

individual level, subsidies for home improvement and new construction in order to raise house ownership. Counting construction sector self-employment would introduce an upward bias in favor of the east. However, the bias is small and the change in results is almost zero if construction is included in the analysis.

Table 9 - Descriptive Statistics - Variable Means

Variables	Explanation	Overall	Born		
		Mean	East	East	West
become	equals one when person becomes self-employed in that year	0.0062	0.0056	0.0056	0.0063
born_east	equals one if person was born in east	0.289	1.000	0.960	0.000
east	... if person lives in east	0.272	0.899	1.000	0.007
age	age in years	46.560	45.720	46.273	47.390
age25_30	equals one if person's age lies between 25 and 30	0.088	0.100	0.087	0.081
age30_35		0.115	0.116	0.096	0.118
age35_40		0.127	0.123	0.105	0.133
age40_45		0.123	0.123	0.111	0.123
age45_50		0.109	0.110	0.103	0.109
male	equals one if person is male	0.461	0.449	0.454	0.466
tertEdu	... if person has obtained tertiary educational degree	0.175	0.229	0.221	0.155
fired	... if person was laid off	0.024	0.037	0.036	0.017
married	... if person is cohabiting with spouse or partner	0.605	0.582	0.530	0.617
exp	labor market experience in a market economy in years	13.060	7.921	6.980	15.771
expsqu	labor market experience squared	321.910	82.080	83.980	438.70
house	equals one if person owns house or property	0.088	0.057	0.058	0.108
nocontrol	equals one if person feels he/she has no control over life	0.451	0.492	0.491	0.445
Soc_cond	... if the person feels that social conditions have a strong influence over one's life	0.649	0.733	0.733	0.607
state	... if person prefers state solution over private arrangements	0.340	0.471	0.466	0.288
confident	... if person is confident about the future	0.221	0.219	0.208	0.227

## 7. Testing Traditional Explanations

The institutional environments in the eastern and western part of Germany are almost identical. On October 3<sup>rd</sup>, 1990, the formerly socialist GDR joined the Federal Republic of Germany and adopted all its legal and political institutions. Yet, given that the two Germanys are at different stages in their economic development, the modern institutions that are consumed as a luxury good in the west could be inappropriate for the relatively backward economic situation in the east. Specifically, the generous welfare arrangements are potentially less distortionary on the labor market in the west, including self-employment. Therefore, if the formal sector in the east is rendered unattractive due to a lack of economic freedom, specifically high tax rates and regulations, we would expect to see a comparatively larger informal sector. Indeed, according to Schneider (2003) the estimated average size of the shadow economy for central and eastern European transition economies for 2000/2001 amounts to 29.2 percent of GDP, where Macedonia ranks highest (45.1 %) and Slovakia and the Czech Republic lowest (18.3 and 18.4 %). Thus, the size of the shadow economy is inversely related to institutional quality. In comparison, Germany's shadow economy was estimated at 16.3 percent of GDP. The author also presents the results from the earlier IFAK-study (1998) which is based on about 1,000 telephone surveys. Here, 22 percent of all individuals engaged in informal sector exchanges. East Germany's figure was, however, considerably lower (12.9%) than



the western one (24.5%). These results are confirmed by a different estimation method (Schneider, 2001) where individual East German states are shown to lie below the total average size of Germany's shadow economy. Of course, these estimates are inherently noisy. However, exact numbers are not needed for the purpose of this paper. It is sufficient to recognize the smaller size of the informal sector in East Germany in both studies. These figures contradict an institutional explanation for the gap in self-employment because, as I have argued, one would have expected to find a larger informal sector in the East. Moreover, if there are more informal entrepreneurs in the west compared to the east, the gap in formal sector self-employment underestimates the true size of the gap. Furthermore, Estrin & Mickiewicz (2010) have also shown empirically that institutional quality cannot fully explain differences in rates of self-employment.

In treatment (1) reported in table three the plain effect of the variable 'born\_east' is displayed. Simply being born in the east reduces the likelihood of self-employment by 0.09 or 0.12 percent. As the average likelihood of opening a business in the sample is 0.59 percent being born in the east reduces the likelihood by 17 percent in the nine years from 1996 to 2004. Controlling for the variables discussed above actually increases the entrepreneurial gap between east and west [treatment (2)]. In accordance with the literature, having been fired, being male and a University degree increase the likelihood of being self-employed, where involuntary unemployment has the strongest and a tertiary degree the lowest effect. Being married has a negative effect on self-employment, providing evidence that risk aversion increases with the presence of a family. The experience function is U-shaped. Further analysis shows that there are considerable initial

gains from experience (up to 12 years), after which additional experience starts to have a negative effect. The age dummies confirm that younger individuals, starting age 25, are more likely to become self-employed than older ones. Treatment (3) tests for the presence of credit constraints. Despite the fact that owning a property or a house raises the likelihood of being self-employed (thus confirming the negative impact of credit constraint), its effect on the entrepreneurial gap between east and west is miniscule. Treatment (4) tests for adverse selection as it is the only treatment that uses the “living-in-the-east” variable (east), and not the “born-in-the-east” variable (born\_east). In fact, the presence of adverse selection can be confirmed. People who live in the east display a wider entrepreneurial gap than the people who were born in the east. In fact, the likelihood of becoming self-employed for the 9 percent of easterners in the sample who relocated to the west is about 1.1 percent, almost twice as large as the total average for Germany.

Including and examining the control variables that are used in the literature, we are left with an average 27 percent fewer start ups in Germany’s east compared to its western parts that cannot be explained by credit constraints, education or adverse selection. I will thus, examine the fifth hypothesis: infrastructure. Figure two illustrates the traffic infrastructure of East Germany as a fraction of the West. I have used the length of roads per 1000 square kilometer as a proxy [see BMVBS, 2008]. The main disadvantage of this measure is its neglect of quality aspects. Traffic infrastructure is the largest component in terms of total government infrastructure expenditure (30 percent) [Uhde, 2009]. The effect of the second largest component, schooling (22 percent), is

already incorporated in the ‘TertEdu’ measure I have presented above. As we can see in figure two, the traffic infrastructure can hardly explain the pattern of self-employment displayed in figure one. It is possible that the expansion of the road network from about 66 to 75 percent of the western level between 1991 and 1996 has contributed to the initial spike in eastern rates of self-employment. Yet, the subsequent fall and slow recovery must be caused by different factors as the fractional length of the road network remains almost constant over the whole period.

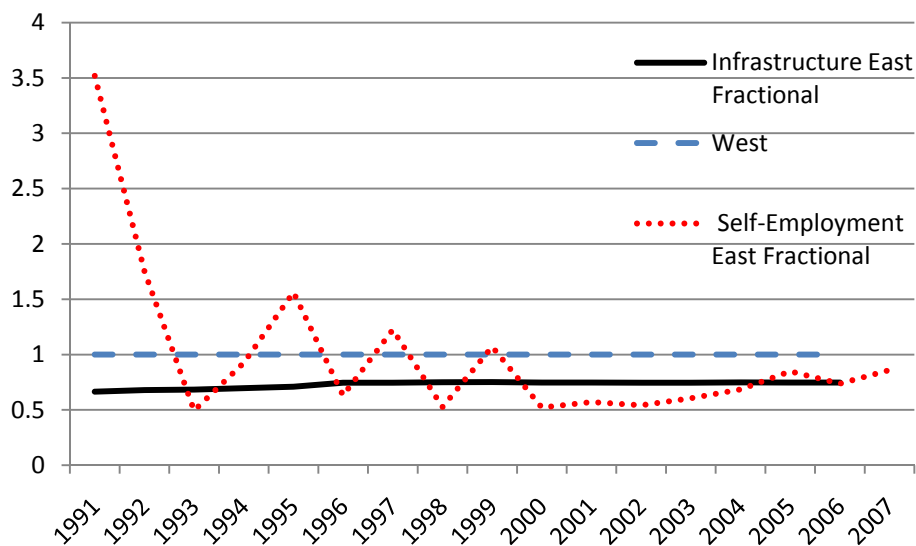


Figure 2 - Traffic Infrastructure in East and West Germany

Table 10 - Regression Results - Binary Dependent Variable: Self-employed

Probit Marginal Effects						
	(1)		(2)		(3)	(4)
Years	96-04	98-04	96-04	98-04	01-04	96-04
Born_east	-.0009**	-.0013***	-.0016***	-.0019***	-0.0016***	-.0017*** <i>(living in the east)</i>
Male			.0027***	.0026***	.0028***	.0027***
Tert_Edu			.0050***	.0051***	.0050***	.0050***
Experience			.000006	-.00003	.000006	.000003
Experience^2			- 0.000006**	- .0000004**	-.000003*	-.000003*
Fired			.0114***	.0105***	.0116***	.0114***
Age25_30			.0044***	.0038***	.0031***	.0043***
Age30_35			.0060***	.0056***	.0057***	.0060***
Age35_40			.0050***	.0048***	.0031***	.0050***
Age40_45			.0044***	.0043***	.0039***	.0044***
Age45_50			.0037***	.0033***	.0037***	.0037***
Married			-.0015***	-.0016***	-.0016***	-.0015***
Property					.0027***	
<i>Observations</i>	<i>139,000</i>	<i>119,000</i>	<i>139,000</i>	<i>119,000</i>	<i>76,300</i>	<i>139,000</i>
<i>R^2</i>	<i>0.004</i>	<i>0.008</i>	<i>0.0574</i>	<i>0.0596</i>	<i>0.0597</i>	<i>0.0577</i>

## 8. Testing Cultural Hypotheses

In this section, I present test results that shed some light on whether cultural factors can explain the self-employment gap. In general, if the cultural hypotheses are true, eastern entrepreneurs should be younger than western ones. The reason is that younger individuals will have spent a proportionally larger fraction of their life under market conditions and will therefore, have been influenced less by socialist culture. In fact, during the period 2005-2007 that exhibits the highest degree of convergence in entrepreneurship rates in the two parts of Germany, eastern entrepreneurs are two years younger, on average, than their western peers (38.8 and 40.8, respectively). More specifically, the GSOEP data set includes several variables that allow us to test the (1.) locus of control and the (2.) statism hypothesis. I have also used a (3.) general confidence variable as it might pick up a feeling self-confidence, which is a component of agency beliefs. Three appropriate dummies have been constructed: For locus of control (1.) I have used two questions that ask for the importance of luck and fate in the individuals life (for the years 1994 through 1996) In terms of statism (2.), I have used five questions that ask whether a certain aspects of life should be controlled by the state or left to private forces (care for financial security of unemployed, elderly, sick, people who need care and families for the years 1997 and 2002). The confidence variable (3.) was directly available in the data set for the years 1995 through 1997. Cronbach's alphas for 'state' and 'nocontrol' are 0.67 and 0.64 respectively. Another variable that captures

the experience of low control over one's life ('soc\_cond') is equal to one if the individual feels that his or her life is dominated by social conditions. 'Soc\_cond' is unfortunately only available for the year 1999 and responses for that year had to be used for earlier years in order to create comparability. The bias will be small given that personality traits display high correlations over time. Unreported regression results also suggest that effects are similar if one narrows the analysis to the years 1999 to 2004.

As you can see in table 13, treatment (1), 'Nocontrol' negatively affects the likelihood of self-employment in a statistically significant way. Its magnitude (-0.16 percent) must be seen as moderately strong if we recall that the average likelihood of becoming an entrepreneur equals 0.59 percent. The 'borne\_east' variable, which denotes eastern origin, falls to 0.0014, once the additional control variable has been added. This finding provides evidence for the first part of the cultural explanation as it means that the gap was partly caused by East German's beliefs. In treatment (2) and (3), a stronger preference for state control has a greater influence on the likelihood of self-employment (-0.19 percent) and the effect of being born in the east declines to 0.11 percent. In treatment (3) I have add the confidence dummy. Although it does affect the dependent variable, it does not appear to impact the East-West gap in any meaningful magnitude. Treatment (4) uses the 'soc\_cond' variable instead of LOC and the results are similar. The east-west gap declines to 0.09 percent.

Table 11 – Probit Regression Results – Beliefs and Preferences

	(1)	(2)	(3)		(4)
Years	96-04	96-04	96-04		99-04
Born_east	-.0014***	-.0011***	-.0011***	Born_east	-0.0009**
Male	.0026***	.0025***	.0025***	Male	0.0022***
Tertiary Edu	.0045***	.0043***	.0042***	Tertiary Edu	0.0029***
Experience	-0.000022	0.00003	0.00003	Experience	-0.00006
Experience^2	-.000003**	-.00003**	-.00003**	Experience^2	-0.00000
Fired	.0113***	.00113***	.0113***	Fired	.0102***
Age25_30	.0045***	.0045***	.0043***	Age25_30	0.0028***
Age30_35	.0061***	.0061***	.0059***	Age30_35	0.0049***
Age35_40	.0050***	.0049***	.0049***	Age35_40	0.0048***
Age40_45	.0044***	.0043***	.0043***	Age40_45	0.0041***
Age45_50	.0036***	.0035***	.0035***	Age45_50	0.0035***
Married	-0.0015***	-.0014***	-.0014***	Married	-0.0016***
NoControl	-.0016***	-.0011***	-.0014***	Soc_cond	-0.0016***
State		-.0019***	-.0019***	State	-0.0024***
Confident			.0010**	Confident	0.0007*
<i>Observations</i>	139,000	139,000	139,000		85,442
<i>R</i> <sup>2</sup>	0.0593	0.0618	0.0622		0.0636

Table 12 - Black Market Entrepreneurs

	(1)	(2)	(3)
<i>dependent variable</i>	<i>self-employed</i>	<i>self-employed</i>	<i>self-employed</i>
<i>years</i>	<i>1991-2007</i>	<i>1991-1995</i>	<i>2003-2007</i>
black market	0.002**	0.003**	0.004**
age25_30	0.008***	0.004**	0.004**
age30_35	0.006***	0.003**	0.003**
age35_40	0.007***	0.004***	0.005***
age40_45	0.004***	0.001	0.001
age45_50	0.004***	0.004***	0.005***
male	0.002***	0.003***	0.003***
edu	0.005***	0.007***	0.008***
sec_school	-0.000	0.003	0.003
vocation	0.000	-0.001	-0.003*
fired	0.013***	0.006***	0.008***
-	-	-	-
married	0.002***	-0.002*	-0.003*
exp	0.000	-0.001	-0.002
exp^2	-0.000	0.000***	0.001***
observations	77,605	18,395	18,926

Finally, it should also be true that a certain group of individuals with unusually high exposure to markets during the period of socialism will significantly differ from individuals without such exposure. We expect black market entrepreneurs to hold beliefs and preferences that are less adjusted to life under socialism. Elsewhere [Runst, working



paper] I have shown that individuals who operated in the shadow economy in east Germany before 1990 are less likely to believe in external locus of control or that their life is dominated by social conditions, they are more likely to believe in internal locus of control, and they demand less state intervention than non-black-market entrepreneurs. Table 14 shows, these individuals are also more likely to become self-employed after the reunification of Germany. The dummy 'black market' is equal to one if the individuals answered yes to the following question in the 1990 interview wave: "Aside from job, school, household or retirement earnings, do you pursue one or more of the following activities? - Doing occasional work for pay".

In summary, I have found that two cultural differences, locus of control and preferences for state intervention account for at least one third of the gap in self-employment between East and West Germany. To the extent that these variables only partially reflect the deep underlying personality difference, it is likely that they underestimate the true magnitude. A third cultural difference, confidence, did not appear to be an important factor, although it does increase the likelihood of self-employment.

## **9. Robustness & Causality**

The results of unreported linear probability models are similar to probit results. The effects of being born in the east and the effects of psychological variables are slightly stronger. When psychological variables are included in this specification the gap shrinks

by more than one third. Also, including the construction sector changes the results very little – psychological variables are still found to explain about 30% of the gap.

A fixed-effects OLS specification that would address omitted variable problems could not be run for the whole sample as the variables ‘east’ is time independent. Similarly ‘nocontrol’ is time independent because it is only available for the years 1994-96. However, running the FE specification for the eastern sample shows that ‘state’ is borderline significant at the 10 percent level and the coefficient is - 0.0032, thus supporting the main results.

In order to address the direction of causality the ‘state’ variable was then constructed differently. It is now coded one if the individual favors state intervention more than the sample average in 1997, instead of 1997 and 2002. This does not change results significantly – the two variables can still explain almost 30 percent of the gap. This strengthens the claim for a causal impact of beliefs as it shows that beliefs and preferences for state action held *prior* to the transition into self-employment affects the probability of such a transition.

## **10. Conclusion**

In this paper I have attempted to explain the gap in rates of self employment in East and West Germany after the reunification of the country. It was argued that individuals under socialism develop certain beliefs and preferences in response to their particular life

circumstances in planned economies. In opposition to Kirzner's theory of costless opportunity discovery, it was argued that entrepreneurship is a process, and can be affected by these beliefs and preferences. It was shown that 'traditional' determinants of self-employment cannot fully account for the gap in self-employment between east and west. Variations in the formal institutional environment, credit constraints, human capital, adverse selection and infrastructure were tested. It was suggested that the unique socialist history in East Germany exerted a persistent but declining influence on the beliefs and preferences of its inhabitants and temporarily reduced rates of self-employment. I have shown that two proxy variables (locus of control/ social conditions and preferences for state control) do in fact explain at least a third of the entrepreneurial gap.

## **V. A Plea for an Economics as a Humble Social Science**

Individual action, as construed by Walrasian (or Samuelsonian) economics, is subject to constraints. Human action, in that rendering, is incentive governed action. When the price of an activity increases, individuals do less of it. Action is passive and there is no real choice, in the sense that individuals have no will of their own. Individuals are caught in a web of circumstances that dominate their lives. When they ‘choose’ to change constraints (e.g. a politician who is writing a draft bill) this action itself is subject to relative prices and preferences. Interactions, among individuals, are characterized as a strategic, game theoretic situation. It is thus possible, that outcomes arise which are the results of human action, but not of human design as for example in the classic prisoner’s dilemma. All of these analytic frameworks are meant to reduce the extraordinary complexity of human social interactions, which, at the time of this essay, has reached global dimension and a network of almost 7 billion individuals, all with different cultural backgrounds, and living circumstances.

The first fundamental dilemma of an economics of the Walrasian kind, is its ability to explain change. In truly materialist fashion, which corresponds well with our current scientific view of the world, events are rendered as fully determined by circumstances, if only probabilistically. It is hard however, to see how a different kind of economics, based on entrepreneurship, which is the discovery of novelty, could sever its

ties with the materialist's perspective. The entrepreneurial tale, told in this materialistic view, is deterministic, in the sense that an individual does not decide to see an opportunity and to seize it. Given her circumstances, she cannot help but being aware of the opportunity, and her circumstances determine her 'choice' to seize it. A break with this enlightenment tradition of determinism would be difficult to sustain, and could only be done by embracing a radical metaphysical assumption of free will, despite its obvious clash with modernity.

The second dilemma is a result of the necessity for strong simplification. Even high powered contemporary game theory is a simplistic caricature of the complexity of human interaction. A nice illustration of this danger became apparent through Elinor Ostrom's work on collective action problems (1991). Individual interactions defy the simplistic categorization of commons problems and other games. Different circumstances give rise to a variety of institutional solutions. Extreme simplification underestimates human ingenuity and inventiveness. Theoretical models should be used for future prediction only with extreme caution. Social science can ultimately not play the role of Plato's philosopher king, it cannot logically deduct and lay down the rules of good the good (social) life; in other words, it cannot use its simplifications and elevate them to a level of normative power.

Despite the analytic value of simplified models, such as the prisoner's dilemma, one must keep in mind that human ingenuity continuously pushes for change at the margin. Social science should not shy away from the more humble role of observer. Case studies, in depth interviews, and other empirical strategies, such as Axelrod's strategy

competition, that acknowledge the scientist's quest to understand the process of individual interaction would be emphasized in such an alternative conception. This is of course, not to say, that it would, for example, be impossible for a public choice theorist to find a spending pattern that increase a candidate's valence, and thereby discover knowledge, of which the participants are entirely oblivious about. However, it is highly unlikely that the agents who act, and given their specific knowledge of time and place, would be less competent than the social theorist, and all work should begin with the humble quest to understand the entrepreneurial actors. Business entrepreneurship is another example of this problem. It is a highly complex activity. It is not enough to spot and seize an opportunity. As Wagner (2010) has stated, one must convince potential partners, suppliers, and contracting partners, and finally one has to convince customers. Economists, instead portray entrepreneurship as automated, in fact negligible fact, not worthy of much attention.

A third dilemma is posed by economist's neglect for the concept of uncertainty. If future probabilities cannot be assigned through the use of past relative frequencies because of the element of surprise (which is a result of complexity) then individuals have to rely on subjective probabilities. Subjective probabilities entail the possibility of error. Human minds are not supercomputers that continually scan their environments and perform vast numbers of calculations, but they are ultimately restricted in these abilities. This fact is well known since Hebert Simon's work but economists have not yet incorporated the implications into their work. A true behavioral economics will seek to understand how and why individuals hold the beliefs and preferences they do. Similarly,

and as I have shown above, the quest for meaning is, and will increasingly be, a motivation for human action. However, it tends to be understudied relative to more tangible monetary motivations, although we, of course know, that relative price changes do not literally mean monetary price changes.

As a starting point for future research, the three essays in this dissertation contained the following core. Explanation of human behavior as a result of constraints is valid and empirically successful to a degree. If social science wants to explain the development of constraints in a dynamically more satisfying way, we need to ask why people have certain preferences and beliefs, why they evaluate constraints the way they do. If the support for constraints erodes, the constraints will be ignored or altered in the long run. Ideas matter. A behavioral political economy is therefore required. The first step of such an applied research agenda would illuminate the way people change their preferences and beliefs, the way they learn, adjust to new constraints, or create new ideas about constraints through interaction.

In what ultimately remains a materialist approach to economics, the next chapter explored this adjustment process. It has been argued that, in the long run, individuals will adjust to exogenous shocks to institutions. The pace of such an adjustment however, is not uniform, and, if the conditions for adjustment are not sufficiently met, might lead to slow down of transition processes, or politically driven institutional reversal. In the specific context of transitional economies, this means that, if political rules confine individual action too stringently, individuals will not develop personal control beliefs. People will believe that the course of life is only slightly shaped by individual action. Life

will be seen as unfair. Overcoming unfair outcomes will be seen as a matter of hierarchical decision making, not individual effort. Ironically, it is not the lack of markets, but the lack of correct interventions that will be lamented. As Hayek (1988) has argued, it is the small tribe and its internal solidarity that comes natural to human thinking, not the cultural institution of the price mechanism and self-interest driven markets. The final chapter showed that the not-yet-adjusted short run beliefs and preferences can explain about a third of the gap in self-employment between the eastern and western part of Germany.

The three chapters of this dissertation represent a foundation for future research. Learning or changes in beliefs and preferences will be the central topic of future research in such a research agenda. Through introspection and empirical evidence presented here and elsewhere, it should be sufficiently clear that individuals do not change their ideas instantaneously because the processing and storage of information is costly. Findings by cognitive scientists [Gigerenzer & Todd, 1999] show that individuals use hierarchical, rule-like mental structures in order to save on processing costs. They use simple but smart heuristics, or ecological rationality that is adjusted to the environment, as opposed to unbound rationality. For example, if US students recognized the name of one of two German cities they (almost always correctly) assumed this city would have the bigger population (recognition heuristic). Similarly, the authors show that individuals often use a small number of learned valid cues in order to categorize things and events (quick estimation) instead of using all the available information. As an example, one looks at the shape of the head, in order to see if a certain animal classifies as a bird, before one moves



on to the next cues. Rule like structures save information costs but it will take time to change them if the environment for which they were developed changes abruptly. And a new rule has to be developed. Learning takes time.

Since Walrasian economics is ultimately static, and change is always reduced to exogenous relative price changes, human learning has been neglected. The study of historical beliefs that obviously defy rational expectations, such as the 1900 belief that powdered milk represents an adequate substitute for breast milk which cost the life of many newborns, or the disbelief in washing your hands in early surgical institutions would be two fascinating historical analytic narratives. Also, a panel data set could be created that explores whether taking classes with professors holding a certain ideology affects the students' ideology. In this way one could see if indoctrination, and or the availability of intellectual arguments do have an impact on people's ideas. Finally, analyzing interviews and popular media rhetoric in post-socialist countries over time might create interesting insights into the content and change of ideas.

	become	Born_east	age25_30	age30_35	age35_40	age40_45	age45_50	male	education	fired	married	exp	expsqu	nocont-1	state	conf
become	1															
Born_east	-0.005*	1														
age25_30	0.017*	0.0033	1													
age30_35	0.031*	-0.029*	0.0738*	1												
age35_40	0.026*	-0.021*	-0.1189*	0.0597*	1											
age40_45	0.016*	0.0014	-0.1165*	-0.1350*	0.0523*	1										
age45_50	0.006*	0.0037	-0.1087*	-0.1259*	-0.1334*	0.0592*	1									
male	0.020*	-0.015*	-0.0067*	0.0021	0.0008	-0.0024	0.0052	1								
edu	0.032*	0.0913*	-0.0338*	0.0243*	0.0448*	0.0652*	0.0753*	0.0883*	1							
fired	0.032*	0.0565*	0.0325*	0.0249*	0.0189*	0.0161*	0.0170*	0.0373*	-0.0180*	1						
married	-0.009*	-0.030*	-0.1669*	-0.0131*	0.0865*	0.1242*	0.1258*	0.0461*	0.1051*	-0.0203*	1					
exp	-0.018*	-0.266*	-0.2259*	-0.1639*	-0.0909*	-0.0100*	0.0653*	0.3041*	0.0197*	-0.0326*	0.2417*	1				
expsqu	-0.021*	-0.303*	-0.1819*	-0.1775*	-0.1434*	-0.0815*	-0.0048	0.2919*	-0.0212*	-0.0390*	0.1673*	0.9523*	1			
nocontrol	-0.016*	0.069*	0.0196*	0.0227*	0.0074*	-0.0054*	-0.0117*	-0.0629*	-0.1355*	0.001	0.0655*	0.0377*	0.0105*	1		
state	-0.018*	0.193*	0	0.0155*	0.0158*	0.0069*	-0.0169*	-0.0079*	-0.0542*	0.0174*	0.0385*	-0.0147*	-0.0390*	0.2933*	1	
confident	0.007*	0.009*	0.0796*	0.0956*	0.0649*	0.0230*	-0.0074*	0.0122*	0.0315*	-0.0084*	0.0452*	-0.0183*	-0.0359*	0.3260*	0.1299*	1

## Appendix

\*An Asterisk denotes statistical significance at the 5 percent level

## References

## References

Acemoglu, Daren; Johnson, Robinson (2001), "The Colonial Origins of Comparative Development," *American Economic Review*, 91(5):1369-1401

Acemoglu, Daron; Johnson, Simon (2005) "Unbundling Institutions." *Journal of Political Economy*. 114: 949-995.

Acs, Zoltan; Mueller, Pamela (2008). "Employment Effects of Business Dynamics: Mize, Gazelles and Elephants." *Small Business Economics*, 30: 85-100.

Aidis, Ruta; Estrin, Saul (2008) "Institutions and Entrepreneurship Development in Russia – A Comparative Perspective." *Journal of Business Venturing*, 23(6):656-672

Akerlof, George; Kranton, Rachel. 2000 "Economics and Identity." *The Quarterly Journal of Economics*, 115(3), 715-753

Alesin, Alberto; Glaeser, Edward (2004), "Fighting Poverty in the US and Europe: A World of Difference," Oxford University Press

Alesina, Alberto; Angeletos G.M. (2005), "Fairness and Redistribution" *American Economic Review*, 95(4):913-935

Alesina, Alberto; Fuchs-Schuendeln (2007), "Good Bye Lenin (Or Not?) – The Effect of Communism on People's Preferences," *American Economic Review*, 97(4): 1507-1518

Alesina, Alberto; Giuliano, Paola (working paper, 2009) Preferences for Redistribution. NBER working paper

Allen, Bruce (1991) *Germany East – Dissent and Opposition*. Black Rose Books

Arabsheibani, Gholamreza et al (2000) "And a vision appeared unto them of a great profit: evidence of self-deception among self-employed." *Economics Letters*, 67(1): 35-41

Audretsch, David B., Thurik, Roy (2002) Impeded Industrial Restructuring. The Growth Penalty. *Kyklos*, 55(1): 81-97

Audretsch, David et al (2002) "Understanding Entrepreneurship across Countries and over Time." In *Entrepreneurship: Determinants and Policy in European-US comparison*. Kluwer Academic Publishers.

Bardi et al. 2009. The Structure of Intra-individual Value Change. *American Psychological Association*, 97(5), 913-929

Baumol, William J (1996) "Entrepreneurship: Productive, unproductive, destructive." *Journal of Business Venturing*, 11(1): 3-22.

Becker, Garry (1983), "A Theory of Competition among Pressure Groups," *Quarterly Journal of Economics*, 98: 371-400

Becker, Garry; Stigler, George (1977), "De Gustibus Non Est Disputandum," *American Economic Review*, 67(2):76-90

Benabou, Roland, and Efe Ok. 2001. Social mobility and the demand for redistribution: The POUM hypothesis.. *Quarterly Journal of Economics*, 116:447-487.

Bengoa, Marta; Sanchez-Robles (2008), "Foreign Direct Investment, Economic Freedom and Growth – New Evidence From Latin America," *European Journal of Political Economy*, 19:529-545

Bernhardt, Irwin (1994) "Comparative Advantage in Self-employment and Paid Work." *The Canadian Journal of Economics*, 27 (2): 273-289

Beugelsdijk, S. Smeets, R. (2008) "Entrepreneurial Culture and Economic Growth: Revisiting McClelland's Thesis." *American Journal of Economics and Sociology*, 67(5): 915-939

Beugelsdijk, S.; Noorderhaven, N. (2005) "Personality characteristics of self-employed; An empirical study." *Small Business Economics*, 24(2): 159–167.

Birch, D.L (1979) *The Job Generation Process, in MIT Program on Neighborhood and Regional Change*. MIT Press, Cambridge, MA.

Bird, Edward J. et al (1994) "Wage Effects of the Move Toward Free Markets in East Germany." *Industrial and Labor Relations Review*, 47(3): 390-400

Blanchflower, D.G. (2000) "Self-employment in OECD countries." *Labor Economics*, 7(5): 471-505.

BMVBS, Bundesministerium für Verkehr, Bau und Stadtentwicklung (2008) Verkehr

- Boettke, P. J. (2001) "Why Culture Matters?" In: *Calculation and Coordination: Essays on Socialism and Transitional Political Economy*. Routledge, New York: 248-265.
- Boettke, Peter J., Peter Leeson, and Christopher Coyne (2008) "Institutional Stickiness & the New Development Economics." *American Journal of Economics & Sociology*, 67(2): 331-358.
- Boettke, Peter J.; Leeson, Peter T (2004) "Liberalism, Socialism, and Robust Political Economy", *Journal of Markets and Morality*, (7)1: 99-111
- Borjas, G. J. ( 1986) "The self-employment experience of immigrants." *The Journal of Human Resources*, 21(4), 485-506
- Borjas, G. J. and Bronars, S. G. (1989) "Consumer discrimination and self-employment." *Journal of Political Economy*, 97(3): 581-605
- Bowles, Samuel (1998) "Endogenous Preferences: The Cultural Consequences of Markets and other economic institutions" *Journal of Economic Literature*: 36(1)
- Brock, W. A. and Evans, D. S. (1986) *The Economics of Small Businesses: Their Role and Regulation in the US Economy*. New York: Holmes & Meier
- Buchanan, James (1962), *The Calculus of Consent*, The University of Michigan Press.
- Buchanan, James (1991), *The Reason of Rules – Constitutional Political Economy*, Liberty Fund.
- Buchanan, James(1997) *Post-Socialist Political Economy*. Edward Elgar.
- Buchanan, James. 1975. *The Limits of Liberty – Between Anarchy and Leviathan*. University of Chicago Press.
- Caplan, Bryan (2002), "Systematically Biased Beliefs About Economics: Robust Evidence of Judgemental Anomalies from the Survey of Americans and Economists on the Economy," *Economic Journal*, 112(479), pp.433-458.
- Caplan, Bryan (2007), *The Myth of the Rational Voter – Why Democracies Choose Bad Policies*, Princeton University Press.
- Caplan, Bryan; Miller, Stephen (2010), "Intelligence makes people think like economists: Evidence from the General Social Survey," *Intelligence*, 38(6): 636-647

- Carree, M.A.; Thurik, A.R. (2008). "The Lag Structure of the Impact of Business Ownership on Economic Performance in OECD countries." *Small Business Economics*, 30, 101-110.
- Casson, Mark; Wadeson, Nigel (2007) "The Discovery of Opportunities: Extending the Economic Theory of the Entrepreneur." *Small Business Economics*, 28: 285-300.
- Chong, Alberto; Guillen, Jorge; Rios, Vanessa. (2010) "Language Nuances and Socioeconomic Outcomes." *American Journal of Economics and Sociology*, 69(2): 693-716
- Clark, Andrew; Georgellis, Yannis; Sanfey, Peter. 2001. *Scarring, the psychological impact of past unemployment. Economica*, New Series, Vol. 68, No. 270, pp. 221-241
- Costa, Paul, and Robert McCrae (1997) "Longitudinal Stability of Adult Personality" In Hogan, Robert, John Johnson, and Stephen Briggs, eds. 1997. *Handbook of Personality Psychology* (NY: Academic Press), pp.269-290.
- Dale, Gareth (2005). *Popular Protest in East Germany*. Routledge
- de Wit, G. (1993) "Models of self-employment in a competitive market." *Journal of Economic Surveys*, 7: 367-397.
- de Wit, G. and van Winden, F. A. A. M. (1989) "An empirical analysis of self-employment in the Netherlands." *Small Business Economics*, 1(4): 263-272.
- Del Rosal, Ignacio (forthcoming), "The Empirical Measurement of Rent Seeking Costs," *Journal of Economic Surveys*
- Delmar, F. & Davidsson, P. (2000) "Where do they come from? Prevalence and characteristics of nascent entrepreneurs." *Entrepreneurship and Regional Development*, 12 : 1-23.
- Diener, Ed et al (2009), "Income's Differential Influence on Judgements of Life Versus Effective Well-Being," *Social Indicators Research Series*, 39: 233-246
- Earle, John S.; Sakova, Zuzana (2000) "Business start-ups or disguised unemployment?"
- Earl, Peter (1986) *Lifestyle Economics*. Palgrave Macmillan
- Earl, Peter; Potts, Jason (2004) The Market for Preferences. *Cambridge Journal of Economics*, 28(4): 619-633
- Easton, Stephen T.; Walker, Michael A. (1997) Income, Growth, and Economic Freedom." *American Economic Review*, 87(2):328-332

- Eidelman, Scott; Crandall S. Christian; Pattershall, Jenniffer. 2009. *Journal of Personality and Social Psychology*, 97(5): 765-775.
- Estrin, Saul; Mickiewicz, Tomasz (2010) "Entrepreneurship in Transition Economies: The Role of Institutions and Generational Change." *IZA Discussion Paper No. 4805*
- Evans, D. S. and Leighton, L. S (1989) "Some empirical aspects of entrepreneurship." *American Economic Review*, 79(3): 519-535.
- Evans, M. D. R. (1989) "Immigrant entrepreneurship: effects of ethnic market size and isolated labor Pool." *American Sociological Review*, 54(6): 950-962.
- Fisher, Gelb(1991) "The Process of Socialist Economic Transformation." *The Journal of Economic Perspectives*,5(4): 91-105
- Frank, R.H(1987) "If Homo Economicus Could Choose His Own Utility Function, Would He Want One with a Conscience?" *American Economic Review*.,77(4): 593-604
- Franz, Wolfgang; Steiner, Viktor (2000) "Wages in the East German Transition Process: Facts and Explanations." *German Economic Review*, 1(3): 241-269
- Frese et al. (1996) "Personal Initiative at Work: Differences between East and West Germany." *The Academy of Management Journal*, 39(1): 37-61
- Frey, Bruno; Stutzer, Alois 2003. What Can Economists Learn from Happiness Research? *Journal of Economic Literature*, Vol. 40, No. 2, 402-435
- Friedrich-Ebert-Stiftung (1991) *Investitionsförderung in Ostdeutschland. In Wirtschaftspolitische Diskurse; 2. - ISBN 3-86077-041-1*
- Fritsch, Michael; Mueller, Pamela (2008) "The Effect of new Business Formation on Regional Development over Time: the case of Germany." *Small Business Economics*, 30: 15-29.
- Fry, Timothy; Andrei Shleifer(1997) "The Invisible Hand and the Grabbing Hand." *American Economic Review Papers and Proceedings*, 87(2): 354-358
- Fullbrook, Mary (1995) *Anatomy of a Dictatorship*. Oxford University Press
- Gadamer, Hans-Georg. 1960. *Truth and Method*. Cross Roads, New York
- Gartner, William (1988) "Who is an entrepreneur? Is the wrong question." *American Journal of Small Business*, 12(4): 47-67



- Grilo, Isabel; Thurik, A. Roy (2004) "Determinants of Entrepreneurship in Europe." Papers on Entrepreneurship, Growth and Public Policy no 30-2004. Max Planck Institute of Economics, Jena, Germany
- Grilo, Isabel; Thurik, A. Roy (2005) "Latent and Actual Entrepreneurship in Europe and the US: Some Recent Developments." *International Entrepreneurship and Management Journal*, 1(4): 441-459
- Grilo, Isabel; Thurik, A.R. (2006) "Entrepreneurship in the old and the new Europe." *International Studies in Entrepreneurship*, 12, 75-103, Springer USA
- Güth, Werner (1995), "An Evolutionary Approach to Explaining Cooperative Behavior by Reciprocal Incentives," *International Journal of Game Theory*, 24: 323-344
- Güth, Werner; Kliemt, Hartmut (1998), "The Indirect Evolutionary Approach – Bridging the Gap between Rationality and Adaptation," *Rationality and Society* 10(3): 377-399
- Haltwanger, John; Krizan, C.J(1999) "Small Business and Job Creation in the United States – The Role of New and Young Businesses" In *Are Small Firms Important – Their Role and Impact*. Acs, Zoltan (eds.)
- Hannover, Bettina (1995) "Self-Serving Biases and Self-Satisfaction in East versus West German Students." *Journal of Cross Cultural Psychology*, 26(2): 176-188
- Harper, David(2003) *Foundations of Entrepreneurship and Economic Development*. Routledge.
- Hayek, F.A(1960) *The Constitution of Liberty*. University of Chicago Press
- Hayek, F.A(1973) *Law Legislation and Liberty Vol. I*. University of Chicago Press.
- Hayek, F.A(1988) *The Fatal Conceit*. University of Chicago Press.
- Hayek, F.A. (1948), *Individualism & Economic Order*, University of Chicago Press.
- Hayek, F.A. (1952), *The Sensory Order – An Inquiry into the Foundations of Theoretical Psychology*, University of Chicago Press.
- Hayek, F.A. (1967), *Studies in Philosophy, Politics & Economics*, University of Chicago Press.
- Higgs, Robert (2008) "The Complex Course of Ideological Change." *American Journal of Economics and Sociology*, 67(4): 547-565

- Hodgson, Geoffrey (2006), "What are Institutions?" *Journal of Economic Issues*. 23(1): 1-25
- Hofstede, Geert(1980) *Culture's Consequences*. International Differences in Work-Related Values. Sage Publications.
- Hume, David (1740) *A Treatise of Human Nature*.
- IFAK(1998) Telephone Survey "Schwarzarbeit". Conducted on behalf of B.A.C. Burda, Munich.in Zahlen. Hamburg.
- IWH, Institut für Wirtschaftsforschung Halle, Joachim Ragnitz, 2003. Wirkung der Investitionsförderung in Ostdeutschland. Halle, Saale.
- Johnson, Simon et al (1998) "Regulatory Discretion and the Unofficial Economy." *American Economic Review*, 88(2):387-392
- Jost, J. T., & Banaji, M. R. (1994) "The role of stereotyping in systemjustification and the production of false consciousness." *British Journal of Social Psychology*, 33, 1–27.
- Jost, J. T., & Banaji, M. R. 1994. The role of stereotyping in systemjustification and the production of false consciousness. *British Journal of Social Psychology*, 33, 1–27.
- Kahneman, Daniel et al. 1991. Anomalies: The Endowment Effect, Loss Aversion, and Status Quo Bias, *Journal of Economic Perspectives*, 5(1), 193-206
- Kahneman, Daniel; Thaler, Richard H. (2006), "Anomalies: Utility Maximization and Experienced Utility," *The Journal of Economic Perspectives*, 20(1): 221-234
- Kaufmann, P.J. et al. 1995. „Locus of Control and Entrepreneurship in the Russian Republic." *Entrepreneurship Theory and Practice*, 20(1): 43-56.
- KfW, Kreditanstalt für Wiederaufbau (Karsten Kohn; Hannes Spengler) (2008) KfW Gründungsmonitor 2008
- Kidd, M. P(1993) "Immigrant wage differentials and the role of self-employment in Australia." *Australian Economic Papers*, 32(60): 92-115
- Kirzner, Israel (1979) *Perception, Opportunity and Profit – Studies in the Theory of Entrepreneurship*. University of Chicago Press.
- Kirzner, Israel (1985) *Discovery and the Capitalist Process*. University of Chicago Press.
- Kydland, ; Prescott .1977. Rules Rather than Discretion – The Inconsistency of

Optimal Plans. *Journal of Political Economy*, 85(3), 473-492

Leeson, Peter T. (2007), "An-*arrgh*-chy: The Law and Economics of Pirate Organization," *Journal of Political Economy*, 17(6):1049-1094

Leonard, William R. 2007. *Effects of Brain Evolution on Human Nutrition and Metabolism. Annual Review of Nutrition*, 27, 311-327

Lerner, M. J. (1980). *The belief in a just world: A fundamental delusion*. New York, NY: Plenum.

Mc Millan, John; Woodruff, Christopher (2002) "The Central Role of Entrepreneurs in Transition Economies." *The Journal of Economic Perspectives*, 16(3):153-170

McClelland, David (1961) *The Achieving Society*. Free Press

Meyer, Klaus E.; Peng, Mike W. (2005) "Probing Theoretically into Central and Eastern Europe: Transactions, Resources, and Institutions." *Journal of International Business Studies*, 36(6): 600-621

Niskanen, William (1968), "The Peculiar Economics of Bureaucracy," *American Economic Review – Papers and Proceedings*, 58(2): 293-305

North, Douglas. 2005. *Understanding the Process of Economic Change*. Princeton University Press.

North, Douglass (1990) *Institutions, Institutional Change and Economic Performance*. Cambridge University Press

North, Weingast, Wallis (2006), A Conceptual Framework for Interpreting Recorded Human History, NBER

Oettingen et al (1994) "Causality, Agency and Control Beliefs in East vs. West Berlin: A Natural Experiment on the Role of Context." *Journal of Personality and Social Psychology*, 66(3): 579-595

Olson, Mancur (1965), *The Logic of Collective Action*, Harvard University Press

Ostrom, Eleanor (1990), *Governing the Commons: The Evolution of Institutions for Collective Action*, Cambridge University Press.

Ostrom, Eleanor; Crawford, Susan (2005) "A Grammar of Institutions" in *Understanding Institutional Diversity*, (ed.) Ostrom, Princeton University Press

Pareto, Vilfredo (1935), *The Mind and Society*, New York: Dover

- Pareto, Vilfredo. 1932. *Mind & Society*. Harcourt, Brace & Company
- Patti, DMA ; Navarra, Pietro. Working paper. Endogenizing Fairness to Explain Preferences for Redistribution.
- Pearson Thorsten ; Tabellini, Guido (2003) *The Economic effects of Constitutions*. MIT Press
- Peng, Mike W. (2006) "How Entrepreneurs Create Wealth in Transition Economies" in *Entrepreneurial strategies: new technologies in emerging markets*, (ed.) A.C. Cooper
- Person, Torsten & Tabellini, Guido E. (2003), *The Economic Effect of Institutions*, MIT Press.
- Praag, Mirjam C.; Verslot, Peter H. (2007). „What is the value of Entrepreneurship. A Review of Recent Research.“ *Small Business Economics*, 29, 351-382.
- Pryor, Frederic L. (2007) "Culture and Economic Systems." *American Journal of Economics and Sociology*. 66(4): 817-855
- Rabin 1998. Psychology and Economics. *Journal of Economic Literature*
- Rabin, Matthew. 1993. Incorporating Fairness into Game Theory and Economics, *American Economic Review*, 83(5), 1281-1302.
- Rallapalli, Kumar; Vitell, Scott; Wiebe, Frank; Barnes, James (1994) "Consumer ethical beliefs and personality traits - An exploratory analysis." *Journal of Business Ethics*, (13)7: 487-497
- Rees, H. ; Shah, A (1986) "An empirical analysis of self-employment in the UK." *Journal of Applied Econometrics*, 1(1): 95-108
- Regener, Irena (2000) „Kontinuität, Anpassung, Selbstbehauptung.“ Projektbeiträge der Projektgruppe Friedensforschung der Universität Konstanz #48/2000
- Reynolds, P.D (1987) "New Firms – Societal Contribution vs. Survival Potential." *Journal of Business Venturing*, 2(3): 231-46
- Robinson, Peter B. ; Sexton Edwin A (1994) "The effect of education and experience on self-employment success." *Journal of Business Venturing*. 9(2):141-156
- Rose, Richard J. (2002) *How do adolescents select their friends? A behavior-genetic perspective*. Cambridge University Press

- Rotter, J. B (1966) *Generalized expectancies for internal versus external control of reinforcement*. Psychological Monographs, 80.
- Runst, Petrik (Working paper) Short Run Bias & Long Run Rationality – The Dynamics of Internal Constitutions. Available over SSRN.
- Runst, Petrik. forthcoming. Post-socialist Culture and Entrepreneurship. *American Journal of Economics & Sociology*.
- Runst, Petrik; Wagner, Richard E. (2011), “Choice, Emergence, and Constitutional Process: A Framework for Positive Analysis,” *Journal of Institutional Economics*
- Schiller, Bradley; Crewson, Philip (1997) “Entrepreneurial Origins – A Longitudinal Inquiry.” *Economic Inquiry*, 35:523-531
- Schlicht, Ekkehart (1998) “On Custom in the Economy” by Oxford, Clarendon Press
- Schneider, Friedrich (2003) “The Development of the Shadow Economies and Shadow Economy Labor Force of 21 OECD and 22 Transition Countries.” *Journal of Institutional Comparison*. 1(1)
- Schneider, Friedrich(2001) „Arbeit im Schatten: Einige theoretische und empirische Überlegungen über die Schattenwirtschaft.“ *Perspektiven der Wirtschaftspolitik* 2(4)
- Schwartz, Shalom; Bardi, Anat (1997), “Influences of Adaptation to Communist Rule on Value Priorities in Eastern Europe,” *Political Psychology*, 18(2): 385-410
- Schwartz, Shalom H.; Bard, Anat. (1997) „Influences of Adaptation of Communist Rule on Value Priorities in Eastern Europe.” *Political Psychology*, 18(2), 385-410
- Schwartz, Shalom H.; Bard, Anat. 1997. Influences of Adaptation of Communist Rule on Value Priorities in Eastern Europe. Political Psychology, 18(2), 385-410*
- Searle, John (1995a), “What is an Institution?,” *Journal of Institutional Economics*, 1(1):1-22
- Searle, John (1995b) *The Construction of Social Reality*. The Free Press
- Searle, John. (2004) *Mind – A Brief Introduction*. Oxford University Press.
- Sen, Amartya (1977), “Rational Fools – A Critique of the Behavioral Foundations of Economic Theory,” *Philosophy & Public Affairs*, 6(4): 317-344

- Shane, Scott (1993) "Cultural influences on national rates of innovation." *Journal of Business Venturing*, 8(1): 59-73
- Shane,S.; Venkataraman S. (2000) "The Promise of Entrepreneurship as a Field of Research." *Academy of Management Review*, 25(1):217-226
- Smallbone, David; Welter, Friedericke (2001) "The Distinctiveness of Entrepreneurship in Transition Economies." *Small Business Economics*, 16: 249-262
- Smith, Adam (1759) *The Theory of Moral Sentiments*.
- Smith, John M. (1982), *Evolution and the Theory of Games*, Cambridge University Press.
- Stigler, George; Becker, Gary. 1977. De Gustibus Est Non Disputandum, *American Economic Review*, 67(2), 76-90.
- Tabellini, Guido (2010) Culture and Institutions: Economic Development in the Regions of Europe. *Journal of European Economic Association*, 8(4): 677-716
- Theodossou, I. 1998. The effects of low pay and unemployment on psychological well-being: A logistic regression approach. Journal of Health Economics, 17: 85-104*
- Todd, Peter M.; Gigerenzer, Gerd and the ABC Research Group (1999) *Simple Heuristics That Make Us Smart*. Oxford University Press.
- Tullock, G., (1967), "The Welfare Costs of Tariffs, Monopolies, and Theft," *Western Economic Journal*, 5, 224-32.
- Tyson, Laura d'Andrea (1994) "Promoting Entrepreneurship in Eastern Europe." *Small Business Economics*, 6: 165-184
- Uhde, Nicole (2009) Output Effects of Infrastructures in East and West German States. Available at SSRN: <http://ssrn.com/abstract=1425554>
- Uhlaner, Lorraine; Thurik, Roy (2004) "Post-Materialism: A Cultural Factor influencing Total Entrepreneurial Activity across Nations." *Papers on Entrepreneurship, Growth and Public Policy* no 07-2004. Max Planck Institute of Economics, Jena, Germany
- Utsch, Andreas (2004) *Psychologische Einflussgrößen von Unternehmensgründung und Unternehmenserfolg* (Dissertation)
- Veblen, Thorstein. 1919. Why is Economics not an Evolutionary Science. Reprinted (1961) in *The Place of Science in Modern Civilization and other Essays*. Russel & Russel

Verba, Sidney; Nie, Norman H. (1987), *Participation in America – Political Democracy and Social Equality*, University of Chicago Press

Wagner, Richard (2006) “States and the Crafting of Souls.” *Journal of Economic Behavior & Organization*, 59(4): 516-524

Wagner, Richard E. (2007) *Fiscal Sociology and the Theory of Public Finance*. Edward Elgar

Wagner, Richard. 2006. States and the Crafting of Souls. *Journal of Economic Behavior and Organization*, 59(4), 516-526

Wagner; Gert G. et al (2007) “The German Socio-Economic Panel Study (SOEP) – Scope, Evolution and Enhancements.” *Journal of Applied Social Science Studies*, 127(1): 139-169

Weingast, B.; Moran, M. (1983), “Bureaucratic Discretion or Congressional Control?” *Journal of Political Economy*, 91:765-800

Wennekers, Sander (2006) *Entrepreneurship at Country Level – Economic and Non-economic Determinants*. Erasmus Research Institute of Management

Wittman, Donald (1997) *The Myth of Democratic Failure – Why Political Institutions are Efficient*. University of Chicago Press

## **Curriculum Vitae**

Petrik Runst completed his Bachelor's degree in law, economics, and social sciences at the University of Erfurt, Germany in 2006. He received his Master's degree in economics from the University of Nottingham in 2008.