

# The Shadows of the Past:

## Implicit Institutions and Entrepreneurship

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# **The Shadows of the Past:**

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### **Abstract**

We provide empirical evidence that social norms and values related to competition and self-reliance that are developed under a socialist regime persist after the regime's breakdown and that these implicit norms hinder the development of an entrepreneurial spirit. To separate the effect of implicit norms from formal institutions, we look at East Germany, which adopted the formal institutions of a market economy overnight when unifying with West Germany. We show that persistent differences in social norms and values between East and West Germans can be explained by past socialist socialization rather than by individual characteristics and differences in economic development.

**Keywords:** Implicit Institutions, Entrepreneurship, Socialism, Capitalism

**JEL classification:** L26; A13; P39

## **1. Introduction**

Former Eastern-Bloc countries in Central and Eastern Europe (CEE) have experienced dramatic changes in the last several years. After the Eastern Bloc collapsed, most of the currently existing states quickly adopted the explicit institutions of Western market economies, which translated into higher growth rates over the last years. Nevertheless, the socialist past of these economies still casts a shadow over their current development, posing an obstacle to the ongoing transition process. The experience of more than 40 years of central planning heavily affected the economic structures in these countries, destroyed local networks, and crowded out entrepreneurial spirit, which eventually led to the systems' economic collapse (cf. Audretsch 2007). An entrepreneurial spirit is at least in part shaped by societal norms and values related to competition and self-reliance. Values and norms developed over several decades of socialist education and socialization in a centrally planned economy will not change overnight. Consequently, the lack of entrepreneurial spirit may still be present today and have a dampening effect on these countries' growth path.

In this paper, we provide empirical evidence that social norms and values related to competition and self-reliance as developed under a socialist regime are indeed still present today and that they do hinder the development of an entrepreneurial spirit. This task is not without its complications as most Eastern European transition economies did not change all their institutions overnight but underwent a transition process during which changes in explicit institutions might have simultaneously affected implicit institutions and vice versa. To overcome this simultaneity, we look at one special case among the former member states of the Eastern Bloc—East Germany—which literally adopted the institutions of a market economy overnight when unifying with West Germany.

Our analysis shows that East Germans living in the regions of the former socialist GDR adhere to less market-friendly implicit institutions than their West German counterparts who have always lived in the democratic FRG. These shadows of the past loom large and are not explained by individual characteristics or by differences in

economic development between East and West Germany. To further assess whether the analyzed differences in values and attitudes related to competition and self-reliance affect individuals' entrepreneurial spirit, we test the impact of these implicit institutions in the context of an occupational choice equation. After controlling for differences in the economic conditions in East Germany that result from ongoing structural change, we find that East Germans are even more likely to be entrepreneurs than are West Germans and this effect becomes even stronger if we control for differences in norms and values. To illustrate this, consider the statement: "Rank differences are performance based and therefore acceptable." Here, switching from disagreement to agreement results in a 1.9 percentage point increase in the propensity to become an entrepreneur. In other words, if East Germans had the same mindset as West Germans on statements of this nature, the share of entrepreneurs in East Germany would increase by roughly 0.17 percentage points, which is an economically relevant effect considering that in our data set 10.6 percent of all individuals are entrepreneurs while 89.4 percent are employed. Overall, these results suggest that implicit institutions as shaped by the socialist regime of the former GDR, in addition to poor economic conditions, deter East Germans from entrepreneurship even years after formal institutions converged due to German Reunification.

What we accomplish in this paper is to show a plausibly causal effect of the socialist treatment on individuals' norms and values. We can do this because of the natural experiment character of the German unification and because we have available a rich sociological data set that contains information on a wide variety of individuals' value sets. However, we are cautious about interpreting the effect of implicit institutions on individual decisions to be an entrepreneur as causal since we cannot exclude unobserved individual effects in this occupational choice estimation. Nevertheless, we believe that our results are interesting because they clearly show that past norms and values cast their shadow into the future and that this might explain why transition processes take longer than would be expected if they involved only an economic aspect.

The remainder of the paper proceeds as follows. Section 2 elaborates on the effect of the formation of implicit institutions in socialist countries, particularly in the GDR. Section 3 links this to the effect of implicit institutions on entrepreneurship. Section 4

provides more details on the data, introduces our empirical strategy, and discusses our results. Section 5 concludes.

## **2. Socialist Regimes and Implicit Institutions**

The socialist states of the Eastern Bloc were governed by illiberal regimes characterized by central planning, one-party rule, and persecution of dissidents. Yet these states seemed somewhat liberal compared to the German Democratic Republic (GDR). For example, whereas most other CEE states began introducing at least moderate reforms in the late 1980s, the government of the GDR stubbornly refused to deviate from past practice.<sup>1</sup> The obstinacy of the GDR government was trenchantly criticized by Mikhail Gorbachev, at that time General Secretary of the Communist Party of the Soviet Union, when visiting Erich Honecker, Chairman of the Council of State of the GDR in East Berlin, to celebrate the 40<sup>th</sup> anniversary of the German Democratic Republic. “Life punishes those who delay,” Gorbachev warned, but was ignored. One month later, the Berlin Wall fell and the socialist regime collapsed—just like all the other illiberal regimes of the Eastern Bloc.

Until its breakdown, the GDR regime was dominated by the Socialist Unity Party of Germany (SED).<sup>2</sup> This party successfully blurred the distinction between the governmental sphere and the private sphere. The SED nationalized private equity, centralized the press, brought social organizations into line; in short, it dominated the public decision-making process. A communistic state was the party’s stated goal. Hence education and (state-organized) socialization was aimed at creating the socialist citizen, understood as a good follower of the regime. To achieve this aim, the socialist party not only established a variety of organizations targeted at structuring public life, ranging from the socialist allotment club to plant-specific militia units, it also set up a comprehensive system of spying and denunciation, associated with the secretly operating State Security Police of the GDR (Stasi) in order to persecute dissenters.

Hence education and socialization were controlled by the state to a fairly high degree. Nor was education restricted to just children and adolescents. Minors were educated in day care facilities, schools, and in the socialist youth organization (FDJ). Adults

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<sup>1</sup> For a discussion, see Boyer (2007).

received their socialist education in the state-owned companies and cooperatives where they worked and at public cultural facilities. Marxism as scientific method and Marxist economic theory were prominent subjects. Furthermore, people were also taught that they should cherish the collective more than the individual, trust the Socialist party completely, and believe that the state was always acting in their best interests. This education was complemented by injunctions and warnings about the “decadent” and “imperialistic” West.<sup>3</sup>

People were “treated” with this socialist propaganda for more than one generation and it is hard to believe that 40 years of treatment with Marxist theory and communist ideology would not affect their worldview. Their constant indoctrination, observation, and experiences with the peculiarities of a centrally planned economy, as well as being witness to steady opposition toward the Western world should have influenced peoples’ beliefs about the role of the state, their role as an individual within society, and their expectations about which goals they might and should achieve. Hence the values and norms, i.e., the implicit institutions of the GDR society, were deliberately manipulated. Since implicit institutions develop rather slowly, we investigate in this paper whether implicit institution in East Germany still show effects of the socialist treatment. Furthermore, since the GDR system was explicitly opposed to the market economy in general and entrepreneurship in particular, we assess whether norm and value differences between East and West Germany translate into differences in the propensity to become an entrepreneur.

### **3. Implicit Institutions and Entrepreneurship**

Following North (1990), there are at least two kinds of institutions that can be discerned. *Explicit institutions*, such as property rights, contracts, or laws, provide the framework for market interaction. Explicit institutions are usually codified, generally known, and deviance is externally sanctioned. *Implicit institutions* are much more amorphous. They consist of social norms and values that develop over time, change rather slowly, and hence reflect the traditions of social groups (Halaby 2003; Alesina and Fuchs-Schündeln 2007; Rainer and Siedler 2009; Bauernschuster and Rainer 2010). Although they are rarely codified and obedience cannot be externally enforced,

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<sup>2</sup> For a discussion, see Malycha and Winters (2009).

implicit institutions can effectively constrain individual economic choices, since deviance is sanctioned by the social environment, i.e., by family, friends, and acquaintances.

We are interested in an individual's occupational choice, particularly the choice of becoming an entrepreneur. This choice is first and foremost influenced by factors linked to the person of the would-be entrepreneur at the micro level. Entrepreneurs are in general less risk averse (Kihlstrom and Laffont 1979), need a broad set of skills (Lazear 2005), and are able to spot an opportunity in the market (Kirzner 1973) and skim off rents (Baumol 1990). They are talented in raising financial resources (Michelacci and Silva 2007; Guiso et al. 2004) and have exceptional networking abilities (Sanders and Nee 1996; Stuart and Sorenson 2005). Overall, entrepreneurs are motivated to set up their own business for reasons related to self-realization (Schumpeter 1912), since they have a preference for independence (Blanchflower and Oswald 1998; cf. Parker 2004).

Nonetheless, the choice to become an entrepreneur is not exclusively determined by individual factors. Entrepreneurs use their skills and talents to maximize their income over the lifetime and opportunities to realize profits are to a large extent affected by explicit institutions. When the formal hurdles to starting a firm are high and risk-returns are low, entrepreneurship can be less attractive and individuals may prefer wage work (Hamilton 2000; Parker and van Praag 2010). Hence similar individuals with the same psychological traits and entrepreneurial skills might choose self-employment in one context and stay dependently employed in another, dependent on the economic framework provided by explicit institutions. During the Cold War, this phenomenon was most obvious: it was virtually impossible to become an entrepreneur in the socialist countries due to legal constraints, whereas similar individuals did set up their own businesses in the Western countries.

Implicit institutions, in contrast, are the mostly unwritten rules of society and social groups. Unlike explicit institutions, they are not legally binding. Nevertheless, it could be costly to contravene the norms and values imposed by the social environment since peers might sanction deviant behavior with a consequent depreciation of social

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<sup>3</sup> For an overview of the education system in the GDR, see Riphahn and Truebswetter (2010). Marquardt (1995) presents an extensive overview of the role of ideology in the GDR.

capital. Since implicit institutions rest on the normative consensus of a social group, they provide a benchmark for evaluating one's actions, as well as provide an indication of the opportunities and risks one may face in market interactions. With respect to the individual, implicit institutions contribute to the formation of preference structure and self-image. Accordingly, from an individual's perspective, implicit institutions result from exposure to societal norms and values and are strongly influenced by the individual's education and overall socialization. Consequently, implicit institutions have a crucial impact on the individual's economic decisions and actions (North 1991) by shaping the person's view of *who he or she is* and what the individual and others *should or should not do* (Berhard et al. 2006). Particularly, they affect an individual's tendency toward or away from entrepreneurship (Miller and Swanson 1958; Falck et al. 2010).

With regard to the choice to become an entrepreneur, implicit institutions can be thought of as weighting factors for individual preferences and constraints. A self-reliant individual might, e.g., value independence even more highly when implicit institutions support this view. On the other hand, a risk-averse individual might hesitate to take risks when risk aversion is considered a social value. Hence implicit institutions influence the individual's perception of her economic environment, which is ultimately determined by explicit institutions. However, the effects of external and internal institutions might be difficult to disentangle since changes in the one dimension are likely to be correlated with adjustments in the other one. To overcome this endogeneity, the following section exploits the event of German Reunification in which East Germany adopted West German explicit institutions quasi overnight. This exogenous shock allows us to compare the norms and values of East Germans who underwent socialist treatment with West Germans who did not in the context of similar explicit institutions. In doing so, we can identify a causal effect of socialist education and socialization on individuals' norms and values. In a second step, we investigate individuals' choice to become an entrepreneur in the context of different implicit institutions. Given the socialist regime's aversion toward the market economy, we suspect that individuals who lived under this regime have less entrepreneurial spirit and hence are less likely to choose self-employment than their fellow citizens in West Germany.



## 4. Empirical Analysis

### 4.1 Data

To explore our hypothesis that implicit institutions developed under the socialist regime of the former GDR negatively influence entrepreneurship, we first show that the socialist regime in the former GDR really did have an effect on societal norms and values related to competition and self-reliance. Second, we collect evidence that these “manipulated” implicit institutions are indeed negatively associated with an individual’s propensity to become an entrepreneur.

The German General Social Survey (ALLBUS) is a valuable data source in this pursuit.<sup>4</sup> The data set is based on biennial, representative surveys of the German population conducted through personal interviews. ALLBUS covers a wide range of topics pivotal to empirical research in the social sciences. A core set of questions is asked in every wave of the survey, with various sets of additional questions added in different years.<sup>5</sup> Since we are interested in the occupational choices of interviewees, we retain only entrepreneurs and employed workers in our sample. Furthermore, we drop all observations from non-Germans and from individuals living in Berlin in order to enhance our East versus West German comparison.<sup>6</sup> We use the 1991 wave, which contains information on individual risk attitudes toward job security, and the 1994, 1998, 2000, and 2004 waves, which contain information on individuals’ norms, values, and attitudes related to competition and self-reliance. Table 1 provides an overview of the eight variables analyzed in this paper that capture values, norms, and attitudes arguably related to competition and self-reliance.

Originally, interviewees could express their level of agreement with statements 1) to 7) in Table 1 by picking one of four responses: “fully agree,” “rather agree,” “rather don’t agree,” and “don’t agree at all.” To ease interpretation, we group the two agreement levels “fully agree” and “rather agree” together to represent individuals

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<sup>4</sup> The ALLBUS program was financially supported by the German Research Foundation (DFG) from 1980 to 1986 and in 1991. Further surveys were financed on a national and federal state (*Laender*) level via the GESIS network (*Gesellschaft Sozialwissenschaftlicher Infrastruktureinrichtungen*).

<sup>5</sup> Terwey et al. (2007) provide detailed information on the ALLBUS surveys in general and present all variables available in the cumulated data set from 1980 until 2006.

<sup>6</sup> For our regional covariates, we would have been especially difficult to clearly assign values to Berlin West (which was part of the former Federal Republic of Germany) and Berlin East (which was part of the former German Democratic Republic).

who agree with the respective statement. The two disagreement levels “rather don’t agree” and “don’t agree at all” are grouped together to capture individuals who disagree. For question 8), we condense the seven original categories running from 1 (“not important at all”) to 7 (“very important”) into two categories, where the first category is for individuals who chose 7 (“very important”), and the second category is for everyone else.<sup>7</sup> We then create eight dummy variables, which take on the value of unity for interviewee replies reflective of an entrepreneurial orientation; zero otherwise. Specifically, we expect entrepreneurial individuals to disagree with statements 1) and 2), whereas they should agree with statements 3) through 7). As to question 8), we know from both the theoretical and empirical literature that entrepreneurs are less risk averse than employees. Thus, we would expect entrepreneurial individuals to give lower weight to job security than do non-entrepreneurial individuals.

**Table 1:** Norms, values, and attitudes expected to relate to entrepreneurship

<b>Do you agree?</b>
1) <i>“The state has to care for the sick, poor, old, and unemployed.”</i>
2) <i>“Everybody should get the money he needs—regardless of any performance.”</i>
3) <i>“Income differences give incentives to work hard.”</i>
4) <i>“Rank differences are performance based and therefore acceptable.”</i>
5) <i>“Differences in social status are just—by and large.”</i>
6) <i>“Economic profits are distributed fairly in Germany.”</i>
7) <i>“The current social security system reduces work incentives.”</i>
<b>What would you say?</b>
8) <i>“How important is a secure job to you?”</i>

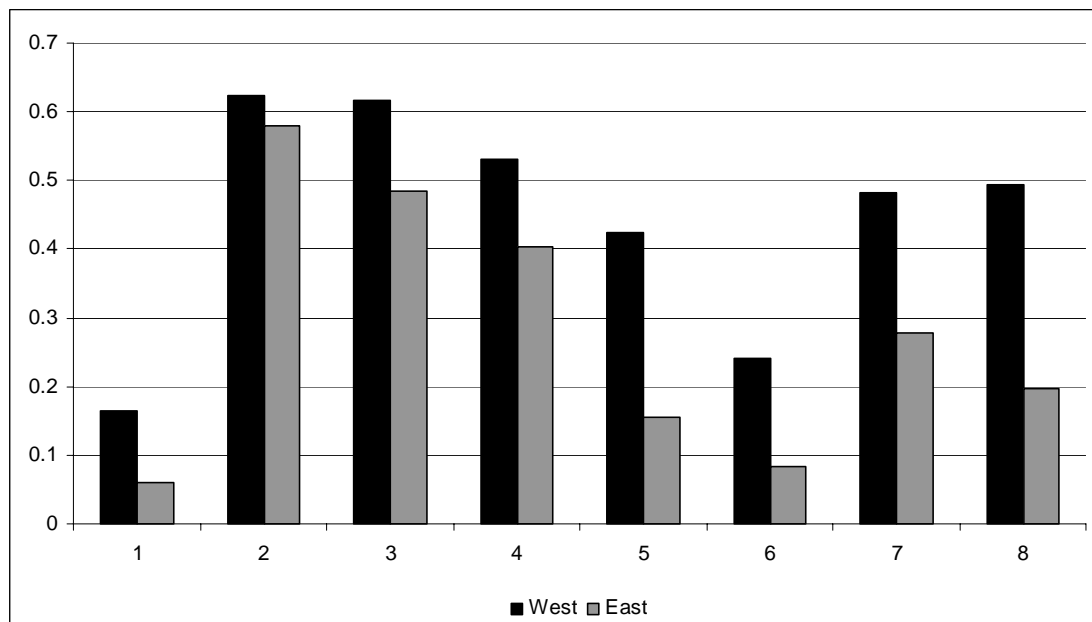
## 4.2 Norms, Values, and Attitudes of East and West Germans

Descriptive statistics for the norms, values, and attitudes of East and West Germans are shown in Figure 1. East Germans show significantly lower levels of attitudes related to competition and self-reliance than West Germans. For example, only 6 percent of East Germans disagree with the statement that the state should care for the sick, poor, and unemployed, while this number is 16 percent for West Germans. Sixty-two percent of West Germans hold the opinion that income differences provide an incentive to work hard. This number drops to 49 percent for East Germans.

<sup>7</sup> The mean of the original variable was 6.4 with a standard deviation of 1.0. Thus, grouping the original information with a dummy variable, which is unity for “7” and zero for the rest, seems

Similarly, while 53 percent of West Germans agree with the statement that rank differences are performance based and therefore acceptable, only 40 percent of East Germans think this is true. Moreover, whereas 48 percent of West Germans think that the current social security system reduces work effort, only 28 percent of East Germans do so. Finally, 49 percent of West Germans evaluate the importance of a secure job lower than the highest category “very important,” whereas the corresponding figure for East Germans is 20 percent. It thus appears that East Germans exhibit fewer competitive preferences than West Germans and are rather in favor of the state taking responsibility for reducing inequality.

**Figure 1:** Norms and values differences between East and West Germans: Descriptives



Notes: The figure presents mean levels of disagreement with statements 1) and 2) of Table 1, mean levels of agreement with statements 3) through 7) of Table 1, and the average ratio of persons choosing the highest category for the job security statement 8) of Table 1. Statement 1): N = 3,695 for West and N = 2,349 for East; statement 2): N = 3,652 for West and N = 2,296 for East; Statement 3): N = 4,476 for West and N = 2,652 for East; statement 4): N = 4,466 for West and N = 2,669 for East; statement 5): N = 4,483 for West and N = 2,704 for East; statement 6): N = 1,887 for West and N = 881 for East; statement 7): N = 1,920 for West and N = 889 for East; statement 8): N = 706 for West and N = 852 for East. The observations for statements 1) and 2) are drawn from the years 1991, 1994, 2000, and 2004. The observations for statements 3), 4), and 5) are drawn from the years 1991, 1994, 1998, 2000, and 2004, whereas the observations for statements 6) and 7) are drawn from the years 1991 and 2004. The observations for statement 8) are drawn from the year 1991.

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reasonable.

Although these descriptive statistics clearly support our hypothesis that the socialist regime in the former GDR made people more dependent on the state and less reliant on their own skills and abilities, they should be interpreted with great caution. East and West Germans might differ in many other characteristics that are correlated with the norms and values we are interested in. Unobserved heterogeneity could account for the norm and value differences rather than the socialist past.

To address the possibility that it is unobserved heterogeneity driving the value differences, we run multivariate regressions where we take the norm and attitude variables as our outcomes and include a wide range of control variables on an individual level. Specifically, we control for gender, age (and its square), education (lower secondary, medium secondary, higher secondary, or university), and family status (married and living with spouse or single). Furthermore, to proxy wealth, we include an individual's net monthly income<sup>8</sup> as well as a dichotomous variable that is unity for house or flat owners and zero for tenants. The house owner variable should also be a good proxy for an individual's mobility (DiPasquale and Glaeser 1999). Moreover, we account for employment history by including a categorical control variable that describes an individual's unemployment spells during the 10 years preceding the interview (none, less than a year, more than a year). Keep in mind that our sample is restricted to entrepreneurs and white- and blue-collar workers. Our variable of interest is a dummy variable for East Germany. In our multivariate regressions we give equal weight to East and West Germany and cluster the standard errors at the federal state level. The results of probit regressions are displayed in Table 2.

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<sup>8</sup> We compute real income by using the income in 2005 as the baseline and adjusting nominal income information from other years by the inflation rate.

**Table 2:** Norms and value differences between East and West Germans: Multivariate evidence I

	Value (1)		Value (2)		Value (3)		Value (4)		Value (5)		Value (6)		Value (7)		Value (8)	
	mfx	std.err.	mfx	std.err.	mfx	std.err.	mfx	std.err.	mfx	std.err.	mfx	std.err.	mfx	std.err.	mfx	std.err.
East	-.100 ***	.009	-.027 ***	.009	-.105 ***	.010	-.089 ***	.015	-.210 ***	.018	-.114 ***	.013	-.174 ***	.041	-.259 ***	.026
Female	-.017 **	.007	-.031 **	.015	-.059 ***	.021	-.053 ***	.021	-.029 **	.013	-.007	.024	-.056 ***	.019	.034 *	.020
Education																
Medium secondary education	.040 ***	.010	.128 ***	.018	-.091 ***	.015	-.094 ***	.013	-.004	.016	-.020	.015	-.025	.019	.019	.019
Higher secondary education	.057 ***	.016	.146 ***	.026	-.108 ***	.029	-.098 **	.039	-.011	.026	-.057 **	.024	-.050	.037	.101 **	.042
University education	.054 ***	.014	.163 ***	.030	-.101 ***	.019	-.166 ***	.019	-.022 **	.010	-.033 *	.019	-.088 ***	.023	.166 ***	.043
Age	.008 ***	.002	.008 **	.004	-.010 *	.006	-.011 ***	.004	-.005 **	.002	-.011 ***	.004	-.010	.007	-.014 *	.007
Age squared (*1,000)	-.068 ***	.022	-.113 ***	.041	.126 *	.073	.156 ***	.051	.068 ***	.024	.136 ***	.048	.127	.083	.157 *	.085
Unemployment in previous 10 years																
Less than a year	.029	.018	-.012	.029	-.053 **	.022	-.053 **	.025	-.022	.019	-.003	.019	.033	.044	.023	.046
More than a year	.012	.019	-.087 ***	.025	-.068 ***	.019	-.061 **	.025	-.070 ***	.015	-.030	.022	-.054	.041	.002	.078
Married	-.002	.011	-.001	.017	.027 **	.014	.031 *	.018	-.003	.010	.008	.009	-.033	.020	-.020	.050
House or flat owner	.014 *	.009	.059 ***	.013	.015	.019	.042 **	.017	.032 **	.016	.027	.018	.016	.015	-.003	.025
Log real personal income	.030 ***	.007	.043 ***	.011	.024	.016	.024 **	.011	.090 ***	.013	.064 ***	.013	.021	.022	.024	.024
Year																
1994	.032 ***	.009	.067 ***	.024	-.078 ***	.028	-.009	.026	-.073 ***	.015						
1998					-.037	.024	-.055 *	.030	-.109 ***	.015						
2000	.057 ***	.017	-.020	.039	-.047 *	.028	.031	.023	-.028	.020						
2004	.080 ***	.011	.085 ***	.029	-.046 **	.023	.029	.027	-.081 ***	.025	-.075 ***	.021	.153 ***	.029		
N	5,100		5,025		5,914		5,916		5,966		2,390		2,424		1,289	
Pseudo R <sup>2</sup>	0.0878		0.0342		0.0312		0.037		0.1021		0.0823		0.0583		0.0963	

Notes: The table reports probit average marginal effects; standard errors are clustered at the federal state level. East and West Germany are given equal weight. The omitted categories are no/lower secondary education and no unemployment spells during the last 10 years. In columns (1) through (5) and (8), the omitted year category is 1991. In columns (6) and (7), the omitted year is 1994. Our outcome variables correspond to the eight values and attitudes presented in Table 1 and are all coded as dummy variables that take on the value of unity for interviewee replies reflective of an entrepreneurial spirit; zero otherwise. \*\*\*, \*\*, \* denote significance at the 1%, 5%, and 10% level, respectively.

The emerging picture is remarkably similar to the one seen in Figure 1. Controlling for a wide range of individual characteristics in multivariate regressions does not affect our previous descriptive result that East Germans exhibit norms and values that reflect less of a preference for competition and self-reliance than that found for their West German counterparts. As can be seen in column (1) of Table 2, the probability of disagreeing with the statement that the state should care for the sick, poor, and unemployed decreases by 10 percentage points for someone from East Germany. As another example, for East Germans, the probability of acknowledging that the current social security system reduces work effort is 17 percentage points lower than for West Germans. Indeed, comparing the descriptive statistics and the multivariate results in detail, we find that the size of the value gap is barely affected by the inclusion of individual control variables in a multivariate setting.

To this point, we can justifiably argue that the socialist regime in the former GDR created an environment in which societal norms and values negatively associated with entrepreneurship are prevalent. However, it could be argued that the substantial norm and value differences are mainly due to labor market heterogeneity, since, e.g., the level of unemployment is much higher while GDP per capita is much lower in East Germany than it is in West Germany. We already control for a wide range of individual characteristics and restrict our sample to entrepreneurs and blue- and white-collar workers, i.e., unemployed individuals are not included in our sample. Nevertheless, even for those who are employed, economic conditions may differ a great deal between East and West Germany, with the consequence that people living in East Germany might, for example, have a greater fear of unemployment than those living in West Germany, which would, of course, influence their norms and values. In short, we can easily imagine that individuals in economically poorer regions might have different norms and attitudes toward the role of the state and self-reliance than individuals living in prosperous regions. Therefore, in the next step, we investigate whether the norm and value differences are driven solely by regional heterogeneity, i.e., regional economic conditions that differ between East and West Germany, or whether the shadow of the socialist regime reaches deeper and farther.

To control for regional heterogeneity, we include the unemployment rate as well as GDP per capita in a federal state in our multivariate regressions.<sup>9</sup> The data are provided by the German Federal Statistical Office. Alesina and Fuchs-Schuendeln (2007) use net payments between federal states from the German regional transfer system (*Laenderfinanzausgleich*) and other regional financial

redistributions to control for regional heterogeneity in an investigation of preferences for redistribution. The figures of Alesina and Fuchs-Schuendeln (hereafter, AFS) are available for two years, 1997 and 2002, and are highly correlated with our regional control variables. Indeed, the correlation coefficient between the standardized unemployment rate and the AFS net transfers on a federal state level for 1997 (2002) is  $-.94$  ( $-.94$ ); the correlation coefficient between standardized GDP per capita and the AFS net transfers for 1997 (2002) is  $-.64$  ( $-.66$ ).

The results of our regressions that account for regional heterogeneity are presented in Table 3. In general, higher unemployment rates are associated with less self-reliance, higher inequality aversion, and stronger preferences for state intervention. For GDP per capita, the picture is more ambiguous. Most importantly, for seven out of eight attitude variables, we continue to find that East Germans differ from West Germans in the expected direction. Although in some cases the size of the East German coefficient decreases once we control for regional heterogeneity, the differences are still economically substantial and in six out of eight cases statistically significant at conventional levels.

If our value and norm differences are indeed due to the socialist regime in the former GDR, we should find these value differences not only on an aggregated regional level between East and West Germany, but individuals in every single East German federal state should be different from their West German counterparts. We test whether this is true by substituting our variable of interest, i.e., the East German dummy, by a vector of East German federal state dummies. The results of this exercise clearly support our hypothesis. As compared to their West German counterparts, individuals from every single East German federal state exhibit values and attitudes that reflect preferences against competition and self-reliance. The detailed results of these regressions are available from the authors upon request.

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<sup>9</sup> We standardize GDP per capita by taking GDP per capita of a federal state per year and dividing it by the average GDP per capita in the respective year. Unemployment rates are similarly standardized in our regressions.

**Table 3:** Norms and value differences between East and West Germans: Multivariate evidence II

	Value (1)		Value (2)		Value (3)		Value (4)	
	Mfx	std.err.	mfx	std.err.	mfx	std.err.	mfx	std.err.
East	-.062 ***	.023	.015	.044	-.101 ***	.026	-.100 **	.047
Unemployment rate	-.001	.028	-.117 **	.059	-.056 *	.034	-.046	.055
GDP per capita	.082 ***	.025	-.073 *	.041	-.069	.057	-.086 **	.039
N	5,100		5,025		5,914		5,916	
Pseudo R <sup>2</sup>	0.0899		0.0357		0.0317		0.0375	

	Value (5)		Value (6)		Value (7)		Value (8)	
	Mfx	std.err.	mfx	std.err.	mfx	std.err.	mfx	std.err.
East	-.095 ***	.031	-.141 ***	.040	-.098	.090	-.125 *	.069
Unemployment rate	-.094 ***	.030	.060	.055	-.067	.090	.008	.045
GDP per capita	.105 ***	.037	.031	.041	.074	.087	-.155 ***	.052
N	5,966		2,390		2,424		1,289	
Pseudo R <sup>2</sup>	0.104		0.0827		0.0588		0.0979	

Notes: The table reports probit average marginal effects; standard errors are clustered at the federal state level. East and West Germany are given equal weight. The following control variables are included: gender, age (and its square), education, previous unemployment spells, marital status, a dummy for house/flat owners, the logarithm of real personal income, and year dummies. Our outcome variables correspond to the eight values and attitudes presented in Table 1 and are all coded as dummy variables that take on the value of unity for interviewee replies reflective of an entrepreneurial spirit; zero otherwise. \*\*\*, \*\*, \* denote significance at the 1%, 5%, and 10% level, respectively.

Finally, we ask whether our self-reported values and attitudes truly reflect what individuals believe. Bertrand and Mullainathan (2001) point out that survey answers are not always very meaningful. To test whether our attitude variables reflect actual preferences, we draw on a strategy employed by AFS. They show that in those federal states where people exhibit stronger preferences for redistribution, the vote share of the leftist party is much higher than in other federal states where people are less in favor of redistribution. If our attitude variables are meaningful, they should be strongly correlated with voting behavior. Those who have stronger competitive preferences, are more self-reliant, and less dependent on the state should be more likely to vote for the more rightist and liberal parties (CDU or FDP), whereas their opposites should be more likely to vote for the more leftist parties (SPD or PDS<sup>10</sup>). Our micro data set allows us to test the relation between attitudes and voting behavior on an individual level.

In the ALLBUS survey, individuals are asked which party they would vote for if there were general elections the subsequent Sunday. We create two dummies as our outcome variables. The first takes on the value of unity for those saying they would vote for the more rightist/liberal parties (CDU and FDP); zero otherwise. The second outcome variable is unity for individuals stating they



would vote for the more leftist parties; zero otherwise. We include all covariates from the previous regressions, i.e., gender, age (and its square), education, previous unemployment spells, marital status, a dummy for house/flat owners, the logarithm of real personal income, and year dummies. The results of this exercise are displayed in Table 4. Clearly, we have multivariate evidence that our attitudes are truly meaningful since they are correlated with expressed voting behavior. To check the robustness of these associations, we used a different voting variable as our outcome, where individuals were asked to state which party they voted for in the last general elections. The results are virtually identical to those presented in Table 4.

In summary, our multivariate results convincingly show that implicit institutions as shaped by the socialist regime are still prevalent in the eastern parts of Germany even years after reunification; the past does indeed cast a shadow on the present. These differences in implicit institutions between East and West Germans are meaningful and are not explained by individual characteristics or by regional economic heterogeneity.

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<sup>10</sup> PDS is the successor party of the SED, the ruling party in the former GDR, whereas SPD has been the big labor party in West Germany.

**Table 4:** Implicit institutions and voting behavior

	Vote for PDS/SPD		Vote for PDS/SPD		Vote for PDS/SPD		Vote for PDS/SPD	
	(1)	(2)	(3)	(4)	(3)	(4)	(4)	(4)
	mf	std.err.	mf	std.err.	mf	std.err.	mf	std.err.
Values and attitudes								
(1)	-.097 ***	.025						
(2)	-.043 ***	.017						
(3)			-.008	.016				
(4)			-.039 **	.017				
(5)			-.095 ***	.018				
(6)					-.111 ***	.030		
(7)					-.073 ***	.024		
(8)							-.031	.035
Controls on individual level	Yes		Yes		Yes		Yes	
Controls on regional level	Yes		Yes		Yes		Yes	
Year dummies	Yes		Yes		Yes		Yes	
N	3,526		4,070		1,648		932	
Pseudo R <sup>2</sup>	0.0594		0.0658		0.0662		0.035	

	Vote for CDU/FDP		Vote for CDU/FDP		Vote for CDU/FDP		Vote for CDU/FDP	
	(5)	(6)	(7)	(8)	(7)	(8)	(8)	(8)
	mf	std.err.	mf	std.err.	mf	std.err.	mf	std.err.
Values and attitudes								
(1)	.092 ***	.024						
(2)	.045 ***	.017						
(3)			.050 ***	.016				
(4)			.090 ***	.016				
(5)			.149 ***	.016				
(6)					.167 ***	.029		
(7)					.138 ***	.023		
(8)							.123	.095
Controls on individual level	Yes		Yes		Yes		Yes	
Controls on regional level	Yes		Yes		Yes		Yes	
Year dummies	Yes		Yes		Yes		Yes	
N	3,526		4,070		1,648		932	
Pseudo R <sup>2</sup>	0.0609		0.0921		0.1034		0.0463	

Notes: The table reports probit average marginal effects using robust standard errors. The following control variables are included: gender, age (and its square), education, previous unemployment spells, marital status, a dummy for house/flat owners, the logarithm of real personal income, regional unemployment rate, regional GDP per capita, and year dummies. Our value variables correspond to the eight values and attitudes presented in Table 1 and are all coded as dummy variables that take on the value of unity for interviewee replies reflective of an entrepreneurial spirit; zero otherwise. \*\*\*, \*\*, \* denote significance at the 1%, 5%, and 10% level, respectively.

### 4.3 Occupational Choice and Entrepreneurial Attitudes

To assess whether the analyzed values and attitudes related to competition and self-reliance are indeed associated with the decision to become an entrepreneur, we include these implicit institution variables into an occupational choice equation. The estimated occupational choice model is:

$$\Pr(y_i = 1 | \cdot) = \alpha + \beta_1 v_i + X_i \beta_2 + \varepsilon_i, \quad (1)$$

where  $\Pr(y_i = 1 | \cdot)$  is the conditional probability of being an entrepreneur.  $y$  is an indicator variable that takes on the value of unity if individual  $i$  is an entrepreneur and 0 if individual  $i$  is either a white- or blue-collar worker.  $v$  is a dummy attitude variable, which is unity for individuals who exhibit values or attitudes we expect to be entrepreneurial and zero otherwise.  $X$  is a set of control variables that might influence an individual's occupational choice and values. Here, we include the same control variables as in our earlier regressions—gender, age (and its square), education, marital status, previous unemployment spells, the house/flat owner dummy, and year dummies—as well as our regional controls, i.e., unemployment rate and GDP per capita. In contrast to the previous specifications, we no longer include an individual's income since this variable is itself an outcome of occupational choice and thus would bias our results. Our occupational choice equation is estimated by simple probit models using heteroskedasticity robust standard errors.

In column (1) of Table 5, we present the results of a simple occupational choice model without any regional controls and without any value and attitude variables. The results are in line with previous empirical research in entrepreneurship. Women are less likely to become entrepreneurs than men. Education is positively associated with the likelihood of becoming an entrepreneur. Although not statistically significant, there is a tendency for experience to pay off, i.e., age is positively associated with entrepreneurship. Individuals with short unemployment spells during the last 10 years are more likely to become entrepreneurs than those without any unemployment spells. It also appears that singles are more likely to become entrepreneurs, possibly because any risk involved in such an endeavor is theirs alone, that is, they are not responsible for the safety, financial or otherwise, of a partner. Alternatively, one could say that being married shows a time allocation preference for family. House or flat owners are more likely to become entrepreneurs, perhaps due to the immobility implied by such ownership, which might well hinder an individual from changing occupational status. Finally, we find that after accounting for these individual characteristics, the East German dummy is negative, but not statistically significant. Given all our control variables, an East German's propensity to become an entrepreneur is roughly 1 percentage point lower than that of a comparable West German. This effect is economically highly relevant considering that in our data set 10.6 percent of all individuals are entrepreneurs while 89.4 percent are blue- or white-collar workers.

Once we control for regional heterogeneity by including the unemployment rate and GDP per capita at the federal state level, the East German dummy switches its sign, whereas none of the

other covariates is much affected. The positive and statistically significant coefficient of the East German dummy in column (2) of Table 5 suggests that the poor economic situation in East Germany deters individuals from becoming entrepreneurs. Or, in other words, if East Germans faced the same unemployment rate and GDP per capita as West Germans, they would be even more likely to become entrepreneurs than are West Germans. Thus, we can conclude that one aspect of the legacy of the socialist regime is economic conditions which are not favorable for entrepreneurship.

We now use our value and attitude variables to investigate whether the implicit institutions shaped by the socialist regime are another channel through which entrepreneurship is negatively affected. To make use of all information on the value and attitude variables available over the years, we run four estimations, where each single estimation includes, in addition to all controls, only those attitude variables having a perfect overlap with respect to the years they were collected. Specifically, we run a probit occupational choice model on repeated cross-sectional data of the years 1991, 1994, 2000, and 2004, where information on the value and attitude variables 1) and 2) in Table 1 is available (see column (3) of Table 5). Column (4) of Table 5 presents the results for an occupational choice model using repeated cross-section data for the years 1991, 1994, 1998, 2000, and 2004, where we have information on our attitude variables 3), 4), and 5) in Table 1. Another probit estimation is executed for the years 1994 and 2004 where we have information on the attitude variables 6) and 7) in Table 1 (see column (5) of Table 5). Finally, in column (6), we run a last probit equation of the year 1991 using the job security variable 8) in Table 1.

All coefficients of our implicit institution variables show the expected sign, with six out of eight being statistically highly significant. Again, the size of the value and attitude coefficients is economically substantial.<sup>11</sup> For example, switching from agreeing with the statement that the state has to care for the sick, poor, and unemployed to disagreeing is associated with an increase in the likelihood of becoming an entrepreneur of 5.6 percentage points. Remember that for this variable, the disagreement gap between East and West Germans was roughly 10 percentage points (see Table 1). Accordingly, if East Germans reached the attitude level of West Germans, the share of entrepreneurs in East Germany would increase by 0.5 percentage points. With respect to the statement that rank differences are performance based and therefore acceptable, switching from disagreement to agreement results in a 1.9 percentage point increase in the propensity to become an entrepreneur. In other words, if East Germans reached the average West German attitude level on

this issue, the share of entrepreneurs in East Germany would increase by roughly 0.17 percentage points.

Most interestingly, the coefficient of the East German dummy remains positive and, importantly, almost doubles compared to regressions without the attitude variables for the respective subsamples.<sup>12</sup> From this finding we can conclude that East Germans would be more likely than West Germans to become entrepreneurs if they had the same entrepreneurial attitudes. Hence, implicit institutions as shaped by the socialist regime in the former GDR, in addition to poor economic conditions, continue to deter East Germans from entrepreneurship even years after formal institutions converged under German Reunification.

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<sup>11</sup> Introducing interaction terms of the value and attitude variables and the East dummy confirms that the association between our implicit institutions and entrepreneurship is not different for East and West Germans.

<sup>12</sup> The regressions on these subsamples from the specific years are available from the authors upon request.

**Table 5:** The association of implicit institutions and entrepreneurship

	Entrepreneur (1)		Entrepreneur (2)		Entrepreneur (3)		Entrepreneur (4)		Entrepreneur (5)		Entrepreneur (6)	
	mfx	std.err.	Mfx	std.err.	mfx	std.err.	mfx	std.err.	mfx	std.err.	mfx	std.err.
East	-0.009	.006	.037 **	.018	.062 **	.027	.064 **	.025	.107 **	.048	.027	.043
Value and attitude variables												
(1)					.056 ***	.011						
(2)					.024 ***	.008						
(3)							.011	.008				
(4)							.019 **	.008				
(5)							.035 ***	.008				
(6)									.021	.015		
(7)									.057 ***	.012		
(8)					tab						.036 ***	.013
Unemployment rate			-.022	.019	-.008	.026	-.003	.025	-.031	.052	.006	.036
GDP per capita			.060 ***	.019	.095 ***	.025	.108 ***	.024	.121 ***	.046	.047	.042
Female	-.036 ***	.006	-.036 ***	.006	-.029 ***	.008	-.033 ***	.008	-.030 **	.013	-.013	.013
Education												
Medium secondary education	.041 ***	.006	.040 ***	.006	.034 ***	.009	.049 ***	.008	.054 ***	.014	.030 **	.014
Higher secondary education	.074 ***	.011	.074 ***	.011	.079 ***	.017	.089 ***	.016	.067 ***	.024	.102 ***	.035
University education	.087 ***	.008	.086 ***	.008	.071 ***	.012	.093 ***	.011	.079 ***	.018	.066 ***	.021
Age	.002	.002	.002	.002	.004	.002	.006 **	.002	.002	.004	.008	.005
Age squared (*1,000)	.020	.019	.019	.020	-.002	.028	-.025	.027	.031	.044	-.080	.061
Prev. Unemployment												
Less than a year	.030 ***	.010	.030 ***	.010	.057 ***	.015	.054 ***	.014	.079 ***	.022	.073 **	.036
More than a year	-.017 *	.010	-.017 *	.010	-.012	.014	-.012	.013	-.006	.021	-.038	.027
Married	-.011 *	.007	-.010	.007	-.015 *	.009	-.012	.009	-.004	.014	-.024	.017
House owner	.039 ***	.006	.039 ***	.006	.045 ***	.008	.048 ***	.008	.042 ***	.013	.061 ***	.015
Year dummies	Yes		Yes		Yes		Yes		Yes		Yes	
N	11,557		11,557		5,742		6,655		2,668		1,468	
Pseudo R <sup>2</sup>	0.0582		0.0597		0.0805		0.0832		0.0806		0.0932	

Notes: The table reports probit average marginal effects using robust standard errors. The omitted categories are no/lower secondary education and no unemployment spells during the last 10 years. Our value and attitude variables correspond to the eight values and attitudes presented in Table 1 and are all coded as dummy variables that take on the value of unity for interviewee replies reflective of an entrepreneurial spirit; zero otherwise. \*\*\*, \*\*, \* denote significance at the 1%, 5%, and 10% level, respectively.

## 5. Conclusion

Our analysis shows that East Germans living in the regions of the former socialist GDR adhere less strongly to social norms and values related to competition and self-reliance than do their West German counterparts. These effects of the socialist regime are large in size and are not explained by individual characteristics or by differences in economic development between East and West Germany. Our findings are in line with those of Alesina and Fuchs-Schündeln (2007), who show that preferences for redistribution differ between East and West Germans after reunification, and with those of Bauernschuster and Rainer (2010), who show that differences in sex role attitudes between East and West Germans remain persistent after reunification.

We investigate the economic relevance of these different values and norms by comparing individuals' entrepreneurial spirit and we find that the social norms and values related to competition and self-reliance are negatively associated with entrepreneurship. Our results further show that, conditional on these norms and values as well as conditional on local economic development, we would expect more entrepreneurship in East Germany than in West Germany. This clearly shows that the continuing transition process in East Germany offers a great deal of entrepreneurial opportunity that is, however, not being exploited due to the region's unfavorable economic development and the shadows of its past, i.e., the persistence of less market-friendly implicit institutions.

## References

- Alesina, A. and Fuchs-Schündeln, N. (2007). "Good Bye Lenin (Or Not?)—The Effect of Communism on People's Preferences," *American Economic Review*, 97, pp. 1507–1528.
- Audretsch D. B. (2007). *The Entrepreneurial Society*, Oxford: Oxford University Press.
- Bauernschuster, S. and Rainer, H. (2010). "From Politics to the Family: How Sex-Role Attitudes Keep on Diverging in Reunified Germany," CESifo Working Paper Nr. 2957.
- Baumol, W. J. (1990). "Entrepreneurship: Productive, Unproductive and Destructive," *Journal of Political Economy*, 98(5), pp. 893–921.
- Bertrand, M. and Mullainathan, S. (2001). "Do People Mean What They Say? Implications for Subjective Survey Data," *American Economic Review*, 91(2), pp. 67–72.
- Blanchflower, D. G. and Oswald, A. J. (1998). "What Makes an Entrepreneur?" *Journal of Labor Economics*, 16, pp. 26–60.

- Boyer, C. (2007). *Zur Physiognomie sozialistischer Wirtschaftsreformen: Die Sowjetunion, Polen, die Tschechoslowakei, Ungarn, die DDR und Jugoslawien im Vergleich*, Frankfurt am Main: Klostermann
- DiPasquale, D. and Glaeser, E. L. (1999). "Incentives and Social Capital: Are Homeowners Better Citizens?" *Journal of Urban Economics*, 45, pp. 354–385.
- Falck, O., Gold, R., and Heblich, S. (2010). "Entrepreneurship Education," in Audretsch D., Falck, O., Heblich S., and Lederer, A., *Handbook of Research on Innovation and Entrepreneurship*, Edward Elgar (forthcoming).
- Guiso, L., Sapienza, P., and Zingales, L. (2004). "The Role of Social Capital in Financial Development," *American Economic Review*, 94, pp. 526–556.
- Halaby, C. N. (2003). "Where Job Values Come From: Family and Schooling Background, Cognitive Ability, and Gender," *American Sociological Review*, 68, pp. 251–278.
- Hamilton, B. H. (2000). "Does Entrepreneurship Pay? An Empirical Analysis of the Returns to Self-Employment," *Journal of Political Economy*, 108(3), pp. 604–631.
- Kihlstrom, R. E. and Laffont, J.-J. (1979). "A General Equilibrium Entrepreneurial Theory of Firm Formation Based on Risk Aversion," *Journal of Political Economy*, 87, pp. 719–748.
- Kirzner, I. M. (1973). *Competition and Entrepreneurship*, Chicago, IL: University of Chicago Press.
- Lazear, E. P. (2005). "Entrepreneurship," *Journal of Labor Economics*, 23, pp. 649–680.
- Malycha, A, and Winters, P. J. (2009). *Die SED. Geschichte einer deutschen Partei*, Munich: C.H. Beck.
- Marquardt, B. (1995). Rolle und Bedeutung der Ideologie, integrativer Faktoren und disziplinierender Praktiken in Staat und Gesellschaft der DDR, Vol. 3., in: *Materialien der Enquête-Kommission „Aufarbeitung von Geschichte und Folgen der SED-Diktatur in Deutschland“ im Deutschen Bundestag*, Baden-Baden: Nomos.
- Michelacci, C. and Silva, O. (2007). "Why So Many Local Entrepreneurs?" *Review of Economics and Statistics*, 89, pp. 615–633.
- Miller, D. R. and Swanson, G. E. (1958). *The Changing American Parent. A Study in the Detroit Area*, New York: John Wiley and Sons.
- North, D. (1990). *Institutions, Institutional Change, and Economic Performance*, Cambridge, MA: Harvard University Press.
- North, D (1991). "Institutions," *Journal of Economic Perspectives*, 5, pp. 97–112.
- Parker, S. C. (2004). *The Economics of Self-Employment and Entrepreneurship*, Cambridge: Cambridge University Press.
- Parker S.C. and C.M. van Praag (2010). "Group Status and Entrepreneurship", *Journal of Economics and Management Strategy*, 19(4).



- Rainer, H. and Siedler, T. (2009). "Does Democracy Foster Trust?" *Journal of Comparative Economics*, 37 (2), 251–269.
- Riphahn, R. and Truebswetter, P. (2010), "The Intergenerational Transmission of Educational Attainment In East and West Germany", CESifo Conference on Education Economics, Munich.
- Sanders, J. M. and Nee, V. (1996). "Immigrant Self-Employment: The Family as Social Capital and the Value of Human Capital," *American Sociological Review*, 61, pp. 231–249.
- Schumpeter, J. A. (1912). *The Theory of Economic Development*, New York: Oxford University Press.
- Stuart, T. E. and Sorenson, O. (2005). "Social Networks and Entrepreneurship," in Alvarez, S., Agarwal, R., and Sorenson, O. (eds.), *The Handbook of Entrepreneurship: Disciplinary Perspectives*, Berlin: Springer.
- Terwey, M., Bens, A., and Baltzer, S. (2007). *Datenhandbuch ALLBUS 1980–2006*, ZA-No. 4241, Cologne, Mannheim: GESIS.