Does Democracy Foster Trust? Evidence from the German Reunification

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Abstract

The level of trust inherent in a society is important for a wide range of microeconomic and macroeconomic outcomes. This paper investigates how individuals' attitudes toward social and institutional trust are shaped by the political regime in which they live. The German reunification is a unique natural experiment that allows us to conduct such a study. Using data from the German General Social Survey (ALLBUS) and from the German Socio-Economic Panel Study (SOEP), we obtain two sets of results. On one side, we find that, shortly after reunification, East Germans displayed a significantly less trusting attitude than West Germans. This suggests a negative effect of communism in East Germany versus democracy in West Germany on social and institutional trust. However, the experience of democracy by East Germans since reunification did not serve to increase levels of social trust significantly. In fact, we cannot reject the hypothesis that East Germans, after more than a decade of democracy, have the same levels of social distrust as shortly after the collapse of communism. In trying to understand the underlying causes, we show that the persistence of social distrust in the East can be explained by negative economic outcomes that many East Germans experienced in the post-reunification period. Our main conclusion is that democracy can foster trust in post-communist societies only when citizens' economic outcomes are right.

Keywords: Social Trust, Institutional Trust, Political Regimes.

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1. Introduction

In 1990, East and West Germany were reunited after more than four decades of separation. Before reunification, East Germans were governed by a communist regime that systematically violated the basic rights of many citizens. The freedom that people had was further undermined by the German Democratic Republic's State Security Service ("Stasi"). The Stasi kept files on an estimated six million people, and built up a network of civilian informants ("unofficial collaborators"), who monitored politically incorrect behavior among other citizens. By 1995, 174,000 East Germans had been identified as unofficial collaborators. This amounts to 2.5 percent of the total population between the ages of 18 and 60 (Koehler 1999) and constitutes one of the highest penetrations of any society by a security apparatus. In fact, the ratio of "watchers" to "watched" in East Germany was even higher than that of the Soviet Union under communism.[1] Since reunification, East Germans have experienced life in a market-based democracy, an environment West Germans had experienced since 1945.

This paper examines whether the levels of social and institutional trust have changed in response to the reunification of Germany.[2] Our main aim is to understand how individuals' trust in other people and in legal and political institutions are shaped by the political regime in which they live. Taking such political economy factors seriously in understanding how trust evolves or disintegrates is important for several reasons. First, there is now widespread evidence that social trust can have a positive impact on wide range of macroeconomic and microeconomic outcomes (Knack and Keefer 1997, Knack and Zak 2001, Slemrod and Katuscak 2005). Second, trust in the core institutions of a political system matters for whether people become politically active, whether they favor policy reforms, and whether they are willing to comply with binding decisions of policy makers (Levi and Stoker 2000).

We begin by asking whether the communist rule in East Germany affected individuals' social and institutional trust. To investigate this, we make the identifying assumption that East and West Germany were indistinguishable until the exogenously imposed separation in 1945. Thus, if one observes different levels of trust between East and West Germans shortly after reunification, one can attribute them to the opposing political, economic and social histories in the two parts of Germany. Given that people are more ready to trust other people and institutions if the system in which they live ensures them against breaches of trust, and given that democracy provides exactly this kind of insurance (Sztompka 1998), it might be expected that trust was more likely to appear under democracy in the West

[1] It is estimated that the Soviet Union's KGB employed 480,000 full-time agents to oversee a nation of 280 million, which means there was one agent per 5,830 citizens. The ratio for the Stasi was one secret policemen per 166 East Germans. When unofficial collaborators are added, there would have been one informant watching every 66 citizens (Koehler 1999).

[2] When we say "social trust" we mean how much people trust each other. By "institutional trust" we refer to citizens' confidence in certain political authorities and institutions, such as the parliament or the legal system.

than under communism in the East. Using data from the German General Social Survey (ALLBUS), this prediction is confirmed by our results. We find that individuals who lived under communism in East Germany are much more likely to distrust other people, legal institutions, and political authorities than individuals who lived under democracy in West Germany.

Having established this, we then ask whether the experience of democracy by East Germans since reunification served to increase levels of trust. Given the repressive character of the communist rule, it might be expected that democracy encouraged trust by a process of disassociation from the communist past. Indeed, whatever else the new democratic environment was, it was certainly not communist or communist controlled. That, by itself, might have created a measure of trust or, at least, a tempering of distrust (Mishler and Rose 1997). Contrary to this expectation, we obtain some striking results. The most intriguing is that there is no significant increase of social trust among East Germans. In fact, we cannot reject the hypothesis that East Germans, after more than a decade of democracy, have the same levels of social distrust as shortly after the collapse of communism. Thus, being moved from a repressive communist regime (with low collective levels of social trust) to a liberal democratic system (with comparatively high collective levels of social trust) does not lead to more social trust. To put it differently, there are no complementarities between democracy per se and attitudes towards social trust in East Germany. In trying to understand the underlying causes, we show that the culture of persistent social distrust in the East can be explained by the economic and social inequalities that have troubled many East Germans in the post-reunification period. Interestingly, and in sharp contrast to social trust, we also find that the levels of institutional trust in the East significantly converge towards those in the West.

The paper proceeds as follows. Section 2 generates hypotheses and discusses the related literature. Section 3 describes the data, and Section 4 presents the results. Section 5 provides further evidence using complementary data. Section 6 presents concluding remarks.

2. Hypotheses and Related Literature

The German separation and reunification is a unique natural experiment that allows scholars from different disciplines to get at fascinating questions to do with economic and political systems. This paper is new primarily in investigating the impact of the separation and reunification of Germany on trust. The first hypothesis we analyze posits that, all other things being equal, social and institutional trust were more likely to appear under democracy than under communism.

Hypothesis 1 *East Germans who have lived under communism before reunification exhibit less social and institutional trust than West Germans who have lived under democracy.*

Theories of why democracy has a significant trust-generating advantage over other political systems come from a variety of sources across different disciplines. One common view is that people are more ready to trust other people and institutions if the system in which they live insures them against potential breaches of trust. Democratic institutions provide precisely this kind of insurance (Sztompka 2003). This does not mean that people in the communist states of east and central Europe did not develop networks of private contacts among people who could help solve problems of scarce resources (Dehlhey and Newton 2002, Dallago 1990). But this took place within a wider society that was pervaded by general suspicion and distrust created by the state. We would therefore expect the forms of trust that developed under communism to be much more limited than the trust typically found in democratic systems.[3]

The second hypothesis we analyze posits that East Germans gradually acquired similar measures of trust as West Germans in the post-reunification period.

HYPOTHESIS 2 *The levels of social and institutional trust among East Germans converge towards those of West Germans in the post-reunification period.*

One theoretical justification for this hypothesis comes from lifetime learning models developed by political scientists (see, for example, Rose and McAllister 1990): East Germans may have been predisposed to distrust people and institutions based on their past communist experience, but the legacy of the past should be subject to periodic revision based on contemporary experiences. So even if East Germans initially regarded other people and institutions with the same suspicion as under communism, sooner or later one can expect them to distinguish past and present experiences and evaluate them independently. It is therefore not unreasonable to expect that democracy encouraged trust in the post-reunification period by a process of disassociation from the past (Mishler and Rose 1997). Previewing our results, it turns out that the convergence patterns of social and institutional trust in the East are much more complex than suggested by this argument.

Ever since the contributions of Fukuyama (1995) and Putnam (1995, 1999), a lot of thought has gone into understanding the factors that influence trust. Using data from US localities, Alesina and La Ferrara (2002) have recently shown that trust is related to individual characteristics such as income and education, community characteristics, and discrimination. This paper examines the extent to which trust is contingent on the political

[3]There is some evidence that is in line with our first hypothesis. Using data from the 1990 World Values Survey, Ingelhart et al. (1998) find that Chinese people exhibit less trust overall than do Americans. However, their findings do not concur with the experimental results by Buchan and Croson (2004). Their research, based on the trust game (Berg et al. 1995), suggests higher levels of trust among people living in China than among people living in the US. Another experimental study that is related to our paper is that by Ockenfels and Weimann (1999). Comparing East and West Germans in a public good game and a solidarity game, they argue that cooperation and solidarity behavior among East Germans were negatively influenced by the political, economic and social history in the eastern part of Germany.

regime in which people live. An understanding of this question is important, especially in the post-communist societies of central and eastern Europe, where social and institutional trust is vital for democratic and economic consolidation (Almond and Verba 1963, Mischler and Rose 1997). The German reunification—with opposing political, economic and social histories in the two parts of Germany—allows us to conduct a very well controlled analysis of the extent of trust and distrust in a post-communist society. It also allows us to examine the extent to which living in a democratic regime fosters social and institutional trust.

Our paper also contributes to a growing body of research that examines correlations between political economy factors and human behavior and well-being. Besley and Kudamatsu (2006) examine the link between democracy and health using data from a cross section of countries. Their findings indicate that there is a positive correlation between democratic institutions and health policy interventions, resulting in greater life expectancy in democracies. Alesina and Fuchs-Schündeln (2005) examine whether individuals' preferences for redistributive policies are affected by the political regime in which they live. Using the natural experiment of German reunification, they show that East Germans are more in favor of redistribution than West Germans. The difference in preferences is shown to be mainly a direct effect of Communism.

3. Data

Our main data source is the German General Social Survey (ALLBUS). The ALLBUS is a biennial survey on attitudes, behavior and social structure in Germany. Each cross-section is a nationally representative survey of the population aged 18 and above of the Federal Republic of Germany.[4] The data used in this paper come from the 1991, 1994, and 2002 ALLBUS surveys. We restrict our analysis to native Germans who were born in either the German Democratic Republic or the Federal Republic of Germany and have finished their general education. This leaves us with a sample of individuals who were born between 1898 and 1983.[5]

In 1991 and 2002, respondents were asked a question that reads: "Some people say that most people can be trusted. Others think that one can't be careful enough when dealing with other people. What is your opinion about this?" As in Alesina and La Ferrara [2002], we define as "socially trusting" those respondents who answer that "Most people can be trusted", and distrusting those who answer "One can't be careful enough" or "It depends". Our first dependent variable, *social trust*, is therefore a variable which equals one if the respondent is socially trusting, and zero otherwise. We make the interpretive assumption that responses to the social trust question tell us about individuals' evaluations of the

[4]See `http://www.gesis.org/en/data_service/allbus/index.htm` for further information.

[5]We excluded individuals who indicated that they had migrated from the GDR to the FRG between 1945 and 1989. As a result, 221 respondents (around 4 percent of individuals in our final sample) were dropped.

external world in which they live – whether people around them behave in a trustworthy fashion.[6]

Moving on from social trust to institutional trust, we make use of a question that was asked in 1994 and 2002. It reads: "I am going to read out a number of institutions and organizations. Please tell me for each institution or organization how much trust you place in it. Please use the scale: 1 means you have absolutely no trust at all; 7 means you have a great deal of trust." We used the respondents' evaluation of the German parliament and legal system. Our institutional trust measures, *trust in legal system* and *trust in parliament*, take the value one if an individual responds with a five, six or seven on the relevant seven point scale, and zero otherwise. Our interpretive assumption is that questions about the major representational and judicial institutions tap evaluations about the regime or system as a whole (system-focused judgments).[7]

As a set of background variables which might affect a person's social and institutional trust, we use several socio-economic controls. We include age, age squared, year of birth, gender, marital status, educational attainment, and employment status. Educational attainment is measured by the highest completed academic qualification, and it is grouped into three categories in ascending order: technical college entrance qualification ("Fachhochschulreife") or less; higher education ("Hochschulreife");[8] and university degree. To control for a person's employment status, we include dummies for full time employment, part time employment, other employment (e.g., short time work, side jobs), and non-working. We also control for the annual state-level unemployment rate as a measure for local labor market conditions. Finally, we include the proportion of foreigners in the population at the federal state level as an explanatory variable to capture differences in ethnic composition across federal states and over time (Federal Statistical Office Germany, 2006). Summary statistics are in the Appendix.

4. Results

We now analyze the relationship between trust and the opposing political, economic and social histories in the two parts of Germany. We begin by running separate regressions for

[6] See Hardin (1993), Putnam (1999), and Alesina and Ferrara (2002) for measurement issues associated with the social trust question used in this paper. The main argument put forward by these authors is that trust is the product of experience and people constantly update their attitudes towards trust in response to changing circumstances. As a result, levels of social trust in representative surveys are a good indicator of the trustworthiness of the societies in which respondents live. The trust scores provide more information about societies and social systems than about the personality types living in them (Putnam 1999, Dehley and Newton 2002).

[7] See Levi and Stoker (2002) for measurement issues associated with institutional trust questions.

[8] "Fachhochschulreife" is a certificate fulfilling the entrance requirements to study at a polytechnical college. "Hochschulreife" is a certificate entitling holders to study at university.

each survey year. The model we estimate is a latent probit regression of the form:

$$y_i^* = \phi_1 East_i + \phi_2 X_i + \epsilon_i \quad \text{with} \quad trust_i = \begin{cases} 1 & \text{if } y_i^* > 0 \\ 0 & \text{if } y_i^* \leqslant 0 \end{cases}, \tag{1}$$

where y_i^* is the latent variable and $trust_i$ represents one of the three trust outcomes: social trust, trust in the legal system, or trust in the parliament. The $East_i$ dummy is the variable of main interest. It captures people who lived under communism in East Germany before 1990. The vector X_i comprises a set of individual socio-economic controls and a constant. The error term ϵ_i is $NID(0, \sigma^2)$ and captures all other omitted characteristics.

[Figure 1 about here.]

Figure 1 illustrates our basic results. While the regressions include a set of basic controls, the figure only reports marginal effects for the East dummy. We first look at the data that were collected immediately after reunification in 1991 (social trust) and 1994 (institutional trust). For all trust questions, the estimates suggest that eastern respondents displayed a significantly less trusting attitude than did western respondents. Indeed, the estimated coefficients on the East dummy are significant at 0.1 percent for all trust questions. The results are also quantitatively important: the incidence of social trust was roughly 11 percent lower for East Germans than for West Germans; trust in the legal system was 20 percent lower; and trust in the parliament was 12 percent lower. These first results suggest that people who have lived on average more than 30 years under communism are much more likely to distrust other people and political institutions than people who have lived in a democracy. Our next step is to examine the extent to which the levels of trust in the East have changed in the post-reunification period. To do so, we compare the data that were collected in 2002 with that from shortly after reunification. Our idea is that by 2002 the democratic regime has existed long enough for many eastern respondents to differentiate contemporary experiences from those of the communist past and to form judgments about the differences. We find that the incidence of institutional distrust in the East decreased roughly by between 37 percent (trust in parliament) and 49 percent (trust in legal system) between 1994 and 2002. This suggests that the levels of institutional trust in the East converge quite strongly towards those in the West. Indeed, assuming that the complete cycle of convergence is linear, we can expect full uniformity of institutional trust between East and West Germans roughly 19 to 24 years after reunification, depending on the institutional trust question.

In sharp contrast to institutional trust, there seems to be a persistent culture of social distrust surviving among East Germans in spite of fundamental democratic transformations since reunification. Indeed, the incidence of social distrust decreased by only 26 percent between 1991 and 2002, and one would expect the full circle of convergence to be around 42 years. So to get rid of pre-existing social distrust, which is a legacy of the communist past, will require roughly two generations.

In Table 2 we pool the data to examine in greater detail the patterns of trust that can be found in the two parts of Germany. The model we estimate is a probit regression of the form:

$$y_i^* = \tau + \varphi_1 East_i + \varphi_2 (East_i \times \tau) + \varphi_3 X_i + \epsilon_i \quad \text{with} \quad trust_i = \begin{cases} 1 & \text{if } y_i^* > 0 \\ 0 & \text{if } y_i^* \leqslant 0 \end{cases}, \quad (2)$$

where $trust_i$ is one of the trust outcome variables for individual i, and τ is a year dummy variable which is one in the year 2002, and zero otherwise. The East*Year02 interaction term tells us how East Germans have changed their attitudes towards trust in the post-reunification period. It thus represents a rough measure of convergence in post-communist East Germany (Alesina and Fuchs-Schündeln 2005). Table 1 shows the results for (2). The coefficients on the East dummy indicate that East Germans are significantly less likely to trust other people, the legal system, and the parliament than West Germans. This is in line with our findings for (1). The main set of results concerns the change in trust of East Germans in the post-reunification period, which is captured by the interaction between being from the East and the 2002 dummy (East*Year02). The intriguing coefficient is that on the social trust outcome: it is positive but statistically insignificant. This means that, contrary to what has been stipulated in hypothesis 2, we actually cannot reject the hypothesis that East Germans have the same levels of social distrust as shortly after the collapse of communism. A different argument applies to institutional trust: the coefficients on the two institutional trust questions are positive and statistically significant at 0.1 percent (trust in legal system) and 5 percent (trust in parliament) and larger in magnitude compared to social trust. This suggest that the levels of institutional trust of East Germans significantly converge towards those of West Germans.[9]

[Table 1 about here.]

As for the socio-economic controls, social trust increases with age; a woman is less likely to be socially trusting than a man; education is positively correlated with both social and institutional trust; marital status is not significantly correlated with trust. These patterns are consistent with the findings of Alesina and La Ferrara (2002) for the United States. In unreported regressions, we also distinguished between four different cohort groups: born after 1965, born between 1946 and 1965, born between 1931 and 1945, and born on or before 1930. We found that older birth cohorts are not significantly more distrusting than

[9] In unreported regressions, we also examined alternative institutional trust measures, such as trust into the police force or trust in the highest constitutional court. Results for these alternative outcome measures were in line with the ones reported here and are available from the authors upon request. In addition, we estimated ordered probit models. With respect to social trust, we distinguished between three responses in ascending order: (1) one can't be to careful enough; (2) it depends; and (3) most people can be trusted. As for the institutional trust measures, we used the seven point scale from the original ALLBUS questions. All the results from ordered probit regressions were qualitatively equivalent to the ones obtained from the latent probit regressions.

younger birth cohorts in the East. This finding might seem counterintuitive at first. Indeed, it may not be unreasonable to expect that individuals who have lived their entire live under communism are less trusting than individuals who have only spent their childhood or early adolescence under communism. However, recent research by Dohmen et al. (2006) suggests that parents pass on their attitudes towards trust to their children. So individuals who have only spend their childhood or early adolescence under communism may be just as distrusting as older birth cohorts because of the intergenerational transmission of trust attitudes. We also re-estimated our model by including variables that capture the religious affiliation of the respondent, controlled for the presence and number of children in the household and the number of adult household members. We found that including these variables did not change the estimates.

The result that stands out is that the democracy experience of East Germans since 1991 did not have a significant positive effect on attitudes towards social trust. In our next exercise, we try to pinpoint the forces that may have kept social trust levels low in the East. Our hypothesis is that East Germans gained several, if sharply different, kinds of freedom after reunification. On one side, there was the freedom to enjoy civil and political liberties. But reunification also brought with it a new economic environment build on competition and personal achievement. It is well understood that the economic aspects of reunification turned out to be difficult. For example, the unemployment rate in East Germany almost doubled between 1991 and 2004 from around 10 percent to 20 percent (Snower and Merkl 2006). It is therefore interesting to examine whether the pattern of non-converging social trust in the East is attributable to the negative economic effects often associated with reunification. To do so, we partition the population of East Germans into three different subgroups, {(Female/Male),(Unemployed/NotUnemp),(LowEcoStat/HighEcoStat)}. The first partition distinguishes East Germans by gender. The second partition distinguishes East Germans interviewed in 2002 by whether they have experienced unemployment in the last 10 years or not. Finally, the third partition distinguishes East Germans interviewed in 2002 by whether they report being in a bad (or very bad) economic situation or in a good (or very good) economic situation. Distinguishing respondents by subgroups allows us to shed some light on whether there exist heterogeneity in the evolution of trust among East Germans. For each trust measure, we estimate three equations of the form:

$$y_i^* = \tau + \psi_1 East_i + \psi_2 \left(East_i \times \tau \times I_\rho\right) + \psi_3 \left(East_i \times \tau \times (1 - I_\rho)\right) + \psi_4 X_i + \epsilon_i \qquad (3)$$

with

$$trust_i = \begin{cases} 1 & \text{if } y_i^* > 0 \\ 0 & \text{if } y_i^* \leqslant 0 \end{cases}.$$

The variable I_ρ is an indicator that takes the value 1 if the respondent falls in one of the three subgroups {Female,Unemployed,LowEcoStat}, and is zero otherwise. The results for (3) are collected in Table 2. We start by discussing the social trust outcomes in columns (1) to (3). We first examine whether East German men and women exhibit different

convergence patterns. Such an examination is interesting because it is widely perceived that the social and economic position of East German women disproportionately worsened after reunification. For example, many women in the East have seen the erosion of equal pay, job opportunities, and widely available affordable childcare. As a result, many East German women were forced to return to traditional gender roles (Alsop 2000). If gender equality is important for how much women trust other people, one might expect East German women to exhibit different convergence patterns in the post-reunification period than East German men. This hypothesis is confirmed by our results: the coefficient on East German women is small (0.023) and statistically insignificant meaning that women in the East are almost as distrusting as they were shortly after reunification; in contrast, the coefficient on East German men is much larger (0.076) and statistically significant at 5 percent, implying that the social trust levels of men in the East converge towards those in the West.

[Table 2 about here.]

Second, we look at whether convergence in trust is driven by adverse employment shocks. Strikingly, we find that East Germans who experienced unemployment in the post-reunification period have become even more distrusting than they were shortly after the collapse of communism, although the negative coefficient on East*Year02*Unemployment (-0.009) is not statistically significant. In contrast, the trust levels of those who did not experience unemployment converge towards western levels with the estimated coefficient (0.080) being significant at 5 percent. Third, East Germans who currently consider themselves to be in a good economic situation have significantly changed their attitudes towards social trust since reunification. Indeed, the coefficient on the interaction East*Year02*HighEconStat is positive (0.098) and statistically significant at 1 percent. In contrast, East Germans who report being in a bad economic situation are currently as distrusting as they were shortly after the collapse of communism since the coefficient on East*Year02*LowEconStat is small (0.015) and statistically insignificant.[10] In sum, the results suggest that the transition to democracy did not uniformly foster social trust in East Germany. There exists considerable heterogeneity in the evolution of social trust across different subgroups of the population. Indeed, East Germans who suffered economically from reunification are presently as distrusting as they were shortly after the collapse of communism. However, when exposure to democracy was coupled with personal economic success, then the experience of democracy in post-reunification period lead to significantly more individual social trust.

The above discussion concerns the extent to which East Germans have change their attitudes towards social trust since reunification. On the aggregate level, we have shown that there is a culture of persistent social distrust in the East. On disaggregating we found this

[10]Note that the coefficients across the three different subgroups are statistically different from each other at the 10 percent level. Equality p-values from the χ^2 statistic are provided at the bottom of Table 2.

phenomenon to be driven by the negative socio-economic outcomes that many East Germans experienced in the post-reunification period. Columns (4) to (6) in Table 2 show that trust in the parliament follows a pattern similar to the one found for social trust. Indeed, East Germans belonging to the subgroups {Male,NotUnemployed,HighEcoStat} are currently putting significantly more trust in the parliament than they did shortly after reunification in 1994; but those belonging to the subgroups {Female,Unemployed,LowEcoStat} have not significantly changed their attitudes toward the parliament. In contrast, trust in the legal system follows a very different pattern. To see this, consider the estimates in equations (7) to (9) in Table 2. All coefficients are positive, statistically significant, and have similar magnitudes across the different subgroups. This means that the levels of legal trust uniformly converge toward western levels across the differen subgroups of the East German population. This, in turn, implies that personal socio-economic characteristics are not the basis by which East Germans have re-evaluated their attitudes toward the legal system. One possible explanation is as follows. The guarantee of civil rights may be taken for granted in established democracies, but East Germans were accustomed to state interference with many aspects of private life, from the practice of religion, to the right to travel, to the right of freedom of speech or the freedom of forming and joining organizations. It is therefore conceivable that the removal of restrictions on personal freedom and increased opportunities for citizen participation have significantly increased trust in the legal system, with only a small countervailing negative effect of personal socio-economic deprivation.

5. Further Evidence

This section presents further evidence using data from the German Socio-Economic Panel (SOEP). The SOEP is a household panel survey representative of the German population resident in private households. In 1984, this longitudinal survey began interviewing a national sample of approximately 6,000 households in the Federal Republic of Germany. In 1990, the SOEP was expanded to the territory of the German Democratic Republic.[11] As with the ALLBUS sample selection, we restrict our sample to Germans born between 1898 and 1983 who have finished their general education and have lived in East or West Germany in 1989.

There are advantages and disadvantages to using data from the SOEP to complement our previous findings. As for the disadvantages, the SOEP survey does not include questions on individual's trust in political and legal institutions. The absence of such questions limits our attention to social trust. Moreover, the SOEP asked specific social trust questions only at one point in time, namely in 2003. Of course, the results of a single survey wave cannot identify time trends. However, the data allows us to look for different levels of social trust between East and West Germans more than a decade after the democratic transition started. Hence the results we obtain provide a basis for informed speculation about the

[11] See `http://www.diw.de/english/sop/` for further information about the SOEP.

long-term effects of communism in East Germany versus democracy in the West on social trust.

As for the advantages, the SOEP allows us to draw inferences from very large sample sizes. Moreover, the measurement of social trust in the SOEP differs from the traditional trust question used in the ALLBUS, which asked whether "people can be trusted" or whether one "can't be too careful in dealing with people". The SOEP asked respondents to indicate on a four point-scale ("totally agree", "slightly agree", "disagree slightly", "totally disagree") to what extent they agree with the following three statements: "on the whole one can trust people"; "nowadays one can't rely on anyone"; "if one is dealing with strangers, it is better to be careful before one can trust them". The behavioral relevance of these trust measures have been validated in a field experiment with individuals representative of the adult population living in Germany (Fehr et al. 2003). In the study by Fehr et al. (2003), 429 individuals first completed a questionnaire that contained the same three trust questions that were asked in in the SOEP questionnaire in 2003. The individuals then played a modified version of the trust game developed by Berg et al. (2005). The results by Fehr et al. (2003) indicate that survey responses to the trust questions in the 2003 wave of the SOEP actually predict trusting behavior in the trust game. That is, individuals who trusted others according to their survey responses also acted, in the game, in a trusting way. This suggests that the three trust indicators in the 2003 wave of the SOEP provide a behaviorally relevant measure of how trusting individuals are.

We construct three dichotomous social trust measures. The first variable, *trust people*, takes the value one if the respondent agrees ("totally agrees" or "slightly agrees") with the statement "on the whole one can trust people", and zero otherwise. The second, *can't trust*, equals one if the respondent agrees with the statement "nowadays one can't rely on anyone", and zero otherwise. The third outcome, *distrust strangers*, takes the value one if the respondent agrees with the statement "if one is dealing with strangers, it is better to be careful before one can trust them", and zero otherwise. As background variables which might affect a person's social trust, we control for socio-economic variables similar to the ones we used for the data from the ALLBUS.[12] Moreover, the SOEP also allows us to control for potentially important socio-economic variables that were not available in the ALLBUS. It is well known that there exist considerable differences in household income, earnings, and wealth between East and West Germans (Görzig et al. 2004, Kohli 1999).

[12]However, there are two differences. The first difference lies in the definition of a person's employment status. The SOEP data allows us to include dummies to control for full time employment, part time employment, registered as being unemployed, and economic inactivity. The second difference lies in the definition of a person's educational attainment. The SOEP distinguishes between three educational outcomes: (1) less than high school; (2) completed high school; and (3) more than high school. The second category includes individuals with a degree giving access to university studies ("Hochschulreife"), a certificate of aptitude for specialized short-course higher education ("Fachhochschulreif"), an apprenticeship, or a specialized vocational education ("Berufsfachschule").

To account for these differences, we also control for post-government household income and homeownership as proxies for individual wealth.

[Table 3 about here.]

Table 3 reports the results for the three social trust measures regressed against the East dummy and controls. In line with previous estimates, East Germans display significantly lower levels of social trust than West Germans. Consider first the models which control for variables similar to the ones we used for the data from the ALLBUS [equations (1), (3), and (5)]. The results can be interpreted as follows. More than a decade after the collapse of communism, an East German is 7 percent less likely to "trust people" than a West German, 8 percent more likely "not to rely on anyone", and roughly 3 percent more likely to "distrust strangers". The other significant estimates are as expected: education is positively associated with trust, being economically "unsuccessful" in terms of labor market outcomes is negatively correlated with trust, and the occurrence of past misfortunes such as a divorce or separation weakens trust. Investigating the robustness of the results by adding household income and homeownership to the set of controls [equations (2), (4), and (6)] shows that our main estimates do not change much in significance and magnitude.[13] The coefficients on income and homeownership are as expected and confirm the common view that "haves" are significantly more trusting than "have-nots" (Putnam 1999).

In Table 4 we partition the East German population into economically advantaged and disadvantaged groups, and test a model similar to the one in Table 2.[14] The variables $Unemployed$ and $NotUnemployed$ are dummies indicating whether or not a respondent is currently registered as unemployed. The variables $EcoWorry$ and $NoEcoWorry$ are dummies indicating whether or not a respondent is very concerned about his own economic situation or. Our attempt at distinguishing types of groups provides some empirical support for the conjecture that low levels of social trust in the East can be mainly attributed to personal economic deprivation.

[Table 4 about here.]

First, the extent to which an East German is less trusting than a West German appears not to be contingent on gender. However, there exist clear differences in social trust according

[13] We also explored the effects of several other possible determinants of social trust which are not reported here for reasons of space. We included additional proxies for individual wealth such as whether the respondent has financial assets, received an inheritance or gift in the past, or expects an inheritance or gift in the future. We also included the number of years the respondent lived at the current address and controlled for religious affiliation (Alesina and La Ferrara 2003). Including these additional covariates did not change our main results.

[14] Note, however, that Table 4 investigates whether trust levels are heterogenous across different groups of the East German population at one point in time (in 2003). In contrast, Table 2 examines whether convergence of trust is heterogenous across different groups of the East German population in the post-reunification period.

to individuals' economic circumstances. East Germans who report not being concerned about their own economic situation (East*NoEcoWorry) are not significantly less trusting than West Germans. However, those who report being very concerned about their economic situation (East*EcoWorry) are on average between 3 percentage points (distrust strangers) and 16 percentage points (trust people, can't trust) less trusting than Westerners, with the coefficients being significant at either 1 percent or 0.1 percent. Distinguishing between employed (East*NotUnemployed) and unemployed (East*Unemployed) adults living in East Germany yields results that are qualitatively similar. Thus, we conclude that the long-term effect of communism on social trust is not homogenous across different groups of the East German population: East Germans who did not experience negative economic outcomes in the post-reunification period display trust patterns that are not too dissimilar from West Germans. In contrast, East Germans who received negative economic shocks are presently much less trusting than West Germans.

6. Conclusion

We find that communism in East Germany had a strong negative effect on individuals' social and institutional trust. However, the transition to democracy per se did not foster social trust. Indeed, East Germans who suffered economically from reunification are presently almost as distrusting as they were shortly after the collapse of communism. However, when exposure to democracy was coupled with personal economic success, then democracy lead to significantly more social trust. Overall, our results suggest that political economy factors need to be taken seriously in understanding how trust evolves and disintegrates.

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Appendix: Summary Statistics

[Table 5 about here.]

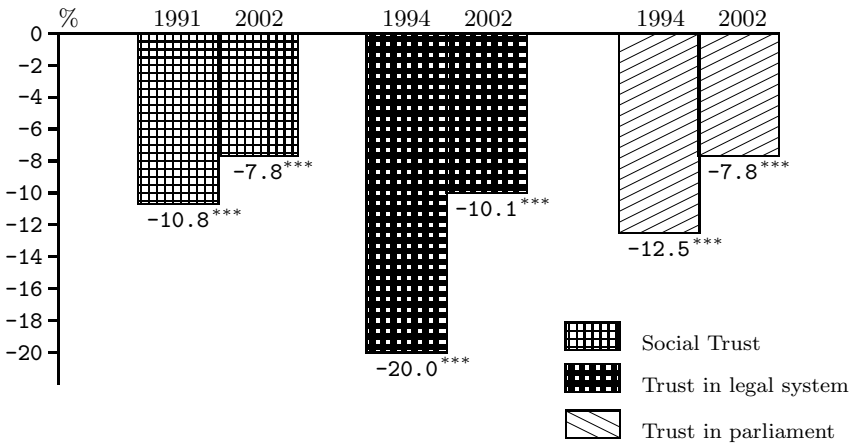
[Table 6 about here.]

[Table 7 about here.]

[Table 8 about here.]

Figures

Figure 1: By how much is an East German less likely to trust other people and institutions than a West German?



Notes: Estimates are marginal effects from probit regressions computed at the average values of all variables used. *** denotes significance at 0.1 percent, ** at 1 percent, and * at 5 percent. Non-reported controls included in each regression are: age, age squared, and female.

Tables

Table 1: Did East Germans change their attitudes towards trust in the post-reunification period (ALLBUS)?

Equation	1	2	3
Dependent variable	Social Trust	Trust in legal system	Trust in parliament
East	-0.089***	-0.136***	-0.144***
	[0.025]	[0.033]	[0.027]
Year02	-0.048	-0.021	-0.092
	[0.121]	[0.128]	[0.107]
East*Year02	0.049	0.129***	0.070*
	[0.026]	[0.031]	[0.030]
Age	0.016	-0.014	0.014
	[0.011]	[0.016]	[0.014]
(Age^2)/100	-0.008***	0.014***	0.003
	[0.002]	[0.003]	[0.003]
Year of birth	0.007	0.001	0.014
	[0.011]	[0.016]	[0.013]
Female	-0.038***	-0.016	-0.011
	[0.011]	[0.015]	[0.013]
Single	-0.001	-0.021	0.007
	[0.017]	[0.022]	[0.019]
Divorced	-0.034	-0.035	-0.039
	[0.020]	[0.029]	[0.024]
Separated	0.041	-0.047	-0.036
	[0.048]	[0.055]	[0.047]
Widowed	0.035	0.037	-0.031
	[0.028]	[0.033]	[0.026]
Higher education	0.113***	0.099***	0.103***
	[0.023]	[0.026]	[0.025]
University degree	0.106***	0.069**	0.064**
	[0.022]	[0.025]	[0.023]
Part time	-0.017	-0.042	-0.023
	[0.024]	[0.031]	[0.026]
Other work	-0.026	-0.046	-0.025
	[0.022]	[0.034]	[0.029]
Nonworking	-0.015	-0.011	0.004
	[0.014]	[0.018]	[0.016]
Local unemployment rate	-0.003	-0.012***	-0.001
	[0.002]	[0.003]	[0.003]
Ethnic fragmentation	-0.001	-0.003	-0.002
	0.002	0.003	0.003
Pseudo-R^2	0.05	0.03	0.03
Observed probability	0.18	0.42	0.25
Predicted probability	0.17	0.42	0.25
Log-likelihood value	-2,124.58	-3,334.00	-2,776.18
Observations	4,711	5,057	5,032

Notes: Estimates are marginal effects from probit regressions computed at the average values of all variables used. *** denotes significance at 0.1 percent, ** at 1 percent, and * at 5 percent. Reference categories are: West German, male, married, technical college entrance qualification or less, full-time employed.

Table 2: How can we explain the persistence of social distrust in East Germany in the post-reunification period (ALLBUS)?

Equation	1	2	3	4	5	6	7	8	9
Dependent Variable	Social trust			Trust in parliament			Trust in legal system		
East*Year02*Female	0.023			0.050			0.122***		
	[0.029]			[0.034]			[0.036]		
East*Year02*Male	0.076*			0.092**			0.138***		
	[0.032]			[0.035]			[0.036]		
East*Year02*Unemployed[a]		-0.009			0.026			0.142**	
		[0.036]			[0.045]			[0.048]	
East*Year02*NotUnemployed[a]		0.080*			0.098*			0.135**	
		[0.036]			[0.041]			[0.042]	
East*Year02*LowEcoStat[b]			0.015			0.033			0.103**
			[0.028]			[0.032]			[0.035]
East*Year02*HighEcoStat[b]			0.098**			0.125**			0.162***
			[0.035]			[0.038]			[0.035]
Equality p-value[c]	0.10	0.04	0.01	0.23	0.14	0.01	0.67	0.89	0.12
Observations	4,711	3,704	4,711	5,032	4,041	5,032	5,057	4,050	5,057

Notes: [a]Dummies indicating whether an East German interviewed in 2002 has experienced unemployment in the last 10 years or not. [b]Dummies indicating whether an East German interviewed in 2002 reports being in a bad or very bad (good or very good) economic situation. [c]Figures are equality p-values from χ^2-statistic. *** denotes significance at 0.1 percent, ** at 1 percent, and * at 5 percent. Non-reported covariates are as in Table 1.

Table 3: By how much is an East German less likely to be socially trusting than a West German in 2003 (SOEP)?

Equation	1	2	3	4	5	6
Dependent Variable	Trust people		Can't trust		Distrust strangers	
East	-0.068***	-0.055**	0.081***	0.069***	0.026*	0.022
	[0.018]	[0.019]	[0.019]	[0.019]	[0.012]	[0.012]
Age	-0.002	-0.002	0.008***	0.008***	0.001	0.001
	[0.002]	[0.002]	[0.002]	[0.002]	[0.001]	[0.001]
(Age^2)/100	0.004*	0.004**	-0.007***	-0.008***	-0.001	-0.002
	[0.002]	[0.002]	[0.002]	[0.002]	[0.001]	[0.002]
Female	0.008	0.008	-0.009	-0.008	0.013**	0.013**
	[0.007]	[0.008]	[0.008]	[0.008]	[0.005]	[0.005]
Single	-0.004	0.014	-0.012	-0.029*	-0.019*	-0.025**
	[0.014]	[0.014]	[0.014]	[0.014]	[0.009]	[0.009]
Divorced	-0.085***	-0.059***	0.021	-0.003	-0.021	-0.030*
	[0.016]	[0.017]	[0.016]	[0.016]	[0.011]	[0.012]
Separated	-0.080**	-0.054	0.044	0.020	-0.060**	-0.070**
	[0.030]	[0.030]	[0.030]	[0.030]	[0.023]	[0.024]
Widowed	-0.023	-0.008	-0.015	-0.030	0.001	-0.006
	[0.018]	[0.018]	[0.018]	[0.018]	[0.012]	[0.012]
Completed high school	0.073***	0.067***	-0.087***	-0.081***	-0.014	-0.012
	[0.012]	[0.012]	[0.012]	[0.012]	[0.008]	[0.008]
More than high school	0.143***	0.127***	-0.188***	-0.174***	-0.072***	-0.064***
	[0.013]	[0.014]	[0.013]	[0.014]	[0.012]	[0.012]
Part time	0.014	0.018	-0.029**	-0.033**	-0.022**	-0.024**
	[0.011]	[0.011]	[0.011]	[0.011]	[0.008]	[0.008]
Unemployed	-0.096***	-0.080***	0.119***	0.105***	0.027**	0.023*
	[0.016]	[0.016]	[0.016]	[0.017]	[0.009]	[0.010]
Inactive	-0.030*	-0.016	0.038**	0.026*	0.022**	0.017*
	[0.013]	[0.013]	[0.013]	[0.013]	[0.008]	[0.008]
Local unemployment rate	-0.001	0.001	-0.002	-0.002	-0.002*	-0.002*
	[0.002]	[0.002]	[0.002]	[0.002]	[0.001]	[0.001]
Ethnic fragmentation	0.004*	0.005**	-0.003	-0.004*	-0.001	-0.001
	[0.002]	[0.002]	[0.002]	[0.002]	[0.001]	[0.001]
(Household income)/10000		0.013***		-0.012***		-0.004**
		[0.003]		[0.003]		[0.001]
Homeownership		0.026**		-0.027**		-0.006
		[0.010]		[0.010]		[0.006]
Pseudo-R^2	0.02	0.02	0.02	0.02	0.01	0.02
Observed probability	0.61	0.61	0.43	0.43	0.89	0.89
Predicted probability	0.61	0.61	0.43	0.43	0.89	0.89
Log-likelihood value	-10,658.42	-10,631.09	-10,860.52	-10,837.12	-5,713.20	-5,705.21
Observations	16,256		16,232		16,262	

Notes: Estimates are marginal effects from probit regressions computed at the average values of all variables used. *** denotes significance at 0.1 percent, ** at 1 percent, and * at 5 percent. Reference categories for non-scaled variables are: West German, male, married, less than high school, full-time employed. Standard errors are adjusted for clusters at the current household number.

Table 4: How can we explain low levels of social trust in East Germany in 2003 (SOEP)?

Equation	1	2	3	4	5	6	7	8	9
Dependent Variable	Trust people			Can't trust			Distrust strangers		
East*Female	-0.055**			0.071***			0.025*		
	[0.019]			[0.020]			[0.011]		
East*Male	-0.055**			0.065***			0.018		
	[0.020]			[0.020]			[0.012]		
East*Unemployed[a]		-0.115***			0.152***			0.032*	
		[0.027]			[0.027]			[0.015]	
East*NotUnemployed[a]		-0.050**			0.061**			0.020	
		[0.019]			[0.019]			[0.012]	
East*EcoWorry[b]			-0.153***			0.159***			0.029**
			[0.022]			[0.022]			[0.012]
East*NoEcoWorry[b]			-0.016			0.032			0.018
			[0.019]			[0.020]			[0.012]
Equality p-value[d]	0.20	0.00	0.00	0.47	0.00	0.00	0.18	0.17	0.19
Observations	16,256	16,256	16,182	16,232	16,232	16,159	16,262	16,262	16,189

Notes: [a]Dummies indicating whether or not respondent is currently registered as unemployed. [b]Dummies indicating whether or not respondent is currently very concerned about his economic situation. [d]Figures are equality p-values from χ^2-statistic. *** denotes significance at 0.1 percent, ** at 1 percent, and * at 5 percent. Non-reported covariates are as in Table 3 including household income and homeownership.

Table 5: Summary statistics for the dependent variables (ALLBUS).

Dependent Variable	Social trust		Trust legal system		Trust parliament	
Sample	East	West	East	West	East	West
1991/1994[a]	0.099	0.204	0.275	0.477	0.150	0.274
2002	0.163	0.242	0.376	0.472	0.232	0.310

Notes: [a]Social trust is observed in 1991 and institutional trust is observed in 1994.

Table 6: Summary statistics for the independent variables (ALLBUS).

Dependent Variable	Social trust				Trust in legal system			
Sample	East Germany		West Germany		East Germany		West Germany	
Year	1991	2002	1991	2002	1994	2002	1994	2002
Age	43.22	44.66	43.55	46.29	44.89	44.52	44.42	46.25
	[15.23]	[16.28]	[17.10]	[16.32]	[16.16]	[16.20]	[16.70]	[16.31]
Female	0.524	0.504	0.528	0.511	0.510	0.501	0.493	0.510
Married	0.694	0.564	0.601	0.595	0.660	0.567	0.608	0.594
Single	0.143	0.276	0.244	0.262	0.167	0.278	0.243	0.262
Divorced	0.093	0.081	0.052	0.067	0.076	0.080	0.054	0.069
Separated	0.008	0.016	0.016	0.021	0.015	0.015	0.013	0.021
Widowed	0.062	0.062	0.087	0.055	0.081	0.060	0.083	0.054
No higher education	0.838	0.773	0.817	0.767	0.844	0.770	0.848	0.764
Higher education	0.060	0.110	0.107	0.123	0.060	0.112	0.082	0.123
University degree	0.102	0.116	0.076	0.110	0.096	0.118	0.070	0.112
Full time	0.532	0.520	0.471	0.474	0.527	0.523	0.521	0.475
Part time	0.029	0.034	0.069	0.076	0.051	0.034	0.071	0.075
Other work	0.129	0.029	0.046	0.064	0.024	0.028	0.053	0.064
Nonworking	0.310	0.417	0.415	0.386	0.399	0.416	0.356	0.386
Local Unemployment	0.156	0.172	0.068	0.080	0.172	0.172	0.093	0.080
	[0.017]	[0.028]	[0.026]	[0.026]	[0.023]	[0.028]	[0.017]	[0.026]
Ethnic Fragmentation	0.016	0.034	0.088	0.099	0.023	0.034	0.099	0.094
	[0.026]	[0.031]	[0.025]	[0.023]	[0.028]	[0.031]	[0.025]	[0.023]
Observations	1,259	791	1,208	1,453	970	788	1,839	1,460

Notes: Standard deviations for continuous variables in brackets. Means on the sample 'trust in parliament' are similar to the ones reported for the sample 'trust in legal system'.

Table 7: Summary statistics for the dependent variables (SOEP 2003).

Dependent Variable	Trust people		Can't trust		Distrust strangers	
Sample	East	West	East	West	East	West
2003	0.537	0.642	0.487	0.403	0.895	0.881
Observations	5,125	11,131	5,126	11,106	5,130	11,132

Table 8: Summary statistics for the independent variables (SOEP 2003).

Sample	East Germany	West Germany
Age	48.16	50.01
	[16.82]	[16.72]
Female	0.525	0.522
Married	0.585	0.638
Single	0.240	0.196
Divorced	0.082	0.070
Separated	0.021	0.016
Widowed	0.072	0.079
Less than high school	0.080	0.169
Completed high school	0.731	0.627
More than high school	0.189	0.204
Full time	0.408	0.390
Part time	0.147	0.212
Unemployed	0.135	0.044
Economic Inactive	0.310	0.353
Local Unemployment	0.192	0.097
	[0.032]	[0.025]
Ethnic Fragmentation	0.037	0.099
	[0.032]	[0.021]
Household Income	28,832	36,247
	[15,000]	[22,636]
Homeownership	0.427	0.594
Observations	5,130	11,132

Notes: Standard deviations for continuous variables in brackets. Household income is annual post-government income and is expressed in Euros.