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DISCUSSION PAPER

// MARTIN LANGE

The Legacy of State Socialism on Attitudes Toward Immigration

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ZEW

The Legacy of State Socialism on Attitudes toward Immigration*

Martin Lange†

September 16, 2021

Abstract

Does the politico-economic system affect preferences for immigration? In this study, I show that individuals exposed to life under state socialism have formed and persistently hold different attitudes toward immigration. By exploiting the division and reunification of Germany, I estimate the influence of state socialism on attitudes toward immigration. Drawing on rich individual panel data, I find that East Germans who lived under state socialism, are 15 percent more likely to oppose immigration than West Germans who spent their entire life in a democratic, capitalist country. This difference in attitudes toward immigration is persistent over time and across space, and largest for cohorts born and raised under state socialism. This gap in attitudes can be traced back to a longer-term deterioration in trust. Evidence from members of a group that opposed the authoritarian system highlights the importance of state socialist ideology for attitude formation.

Keywords: state socialism; attitudes toward immigration; German division and reunification
JEL classification: P20, P51, N34, Z10

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† *Correspondence:* ZEW – Leibniz Centre for European Economic Research, Postbox 103443, 68034 Mannheim, Germany, martin.lange@zew.de.

1 Introduction

The number of anti-immigration policies is increasing around the globe, whilst attitudes toward immigration become noticeably more negative. While this phenomenon has many potential causes,[1] the legacy of politico-economic systems may be one contributing factor. As the type of politico-economic system is found to have long lasting impacts on the values and preferences of its citizens (Fuchs-Schündeln and Schündeln, 2015; Voigtländer and Voth, 2015), it follows that such systems may also shape attitudes toward immigration.

A prominent example in this context is the Visegrad group of countries in the European Union (EU), that consists of former satellite states of the communist Soviet Union. These countries were the first to oppose further immigration into the EU, and remain at the forefront of anti-immigration policy. One of the most severe policy responses to increased refugee immigration in 2015 was instigated by Hungary, a member of this group, when the country fortified its 523 km border to Serbia and Croatia to stop the inflow of asylum seekers. Another case is East Germany, which was a socialist state until 1990. Negative attitudes toward immigration are nowadays much more widespread in East Germany than they are in West Germany. Indeed, vote shares of the populist, anti-immigration party Alternative für Deutschland (AfD) are substantially higher in East Germany and hate crimes directed at foreigners are especially prevalent in this part of Germany (Krueger and Pischke, 1997; Sola, 2018; Entorf and Lange, 2019).

In order to understand these examples, this study empirically investigates whether the legacy of a politico-economic system influences preferences for immigration. Specifically, the study sheds light on the influence of exposure to life under the authoritarian regime of a state socialist country on the formation and persistence of attitudes toward immigration. Living in an authoritarian state socialist country has likely affected contemporary attitudes toward immigration.[2] Since socialist regimes aim to align individual attitudes with socialist ideology, and thereby form a coherent society (Fuchs-Schündeln and Masella, 2016; Cantoni, Chen, Yang, Yuchtman, and Zhang, 2017), openness for immigration, ethnic and cultural change may be limited among its citizens. Repressive measures in such states may also have added to a deterioration of trust which fosters out-group biases (Lichter, Löffler, and Siegloch, 2020). Even after the collapse of 20$^{\text{th}}$ century state socialism, the individual's experience of living in an illiberal, authoritarian system may still influence their attitude to immigration today.

To assess this relationship, this study focuses on post-reunification Germany. The division and reunification of Germany provide a unique case enabling the study of the lasting effects of politico-economic systems on the formation of attitudes and preferences. The empirical analysis explores differences in attitudes toward immigration after reunification between East Germans,

[1] The economic literature on the causes of populism, which is usually associated with an upsurge in anti-immigration attitudes, is manifold. Many modern explanations focus on rising import competition (Dippel, Gold, Heblich, and Pinto, 2017; Colantone and Stanig, 2018; Autor, Dorn, Hanson, and Majlesi, 2020), automation (Im, Mayer, Palier, and Rovny, 2019), and income inequality (Dal Bó, Finan, Folke, Persson, and Rickne, 2018). A comprehensive overview is provided by Eichengreen (2018).

[2] Using the term *state socialism*, I refer to the repressive and illiberal forms of socialism in the 20$^{\text{th}}$ century.

who spent up to 40 years living under state socialism, and West Germans, who resided in a liberal democracy. Drawing on rich individual panel data from the German Socioeconomic Panel (GSOEP), I precisely identify individuals who lived under state socialism, and those who did not. I find that individuals exposed to the authoritarian socialist regime hold substantially and persistently more negative views about immigration than their West German counterparts. In my preferred specification, I estimate a 15 percent difference between East and West Germans in terms of their likelihood that they are concerned about immigration. The influence of exposure to an authoritarian regime is stable across regions in the East, is larger for cohorts born and raised under state socialism, is persistent over time, and is not attenuated by East Germans moving to the West. Moreover, the difference in attitudes is robust to a comprehensive sensitivity analysis, including pre- and post-reunification differences in potential confounding variables, and holds for different measures of attitudes toward immigration. In that vein, using immigrant data from post-socialist and western European countries, I find evidence that the negative influence of exposure to authoritarian state socialist regimes on attitudes to immigration is not limited to the East German experience but is valid for most eastern European countries. When it comes to mechanisms, I find evidence that the negative attitudes toward immigration held by those exposed to state socialism, are associated with lower levels of interpersonal trust. In addition, being a member of a group that was opposed to the authoritarian system substantially reduces the influence of state socialism on an individual's attitudes toward immigration.

The analysis conducted in this study is based on two main assumptions. First, Germans in the East and West did not hold different attitudes toward immigration prior to the division of Germany. Second, East German out-migration in the divided years is orthogonal to attitudes toward immigration. By presenting pre-WWII differences between East and West Germany in employment, election results, protestant shares, and female labor force participation, as well as evidence on selective migration from East to West Germany before the Berlin wall was built, the recent study of Becker, Mergele, and Woessmann (2020) sheds doubt on the straightforward interpretation of German division and reunification as a natural experiment. This paper addresses their concern about the first assumption by assessing potential differences in out-group biases measured by Anti-Semitic behavior in the German Reich as a proxy for attitudes toward immigration. My analysis suggests that East Germany was likely to hold lower out-group biases, thus, indicating that my main estimates can be interpreted as lower bounds of the true effect. In order to assess the validity of the second assumption, I utilize a small set of East to West movers in the years during German division. Results from auxiliary regressions using this set of movers do not hint at a violation of the second assumption.

This article speaks to two strands in the economic literature which have been conducted separately thus far. First, I contribute to the significant body of literature on attitudes toward immigration. The majority of economic studies in this area focus on the influence of labor market competition (Mayda, 2006; Ortega and Polavieja, 2012; Hainmueller, Hiscox, and Margalit, 2015), potential fiscal burdens (Dustmann and Preston, 2006; Facchini and Mayda, 2009), potential increases in crime (Bianchi, Buonanno, and Pinotti, 2012; Fitzgerald, Curtis, and Corliss, 2012),

and ethnic bias (Dustmann and Preston, 2007; Card, Dustmann, and Preston, 2012). I hereby broaden the current understanding of what shapes attitudes toward immigration by analyzing the lasting influence of an authoritarian political system on these preferences. The second strand of literature concerns the impact of politico-economic regimes on individual preferences. Using survey data of East and West Germans after reunification, Alesina and Fuchs-Schündeln (2007) show that living under a socialist regime changes individuals' preferences for redistribution. Similarly, Bauernschuster and Rainer (2012) and Campa and Serafinelli (2019) conclude that individuals who lived under state socialism developed distinctly more progressive gender norms. Other studies are concerned about the legacy of state socialism on voting (Avdeenko, 2018) and economic preferences (Bauernschuster, Falck, Gold, and Heblich, 2012; Heineck and Süssmuth, 2013; Friehe and Pannenberg, 2019). This study provides evidence that the formation of attitudes toward immigration was similarly heavily and persistently affected by an individual's experience of living under state socialism.

The remainder of this article is structured as follows. In the next section, I provide a brief overview on attitudes toward immigration in reunified Germany, and describe how state socialism may affect preferences for immigration. The section thereafter introduces the main data set and variables employed for the empirical analysis. Section 4 reports the main results and explores channels through which state socialism affects attitudes toward immigration. Section 5 addresses remaining concerns about the validity of the identifying assumptions and summarizes further analyses. Finally, I discuss the relevance of my findings.

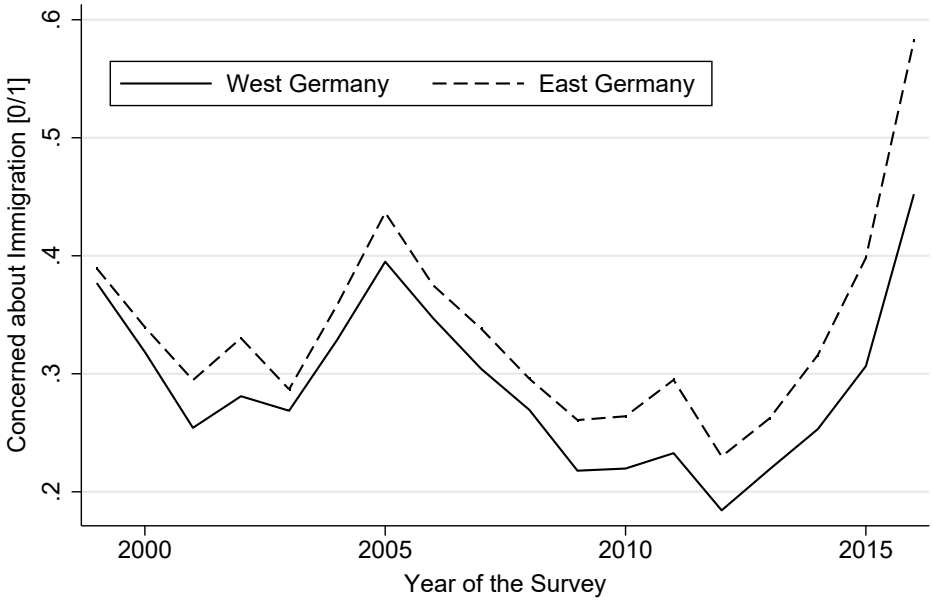
2 Context and State Socialism's Effect on Attitudes toward Immigration

2.1 Division, Reunification, and Attitudes toward Immigration in Germany

Between 1949 and 1990, Germany was divided into the Federal Republic of Germany (FRG, West Germany), a parliamentary democracy with a capitalist economic system, and the German Democratic Republic (GDR, East Germany), an illiberal, state socialist regime with a centrally planned economy, and without free elections. In order to obtain full control of the in- and outflow of people, the GDR started to fortify the inner German border in 1952 and completed this project by building the Berlin wall in 1961. Calling for civil and human rights in 1989, the East German population engaged in numerous demonstrations against the authoritarian system, which initiated the collapse of the GDR and led to the reunification of Germany in October 1990.

Ever since the reunification of Germany, xenophobic hate crimes have put the former socialist part of Germany in the headlines. Already in the early 1990s, several dramatic attacks took place against foreigners in East Germany. These included the infamous pogroms in Hoyerswerda in 1991 and Rostock-Lichtenhagen in 1992. Krueger and Pischke (1997), Falk, Kuhn, and Zweimüller (2011), and Entorf and Lange (2019) document that attacks against foreigners were much more frequent in the East than in the West over the past 25 years.

Figure 1: Attitudes toward Immigration over Time
(by Residence before Reunification)



Note: Data is taken from GSOEP (see Section 3). Graph shows the average share of persons who are very concerned about immigration to Germany in the given survey year and lived either in East or West Germany before reunification. Own depiction.

These extreme cases of anti-foreigner hatred are reflected in contemporary attitudes toward immigration. At the onset of escalating refugee immigration to Germany in 2014, PEGIDA, a xenophobic far-right movement, was founded in East Germany. The movement mobilized an excess of 25,000 protesters at its weekly demonstrations by channeling political disenchantment and xenophobic attitudes. Harnessing anti-immigration attitudes, the populist party AfD adapted an anti-immigration agenda and ran electoral campaigns almost exclusively on this issue. At the last federal election in 2017, this strategy won the AfD a vote share of 10.7 percent in West Germany, whilst it was able to collect 21.9 percent of the votes in the East.

The GSOEP data documents the differences in attitudes toward immigration between Germans from the former GDR and the FRG. Figure 1 shows how these attitudes vary over time for people who lived in either East or West Germany before 1989. While shifts in these attitudes seem to be driven by (the public salience of) actual immigration to Germany, it remains a persistent gap between East and West Germans in each year.

2.2 State Socialism and its Effect on Public Opinion about Immigration

As communism and socialism were new forms of politico-economic systems, leaders of the young states were convinced that their citizens needed to adapt new attitudes and norms in order to adhere to the new societal organization (Kenez, 1985; Fulbrook, 2005). In the case of the GDR, the Socialist Unity Party (SED), the single ruling party in the GDR, proclaimed a 'socialist

national culture' which should replace any other form of socialization (Neubert, 1998). By putting forward progressive norms on gender, income, and wealth equality, state socialist regimes effectively altered preferences and attitudes in these domains (as shown, for instance, by Alesina and Fuchs-Schündeln, 2007; Bauernschuster and Rainer, 2012; Campa and Serafinelli, 2019). Several historians argue that ethnic and out-group biases, which feed into attitudes toward immigration, were also affected by state socialism (Süß, 1993; Poutrus, Behrends, and Kuck, 2000; Zatlin, 2007; Waibel, 2014).

While norms on gender and economic equality were specifically targeted by the state socialist regimes, out-group biases may have been an undesired byproduct. In theory, socialist states uniformly promoted the idea of international cooperation and friendship among all people. However, while proclaiming these views, concrete policies often ran counter to this goal (Elsner and Elsner, 1994; Fulbrook, 2005; Zatlin, 2007). By trying to legitimize and stabilize communism and socialism in the new states, socialist leaders often turned to (i) out-group rhetoric and (ii) implemented an authoritarian rule, effectively counteracting the ideal of international cooperation and peaceful democratization.

Out-group rhetoric was nurtured toward western, capitalist countries and to (political) opposition within the socialist country as a threat to socialist society and their citizens (Domenach, 1951; Wolle, 1998). This narrative aimed to foster social cohesion by providing the population with a common enemy. At the same time, the superiority of the socialist over the capitalist system was emphasized. This double strategy of self-aggrandizement and defamation of western countries and their politico-economic system was deployed with the intention of uniting the population, effectively enhancing out-group biases and in-group affection. Furthermore, actions taken to suppress other forms of socialization in the GDR, for example churches, further strengthened the government's autocratic aim to dominate societal life (Frank, 2004; von Plato, Vilimek, Flipkowski, and Wawrzyniak, 2013). Ample evidence exists that attitudes toward foreigners and immigration are heavily influenced by out-group sentiments (see Hainmueller and Hopkins, 2014, for a systematic review). It thus follows that individuals who lived under state socialism, may have formed extreme (and persistent) out-group biases which could significantly impact their attitudes to immigration today.

Authoritarian rule in socialist states was usually established in the form of a single leading party controlling the entire state administration and thereby dominating and shaping the political, economic, and societal sphere of life. Thereby, state socialism came hand in hand with non-existent (or hollow) civic rights as well as with repressive measures against its citizens. For instance, in the GDR, the repressive intelligence and secret police agency *Stasi* (Ministerium für Staatssicherheit) was set up to keep the system in order. Its mandate was to monitor the population and to spot dissidents. The recruitment of ordinary citizens to spy on their colleagues, friends, and family spread severe mistrust among GDR citizens and led to a climate of fear (Lichter et al., 2020). In that vein, Rainer and Siedler (2009) and Brosig-Koch, Helbach, Ockenfels, and Weimann (2011) document that after more than 20 years since reunification, East Germans continue to exhibit consistently lower levels of interpersonal and institutional trust. This reduced degree of trust

very likely increases skepticism about foreigners, and impacts negatively on attitudes toward immigration.

3 Data

The main data source for this study is the GSOEP, an annual large-scale representative survey conducted among German households (see Schupp et al., 2018). The survey started in 1984 in West Germany and has included East German households since reunification in 1990. In this section, I briefly describe the main variables used in the empirical investigation and refer to summary statistics of these variables in the appendix.

The main outcome variable is the answer to the question "How concerned are you about immigration to Germany?". Survey participants could either respond that they are "very concerned", "somewhat concerned" or "not concerned at all".[3] The question has been included in the survey every year since 1999. I transform the ordinal variable into a dummy variable equal to one if respondents are "very concerned" about immigration and zero if they are "somewhat concerned" or "not concerned at all".[4] In my estimation sample, the average share of person-year observations that are concerned about immigration is 29 percent in West Germany and 33 percent in East Germany.

The main explanatory variable of interest is whether survey participants lived in the socialist East or the capitalist West before reunification. For this purpose, I construct a dummy variable *Lived under Socialism* equal to one if the answer to the question "Where did you live before German reunification, that is, before 1989?" is East Germany and zero if the answer is West Germany. The precise nature of this question allows me to identify former citizens of the GDR and not only persons living in East Germany at the time of the survey. In order to guarantee a minimum exposure to state socialism, I exclude persons who did not live in either part of Germany before 1989 or did not reach adulthood by 1989, i.e. were born after 1971.[5] In addition, I exclude all immigrants as well as second generation immigrants without German citizenship. The estimation sample hence consists of 33,103 individuals, of whom 7,748 lived under state socialism before 1990, and a total of 246,250 person-year observations.

[3] This item is largely used in the literature on attitudes toward immigration (see for instance Calahorrano, 2013; Avdeenko and Siedler, 2017; Poutvaara and Steinhardt, 2018). I nonetheless assess other proxies for attitudes toward immigration. Results obtained on these proxies corroborate the main findings and can be found in the appendix.

[4] I explore the robustness of this transformation by changing the definition of the dummy variable and by running an ordinal probit regression on the original variable. Results are robust to these alternative specifications and can be found in the appendix.

[5] As a strong intergenerational transmission of attitudes toward immigration was found by Avdeenko and Siedler (2017), I refrain from analyzing younger cohorts which grew up in part in the GDR and the FRG.

4 Results

In order to investigate the legacy of state socialism on attitudes toward immigration, I estimate a standard linear probability model with attitudes toward immigration as the dependent variable. In most specifications, I consider the period 1999-2016, where 1999 is the first year in which the question on attitudes toward immigration was included in the survey.

4.1 The Legacy of State Socialism on Attitudes toward Immigration

Table 1 presents the results of the baseline specification. The main variable of interest *Lived under Socialism* indicates whether an individual lived under state socialism in East Germany before reunification.[6] Column (1) of Table 1 provides the (raw) East-West difference in attitudes toward immigration solely conditional on year dummy variables. The coefficient is statistically significant and economically meaningful. In that model, persons who lived under state socialism are 4.5 percentage points more likely than those who lived in a democratic, capitalist system, to be concerned about immigration. Given the average level of concern about immigration, this difference corresponds to an increase of concerns by 15 percent. Column (2) introduces gender and a cubic polynomial of age as control variables that are determined prior to German reunification. Including these variables does not affect the estimate of the *Lived under Socialism* coefficient. The coefficient estimates of the control variables suggest that males are more concerned about immigration than females, and that concerns seem to be non-linearly shaped by age (see also Section 4.2). In further analyses, I will refer to the model in column (2) as the baseline specification.

4.2 Length of Exposure to State Socialism and Convergence after 1990

The results in Table 1 suggest that the influence of exposure to state socialism on preferences for immigration is statistically significant and economically relevant. The intensity by which exposure to state socialism has formed opinions about immigration may vary by the length an individual lived under this specific political regime. Figure 2 plots the average partial effects of living under state socialism for five-year-groups of birth cohorts. The figure therefore illustrates the differences in attitudes toward immigration between East and West Germans within each birth cohort. The plotted estimates for each cohort reveal an interesting pattern: East Germans who were born and raised under state socialism exhibit more negative attitudes toward immigration than their West German counterparts. If East Germans were born before the GDR was established, immigration attitudes are mostly not statistically significantly different from West Germans in the same cohort. This may suggest that younger individuals, who were born and raised under state socialism, were particularly susceptible to socialist indoctrination.

Since state socialism is abolished in East Germany since 1990, East Germans' attitudes

[6] Whenever I use the terms *East Germans* or *East Germany*, I refer to the experience of life under state socialism in the GDR, if not otherwise explicitly stated.

Table 1: Baseline Regression Results

Dependent Variable: Concerned about Immigration	(1)	(2)
Lived under Socialism	0.045***	0.044***
	(0.005)	(0.005)
Male		0.016***
		(0.004)
Age		-0.004
		(0.005)
Age squared ($\times 10^3$)		0.123
		(0.081)
Age cubed ($\times 10^5$)		-0.088**
		(0.045)
Year Dummies	X	X
Mean Outcome	0.30	0.30
Adj. R-squared	0.02	0.02
No. Ind.	33,103	33,103
No. Obs.	246,250	246,250

Note: The table reports OLS regression results of a dummy variable capturing concerns about immigration on a dummy variable *Lived under Socialism* indicating whether an individual lived under socialism or not. Standard errors are clustered at the individual level and displayed in parentheses. Statistical significance is indicated by asterisks according to: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

toward immigration may converge to West German levels after reunification. Figure 3 shows this process of convergence with the GSOEP data for the years 1999 to 2016. The figure depicts the average partial effects of having lived in the GDR for each survey year. It suggests that there seems to be no convergence in attitudes toward immigration in this observed period.[7]

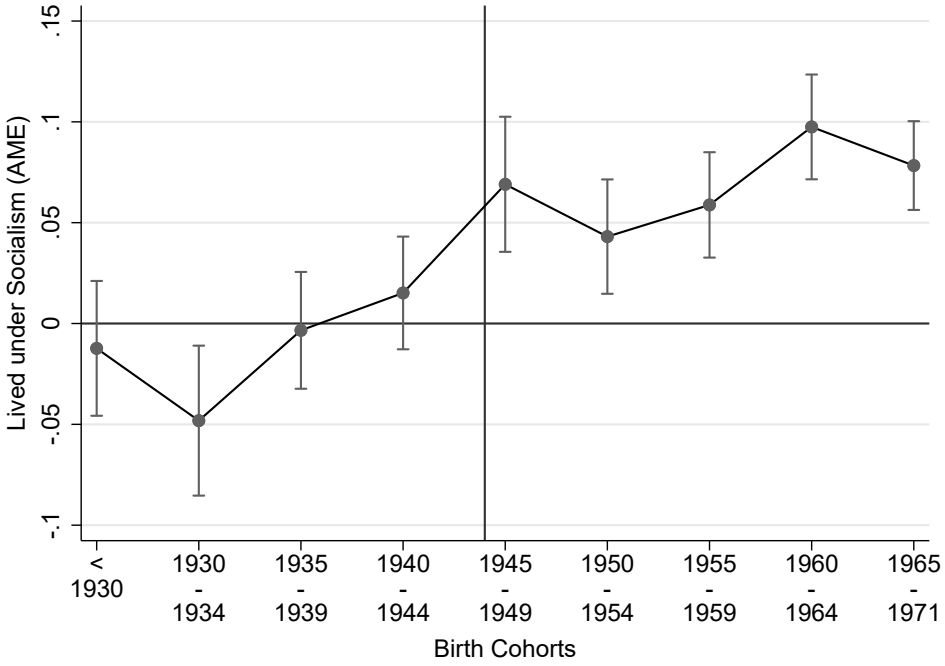
However, using the GSOEP data cannot answer the question whether the more negative attitudes of East Germans were already present prior to 1999. In order to investigate this issue, I turn to a data set by Wildenmann (1990). Via stratified random sampling, 1,700 West and 808 East Germans were surveyed in March 1990, i.e. after the fall of the Berlin Wall but before reunification. The survey was designed to compare political preferences between East and West Germans. It also featured a question about attitudes toward immigration. Participants were asked whether they feel either "enriched", "bothered", or "neither" by immigration. In order to remain consistent with the previous analysis, I construct a dummy variable equal to one if participants said that they were "bothered" by immigration, and otherwise, attribute a value of zero.[8]

Table 2 shows the regression results using the survey data from Wildenmann (1990). In column (1), I estimate the raw difference of having lived under state socialism on attitudes toward immigration. The estimated coefficient is statistically significantly different from zero

[7]Notably, the gap widens in 2015 and 2016, i.e. in the period of a large influx of refugees to Germany. When estimating a model with an interaction term between the *Lived under Socialism* variable and a dummy variable, which is equal to one for the survey years 2015 and 2016, the extent to which the gap in attitudes toward immigration widens can be estimated: The gap in concerns about immigration between East and West Germans increases by 7.1 percentage points in 2015/16. Regression results are available upon request.

[8]An overview on the data provided by Wildenmann (1990) can be found in Table A3 in the appendix.

Figure 2: The Legacy of State Socialism by Cohort



Note: Graph shows the average marginal effect (AME) of whether an individual lived in the GDR for each cohort. AME were calculated from an OLS regression of a dummy variable on concerns about immigration on a *Lived under Socialism* dummy variable, capturing whether respondents lived in the GDR before German reunification or not, interacted with cohort dummies. The vertical line marks the foundation of the GDR. Data is taken from GSOEP (see Section 3). 95 percent confidence intervals are shown. Own depiction.

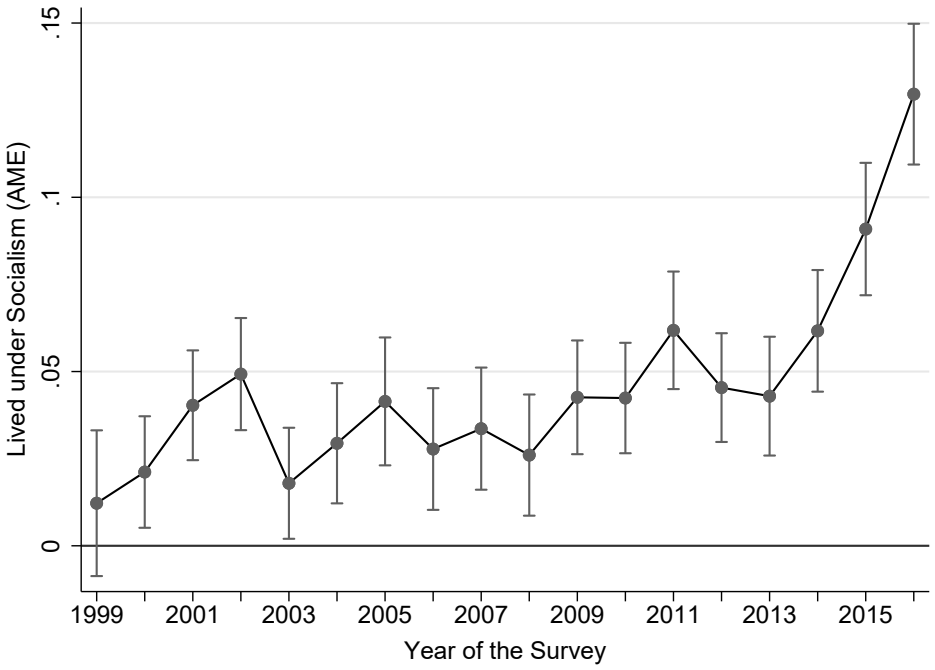
Table 2: Pre-Reunification Differences in Attitudes toward Immigration

Dependent Variable: Attitudes toward Immigration	(1)	(2)	(3)	(4)
Lived under Socialism	0.102***	0.116***	0.119***	0.140***
	(0.020)	(0.019)	(0.024)	(0.032)
Individual Controls		X	X	X
Household Controls			X	X
Economic Controls				X
Mean Outcome	0.27	0.27	0.31	0.31
Adj. R-squared	0.01	0.05	0.03	0.04
N	2,495	2,495	1,686	1,685

Note: The table reports OLS regression results of a dummy variable capturing negative attitudes toward immigration on a dummy variable *Lived under Socialism* indicating whether an individual lived under socialism or not. Individual control variables in column (2) to (4) include gender and a cubic polynomial of age. The marital status and the number of children are included in column (3) and (4) as household level control variables. Column (4) additionally includes the highest educational degree, the labor force status, and the logarithm of the labor income as economic control variables. Robust standard errors are displayed in parentheses. Statistical significance is indicated by asterisks according to: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

and substantial in size. On average, a surveyed individual in the GDR was 10.2 percentage points more likely to be bothered by immigration than a survey participant from the FRG. This

Figure 3: The Legacy of State Socialism over Time



Note: Graph shows the average marginal effect (AME) of whether an individual lived in the GDR by survey year. AME were calculated from an OLS regression of a dummy variable on concerns about immigration on a *Lived under Socialism* dummy variable, capturing whether respondents lived in the GDR before German reunification or not, interacted with survey year dummy variables. Data is taken from GSOEP (see Section 3). 95 percent confidence intervals are shown. Own depiction.

corresponds to 37.8 percent greater probability of an East German opposing immigration than a West German. For columns (2) to (4), I successively add more control variables to capture other potential influences for attitudes toward immigration at that time. Having lived under state socialism increases the likelihood of being concerned about immigration by 14 percentage points according to the model in column (4). Though the sample size is small, the evidence presented in Table 2 underpins the results obtained with the GSOEP data.

Notably, coefficient estimates retrieved from the Wildenmann (1990) data may hint at an greater difference in attitudes toward immigration before reunification. The first decade after the reunification seems to be a period of convergence in preferences. For the early 2000s, convergence stagnated and actually reversed in 2015, the year in which Germany received about a million newly incoming asylum seekers. This astonishing result demonstrates that large differences in attitudes toward immigration remain between East and West Germans 25 years after reunification and that both groups seem to react quite differently to large inflows of migrants.

4.3 Evidence from Other Post-Socialist Countries

Thus far, the influence of state socialism on attitudes toward immigration has been investigated by comparing East Germans who lived under an authoritarian, socialist regime, to West Germans, who at the same time lived in a democratic, capitalist country. German division and reunification constitute an ideal case to analyze this relationship. Such within-country variation in other former socialist or communist countries of the Eastern Bloc is not available. Nonetheless, this section aims at broadening the scope of this analysis by considering communist and socialist socialization in other countries in eastern Europe. More specifically, I will compare attitudes toward immigration of individuals that migrated from post-socialist or -communist countries after the collapse of the Soviet Union and the Eastern Bloc to Germany with attitudes of immigrants in Germany from western European countries that had no state socialist or communist regime. To be consistent with previous analyses, I again use the GSOEP and apply the same sample restrictions as in the previous estimations. In addition, I consider only immigrants immigrated after 1989 for whom I have information on the year of arrival and data on the GDP of their country of origin at the time of emigration.[9]

Column (1) of Table 3 presents the OLS regression results of this descriptive exercise using the same baseline specification for a sample of European immigrants in Germany, augmented with the control variable *Years since Immigration*, which captures the number of years which have passed since arrival in Germany. The main variable of interest *Post-Socialist Country* replaces the former variable *Lived under Socialism* and is either equal to one for immigrants who emigrated from post-socialist or -communist European countries, or zero for immigrants from countries without such a politico-economic legacy. The estimated conditional difference in attitudes between immigrants from countries with very different politico-economic systems is broadly in range with previous estimates of the influence of state socialism on attitudes toward immigration. An immigrant from a former country of the Eastern Bloc is 6.5 percentage points more likely to be concerned about immigration to Germany than an immigrant from West Europe. This estimate translates to a difference in the likelihood of being concerned about immigration of 25 percent. In column (2) of Table 3, I additionally control for the federal state to which an immigrant has migrated. Hence, I effectively compare immigrants from eastern and western Europe in a precisely defined area in Germany, thereby excluding regional differences (as for instance differences between East-West or North-South). The estimate of *Post-Socialist Country* remains fairly stable by including state dummy variables.

A concern about this analysis evolves from different emigration motives between East and West European migrants, which may lead to a different selection of immigrants within these groups. I try to address this issue to some extent by controlling for differences in the GDP per capita of the immigrant's country of origin relative to the GDP per capita of Germany at the time of emigration. Thus, I exploit within-country-of-origin variation in the economic

[9] A list of the countries of origin from which the considered immigrants migrated to Germany, as well as the number of immigrants from each country, can be found in Table A4 in the appendix.

attractiveness of Germany relative to the immigrant's country of origin. Put differently, the variable GDP_{Home}/GDP_{GER} included in column (3) shall capture different economic incentives to migrate to Germany over time. The estimated coefficient of this variable is not statistically significant from zero. However, the estimate of the main explanatory variable of interest *Post-Socialist Country* increases in size, but is also less precisely estimated. After controlling for economic selection, the estimated gap in concerns about immigration to Germany between immigrants who have lived under state socialism, and those who have not, increases to 30 percent.

Columns (4) and (5) assess potential assimilation patterns over time by interacting the *Post-Socialist Country* variable with the years spent in Germany. Although estimates of the interaction effect are negative, they are also statistically insignificant. It thus seems that the difference in attitudes toward immigration between East and West European immigrants in Germany does not close with longer stays in Germany – a similar result as the persistent differences between East and West Germans.

These descriptive results provide indicative evidence that exposure to state socialism and communism may have shaped attitudes toward immigration on a large scale. Selection of immigrants and non-observable cultural differences between the countries of origin may of course represent a significant weakness of this approach.[10] Controlling for selection based on economic motives, however, does not close the gap in attitudes toward immigration of immigrants from former Eastern Bloc countries and western European migrants.

4.4 Channels

The more negative attitudes to immigration of Germans who experienced state socialism with respect to those who did not, are persistent and seem to be already present prior to the reunification of Germany. Consequently, negative perceptions of immigration have likely developed amongst East Germans as a result of the circumstances and their experiences made in the GDR. In this section, I will focus on two channels through which life in the GDR may have shaped attitudes toward immigration: (i) an erosion of social capital, and (ii) an adaption of socialist ideology.

4.4.1 Social Capital

As social capital was largely affected by the authoritarian system in the GDR, it may qualify as an explanation for the more negative attitudes toward immigration of East Germans. In order to empirically analyze the relationship between social capital and attitudes toward immigration, I proxy social capital by interpersonal trust, interest in politics, and political and civic engagement. The political science literature, for instance, has established the finding that more trusting people

[10] In addition, concerns about immigration of early East European immigrants could be driven by concerns about labor market competition induced by changes in immigration policy, e.g. free labor market access for other eastern European countries from the European Union enlargement in 2004. Those countries obtained free access to the German labor market in 2011. In Figure A1, I address this concern by regressing the concerns about immigration of East European migrants in Germany on year dummies. The graph plots the year effects and thereby reveals that there was no differential increase in concerns about immigration in the year 2011 or in surrounding years.

Table 3: Attitudes toward Immigration of European Immigrants in Germany

Dependent Variable: Concerned about Immigration	(1)	(2)	(3)	(4)	(5)
Post-Socialist Country	0.065***	0.064***	0.078*	0.092**	0.100*
	(0.023)	(0.023)	(0.042)	(0.042)	(0.051)
Years since Immigration	0.009***	0.008***	0.008***	0.010***	0.010***
	(0.002)	(0.001)	(0.002)	(0.003)	(0.003)
GDP_{Home}/GDP_{GER}			0.028		0.020
			(0.075)		(0.077)
Post-Socialist Country × Years since Immigration				-0.003	-0.003
				(0.003)	(0.003)
Year Dummies	X	X	X	X	X
State Dummies		X	X	X	X
Control Variables	X	X	X	X	X
Outcome Mean	0.26	0.26	0.26	0.26	0.26
Adj. R-squared	0.05	0.07	0.07	0.07	0.07
No. Ind.	1,678	1,678	1,678	1,678	1,678
No. Obs.	3,442	3,442	3,442	3,442	3,442

Note: The table reports OLS regression results of a dummy variable capturing concerns about immigration on a dummy variable *Post-Socialist Country* indicating whether an immigrant lived in a (post-)socialist country before migrating to Germany or not. Control variables include gender and a cubic polynomial of age. Standard errors are clustered at the country-of-origin level and displayed in parentheses. Statistical significance is indicated by asterisks according to: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

also hold more positive attitudes toward immigrants (see for instance Economidou, Karamanis, Kechrinioti, and Xesfingi, 2020). Moreover, studies on the consequences of growing-up under the socialist regime in East Germany have found unambiguous evidence that East Germans are consistently less trusting than West Germans (Rainer and Siedler, 2009; Brosig-Koch et al., 2011; Heineck and Süssmuth, 2013). Hence, markedly negative attitudes toward immigration amongst East Germans may be associated with their lower levels of trust.

While questions on interpersonal trust were asked in the GSOEP only in the years 2003, 2008, and 2013, information on interest in politics and engagement can be utilized from the 1990 survey. Using the GSOEP information on trust and conducting a principle component analysis (PCA), I construct a measure of generalized trust following Dohmen, Falk, Huffman, and Sunde (2008) and add this variable to the baseline model.[11] Higher values of this variable indicate a higher level of generalized trust. The variables about political participation are constructed by creating two dummy variables which are equal to one if an individual had a high interest in politics in 1990 or had some sort of political or civic engagement in 1990, and otherwise zero.

Table 4 reports the coefficient estimates of the influence of social capital on attitudes toward immigration. Panel A reports the coefficients of the augmented regression and Panel B the

[11]Three statements are posed in the GSOEP to elicit information relating to interpersonal trust: "People can generally be trusted", "Nowadays you can't rely on anyone", and "If you are dealing with strangers, it is better to be careful before trusting them". Respondents can answer either "agree completely", "rather agree", "rather disagree", or "totally disagree".

coefficients when the main explanatory variable *Lived under Socialism* is interacted with the potential mediating variable. The first row presents the estimate of *Lived under Socialism* from the baseline specification (i.e. without mediators) on the sample of individuals for whom information on the potential mediating variables are available. In Panel A of column (1), the coefficient of *Generalized Trust* is negative and statistically significant, indicating that individuals with higher levels of trust are more likely to favor immigration. More importantly, including trust in the estimation decreases the estimated *Lived under Socialism* coefficient substantially. By conducting a formal mediation analysis according to Imai, Keele, and Tingley (2010), I find that differences in levels of trust explain 91.8 percent of the difference in attitudes between East and West Germans. In Panel B, I control for a specific GDR effect of generalized trust on attitudes toward immigration. The interaction is, however, statistically insignificant and close to zero. This implies that there is no differential impact of trust between East and West Germans. Estimates in column (2) and (3) support the results about trust. They show that individuals, who were politically involved in 1990, exhibit more openness to immigration. Including measures of political participation in the model, however, only marginally mediates the relationship between growing up under state socialism and attitudes toward immigration. Trust appears to remain the major driver of the negative legacy of state socialism on preferences for immigration. Thus, the results from Table 4 are well in line with the notion that the SED regime effectively and persistently spread mistrust among its citizens. The formation of attitudes toward immigration seems to be heavily impacted by the lack of trust in East Germany.

4.4.2 Socialist Ideology

In order to estimate the influence of socialist ideology on the formation of attitudes toward immigration, I investigate an oppositional group within the GDR: religious communities. This group largely opposed the socialist system and had access to alternative narratives and forms of socialization (von Plato et al., 2013). Although the GDR formally guaranteed freedom of faith, the regime openly disapproved of religious denominations (Fulbrook, 2005; Schröder, 2007). Church taxes were abolished and members of religious communities were denied the right to work for the government. In addition, their children were not allowed to attend high schools regularly. The SED established social ceremonies such as the *Jugendweihe*, where adolescents were given the social status of an adult, as substitutes for religious traditions such as the confirmation. These measures enabled the SED regime to successfully weaken the influence of churches in the GDR. In 1946, 97.5 percent of the East German population described themselves as either protestant or catholic, yet in 2011, only 22.5 percent of East Germans had a religious denomination.[12] The aim of these policies was to guarantee socialist predominance in the life of each citizen and to prevent alternative forms of socialization.

GDR citizens who maintained their alliance to a religious community, may be less susceptible

[12]Data on religious denominations in 1946 come from the census in the Soviet Military Occupation Zone (Falter, 1997). Data from 2011 comes from the 2011 census. Shares of religious denominations are calculated excluding Berlin.

Table 4: Social Capital and Attitudes toward Immigration

	Trust	Political Participation	
Dependent Variable: Concerned about Immigration	(1)	(2)	(3)
Baseline Model:			
Lived under Socialism	0.028***	0.028***	0.027***
	(0.006)	(0.009)	(0.009)
Panel A			
Lived under Socialism	0.002	0.039***	0.028***
	(0.006)	(0.009)	(0.009)
Generalized Trust	-0.075***		
	(0.002)		
High Interest in Politics in 1990		-0.067***	
		(0.009)	
Politically Engaged in 1990			-0.037***
			(0.011)
Mediation	92.44	36.29	0.43
Adj. R-squared	0.05	0.03	0.02
Panel B			
Lived under Socialism	0.003	0.038***	0.036***
	(0.006)	(0.012)	(0.010)
Generalized Trust	-0.076***		
	(0.002)		
Lived under Socialism × Generalized Trust	0.002		
	(0.004)		
High Interest in Politics in 1990		-0.068***	
		(0.011)	
Lived under Socialism × High Interest in Politics in 1990		0.002	
		(0.017)	
Politically Engaged in 1990			-0.023*
			(0.013)
Lived under Socialism × Politically Engaged in 1990			-0.038*
			(0.022)
Mediation	91.80	36.73	0.48
Adj. R-squared	0.05	0.03	0.02
Year Dummies	X	X	X
Control Variables	X	X	X
Outcome Mean	0.26	0.33	0.33
No. Ind.	20,753	6,908	6,830
No. Obs.	39,696	79,891	78,994

Note: The table reports OLS regression results of a dummy variable capturing concerns about immigration on a dummy variable *Lived under Socialism* indicating whether an individual lived under socialism or not. The first row presents the coefficient of *Lived under Socialism* on the same sample as the estimated *Lived under Socialism* coefficient of the augmented models in Panel A and B excluding the mediating variables. Control variables include gender and a cubic polynomial of age. The percentage of mediation is calculated using the `medeff` package from Hicks and Tingley (2011). Standard errors are displayed in parentheses and clustered at the individual level. Statistical significance is indicated by asterisks according to: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

to socialist indoctrination.[13] I use information on the religious denomination of participants in

[13]Churches in the GDR were essentially the only place where free-speech was possible (Schröder, 2007). They therefore attracted members not only by their religious guidance in life but also by the possibility to act and speak

the GSOEP from 1990 to construct a dummy variable *Member in a Church in 1990* equal to one, if respondents indicate that they have been a member of a church in that year, and zero otherwise.

Column (1) of Table 5 shows the regression results of the baseline model augmented with the *Member in a Church in 1990* variable. The *Lived under Socialism* coefficient reacts only marginally to the inclusion of the *Member in a Church in 1990* variable, which itself is statistically not distinguishable from zero. Since the results in column (1) might be obscured by the very different church membership rates between East and West Germany, I interact the *Lived under Socialism* dummy with the *Member in a Church in 1990* dummy in order to estimate the partial association of belonging to a Christian community in East Germany in column (2). The reference group in this regression is West Germans without a religious denomination. The coefficient of *Lived under Socialism* now captures the influence of state socialism for former GDR citizens who have not been in a church in 1990. It increases substantially, indicating that this group holds severely more negative attitudes toward immigration than West Germans without a religious denomination. The coefficient of *Member in a Church in 1990* captures the influence of being part of a church in the West in 1990. It reveals that West Germans who have been members of a church in the West hold more negative attitudes toward immigration than West Germans without a religious denomination. Finally, the interaction between *Lived under Socialism* and *Member in a Church in 1990* is negative and statistically significant. This implies that East Germans, who had a religious denomination in 1990, are substantially less likely to be concerned about immigration than East Germans who had not.

In order to validate the influence of belonging to an oppositional group in the GDR on attitudes toward immigration, I also regress the outcome variables on measures of surveillance by the socialist regime. In column (3), I introduce the dummy variable *Felt surveilled by State*, which is equal to one if the former GDR citizen knew or had the feeling that he or she was surveilled by the State. Column (4) includes the average unofficial informer density in the district in which a former GDR citizen lived in 1990.[14] The data comes from Lichter et al. (2020) and informs about the local size of the spying network of the Stasi. The results show a statistically significant negative association between perceived surveillance and attitudes toward immigration. In addition, the coefficient of the average unofficial informer density is negative, although not statistically significant. A negative relationship between perceived and actual Stasi surveillance and attitudes toward immigration would be consistent with the interpretation that oppositional forces, which were targeted by state surveillance, did not align with socialist ideology.

The results of Table 5 suggest that having been part of the opposition in the GDR matters for individual attitudes toward immigration. Communities in which the socialist government was not able to (fully) spread their ideology, seem to have suffered a lower deterioration of attitudes to immigration.

freely in a system where such a behavior was usually infeasible.

[14]German districts correspond to the NUTS 3 level in the EU geocode standard and are comparable to US counties.

Table 5: Opposition in the GDR

	Religion		Surveillance	
Dependent Variable: Concerned about Immigration	(1)	(2)	(3)	(4)
Baseline Model:				
Lived under Socialism	0.028***	0.028***		
	(0.009)	(0.009)		
Augmented Model:				
Lived under Socialism	0.032***	0.066***		
	(0.011)	(0.020)		
Member in a Church in 1990	0.008	0.038**		
	(0.011)	(0.019)		
Lived under Socialism				
× Member in a Church in 1990		-0.048**		
		(0.024)		
Felt surveilled by State			-0.038***	
			(0.014)	
Mean Unofficial Informer Density				-0.137
				(0.091)
Year Dummies	X	X	X	X
Baseline Control Variables	X	X	X	X
Regional Control Variables				X
Mediation	18.08	29.38		
Outcome Mean	0.33	0.33	0.33	0.33
Adj. R-squared	0.02	0.02	0.04	0.02
No. Ind.	6,892	6,892	2,167	2,189
No. Obs.	79,713	79,713	28,530	20,786

Note: The table reports OLS regression results of a dummy variable capturing concerns about immigration on a dummy variable *Lived under Socialism* indicating whether an individual lived under socialism or not. The first row presents the coefficient of *Lived under Socialism* on the same sample as the estimated *Lived under Socialism* coefficient of the augmented model excluding the mediating variable. Baseline control variables include gender and a cubic polynomial of age. Regional control variables include districts' log population size, a dummy variable indicating whether the district is considered as an urban or rural area, GDP per capita, the average household income, the unemployment rate, the number of marginally employed workers, and the share of foreign-born residents. The percentage of mediation is calculated using the `medeff` package from Hicks and Tingley (2011). Standard errors are displayed in parentheses and clustered at the individual level in column (1) to (3) and at the district level in column (4). Statistical significance is indicated by asterisks according to: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

5 Robustness and Further Analyses

Previous sections supplied evidence on the magnitude, persistence, and channels through which state socialism affects attitudes toward immigration. This section briefly addresses potential remaining concerns about identification, provide additional results, and explore further potential channels and outcomes related to attitudes toward immigration. Details of these analyses can be found in the appendix.

Pre-Division Attitudes

The crucial identifying assumption made in order to uncover the relationship between living under state socialism and attitudes toward immigration is the absence of differences in these attitudes between East and West Germany before their division. To investigate this relationship, I use several measures of anti-Semitism in the Weimar Republic and Nazi Germany, that should capture out-group biases at the local level. Regression estimates suggest that the prevalence and intensity of local out-group biases were smaller in the East than in the West. If these out-group biases do correlate with negative attitudes toward immigration, and are persistent over time (as suggested by Cantoni, Hagemeister, and Westcott, 2017), the experience of state socialism may have influenced the formation of out-group biases (proxied by attitudes towards immigration) perhaps more negatively than suggested in the main analysis. In any case, potential differences in out-group biases prior to the division of Germany may only describe the main estimate as a lower bound of the true effect.

GDR Emigrants before 1989

Until the Berlin Wall was built in 1961, emigration from the GDR to the FRG was still possible. If emigrants to the FRG were selected on their positive attitudes toward immigration of foreigners into the GDR, the population which remained in the GDR may mechanically have more negative attitudes than the West German population. Due to the absence of a measure of attitudes toward immigration at the time of German division, I cannot directly investigate the potential selection of GDR emigrants based on their preferences for immigration. I am able, however, to identify a small set of GDR citizens, who migrated to the FRG *before* the fall of the Berlin Wall. This allows me to analyze possible differences in their attitudes toward immigration to East and West German stayers *after* the fall of the Berlin wall. Results supply indicative evidence that early East-West migration did not drive the severe gap in attitudes toward immigration.

East–West Migration after Reunification

After the fall of the Berlin Wall in November 1989, movement between East and West Germany once again became feasible. In the subsequent years, many East Germans took the opportunity to relocate to West Germany. Do these individuals hold different attitudes toward immigration than East German stayers? It appears that moving from East to West Germany does not alter the more negative attitudes toward immigration of former GDR citizens.

Regional Heterogeneity in the GDR

Thus far, the GDR has been seen as monolithic bloc without acknowledging any regional heterogeneity throughout the country. When I explore potential regional heterogeneities in the influence of state socialism on attitudes toward immigration, it seems that this relationship is rather homogenous across areas in the former GDR.

Economic Transformation of East Germany

Following reunification, East Germany underwent a severe economic transformation. The substantial negative economic shock after reunification and the persistent economic difference between the East and West thereafter could be an additional contributing factor to the more negative opinion about immigration among individuals who lived under state socialism. I undertake three different approaches in addressing this issue. First, I compute a measure of how likely it is that East Germans will lose their job after reunification based on differences in industry employment according to Liepmann (2018). Second, I measure actual unemployment experience. Third, I augment the baseline specification by using contemporary regional economic control variables in order to measure the economic deprivation of East German regions. While I find that negative economic experiences are indeed correlated with attitudes toward immigration, they alter the influence of having lived under state socialism on concerns about immigration only marginally.

The Role of Education

Several studies in the literature on the determinants of attitudes toward immigration highlight the importance of education (e.g. Mayda, 2006; Hainmueller and Hiscox, 2007; Margaryan, Paul, and Siedler, 2019). Given that schooling in the GDR was quite different from schooling in the West (Block and Fuchs, 1993), the influence of educational attainment on attitudes toward immigration might be different between as well as within the two parts of Germany. Based on information about the highest educational degree obtained by 1992, I estimate the average marginal effect of an educational degree on being concerned about immigration. The estimates reveal that the higher the school degree, the lower are concerns about immigration in West Germany. For East Germany, however, individuals with lower and higher secondary education are most likely to be concerned about immigration. This result may be the outcome of socialist indoctrination at school, which was predominantly taught in classes at the end of secondary education (Fuchs-Schündeln and Masella, 2016).

Evidence on further Channels

I assess the importance of access to West German TV and exposure to immigrants in the GDR as potential further channels. Broadcast stations were built along the fortified border between the two parts of Germany by the FRG in order to supply homes in the GDR with West German TV and radio programs. For technical and topographical reasons, some parts of the GDR were not able to receive West German broadcast. Employing information on who was able to receive West German broadcasts and who was not, estimation results suggest that access to West German TV did not influence the formation of attitudes to immigration in the GDR.

Immigration into the GDR was small and limited compared to immigration to the FRG. The relative lack of foreigners in East Germany before and after reunification might explain the large differences in attitudes toward immigration between East and West Germans. To investigate

this hypothesis, I use information on the contemporary and 1987/1989s' share of foreigners in respondents' districts, as well as information on the presence of soviet military bases. Regression results show that the actual presence of migrants in the local environment does not seem to be driving attitude formation.

Alternative Measures of Attitudes toward Immigration

I report estimates of exposure to state socialism on alternative definitions of my main dependent variable as well as on alternative concepts to proxy attitudes toward immigration. The results suggest that the influence of state socialism on attitudes toward immigration is not sensitive to the definition of the dependent variable, and that other proxies of attitudes toward immigration (e.g. contact to foreigners, voting for anti-immigration parties) support the main estimates.

Estimation and Weighting

Thus far, regressions have been based on repeated cross-sections with multiple respondents in different years. In order to analyze the sensitivity of the results regarding this empirical specification, I present estimation results of the main coefficient based on a random effects model, different manipulations of the cross-sectional data, and weighted OLS. All results support the estimates obtained by the main analysis.

6 Discussion and Conclusion

In this article, I show that individuals who have lived under an authoritarian, state socialist regime hold more negative attitudes toward immigration than individuals who have lived in a democratic, capitalist system. This study uses the case of German division and reunification to estimate the influence of politico-economic systems on attitudes toward immigration. Relying on the assumption that the division of post-WWII Germany into a capitalist, democratic western territory (FRG) and an authoritarian, socialist eastern territory (GDR) was not correlated with attitudes to immigration at that time, I estimate the association of exposure to socialist socialization on attitudes toward immigration. I provide evidence for the validity of this assumption and illustrate that the difference in attitudes toward immigration between former citizens of the GDR and FRG seems not to be driven by selective out-migration during the period of German division, nor by the structural break imposed on East Germans by reunification. According to my preferred empirical specification, individuals exposed to state socialism are on average 15 percent more likely to be concerned about immigration.

By assessing the influence of the politico-economic system on attitudes toward immigration, this study contributes to the economic literature explaining these preferences. When compared with the magnitudes of other determinants of attitudes toward immigration, the influence of exposure to state socialism is quite substantial. Using data from the International Social Survey Programme, which covers more than 20,000 survey participants from 22 countries in 1995, Mayda

(2006) estimates that an additional year of schooling increases pro-immigration attitudes on average by 8.1 percent. Furthermore, Mayda (2006) estimates that moving one unit closer to the right on a political preference scale of five categories decreases pro-immigration attitudes by 15.3 percent. The estimated influence of exposure to state socialism therefore translates to almost two years of additional schooling—a substantial difference—or is comparable to a large shift of political preferences to the right.

This study further speaks to the broader economic literature on the effects of politico-economic systems on preference formation. I find that the influence of state socialism on attitude formation is extremely persistent over time and across space. Even East Germans, who move to the West and are therefore exposed to a different set of neighbors, co-workers, and other local factors, do not converge to West German levels in terms of their attitudes toward immigration. This result runs contrary to the back-of-the-envelope calculations about the time it takes for East German preferences to converge to West German levels performed by Alesina and Fuchs-Schündeln (2007). They infer from their empirical analysis that preferences should be aligned after 20 to 40 years due to changes in the composition of the East German population, and changes in individual attitudes. The analyses performed in this study do not corroborate this projection. Instead, it seems that, attitudes toward immigration remain quite different between individuals, who grew up in different political system. Evidence that the estimated influence of exposure to state socialism is largest for cohorts born and raised in the GDR supports this notion.

When comparing immigrants from other post-socialist or -communist countries with immigrants from West European countries, I find evidence that these results have broader relevance for countries other than the GDR. By modestly controlling for selection on economic motives, I find an even larger gap in attitudes toward immigration than in the main analysis.

Furthermore, the results on voting intentions indicate that the exposure to state socialism contributes to today's rise in populism and the revitalization of anti-immigration, right-wing parties. I find that individuals who lived under state socialism are twice as likely as individuals who did not, to vote for anti-immigration parties. This legacy of state socialism feeds directly into political preferences today and, as seen in Germany's last federal election of 2017, seems to impact voting outcomes on a large scale. Potential intergenerational effects emphasized by Avdeenko and Siedler (2017) might stabilize this legacy, affecting politics in the years to come.

When considering why life under state socialism negatively impacted attitudes toward immigration, deteriorated levels of interpersonal trust seem to be an important channel. In addition, evidence from an oppositional group highlights the relevance of being susceptible to socialist ideology. The results on the mechanisms through which state socialism affects attitudes toward immigration point to the repressive, authoritarian side of the politico-economic system.

A way for policy makers to reverse the legacy of state socialism might be to foster greater levels of trust among former citizens of the GDR. Inclusive policies directly targeted at this group may alleviate a large part of the concerns about immigration and could mitigate the long-shadow of socialist indoctrination.

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Appendix

Data and Summary Statistics

The following sections describe the data used for the empirical analysis and provides basic summary statistics in Table A1, A2, A3, and A4.

Dependent Variables

The main dependent variable in this study is whether an individual is concerned about immigration or not. Survey participants could either be "not concerned at all" (1), "somewhat concerned" (2) or "very concerned" (3) about immigration. This ordinal variable is transformed into a dummy variable *Concerned about Immigration* equal to one if respondents are "very concerned" about immigration and zero if they are "somewhat concerned" or "not concerned at all". The alternative definition of this variable summarizes the responses "very concerned" and "somewhat concerned".

The variable *Concerned about Hostility against Foreigners* is equal to one if respondents answer "very concerned" to the question "How concerned are you about hostility to foreigners?", and zero if respondents answer "somewhat concerned" or "not concerned at all". In both parts of Germany, 27 percent of the person-year observations are concerned about hostility against foreigners.

Contact to Immigrants is defined to take on the value of one, if individuals either visited foreigners in their homes or hosted foreigners in their own homes or both in the last 12 months. If individuals did neither, the variable is equal to zero. The GSOEP asks about voting intentions for specific parties. I use information on voting intentions to construct the variables *Would vote for AfD* and *Would vote for Extreme Right Party*, which are equal to one if respondents indicate that they would cast their vote for the *Alternative für Deutschland* (AfD) or for one of the openly extremist right-wing parties covered by the GSOEP (Nationaldemokratische Partei Deutschland, Republikaner, and Die Rechte), respectively. Voting for anti-immigration parties and contact to immigrants stands in sharp contrast in both parts of Germany. In West Germany, the mean of *Contact to Immigrants* is more than double the size than for East Germany. Similarly, the averages of voting for anti-immigration parties are half of East Germany levels in the West of the country.

Individual Level Variables

Gender and age are quiet balanced between East and West Germany. Almost half of the observations are male and the average age is about 56 and a half years.

Three statements are posed in the GSOEP to elicit information relating to interpersonal trust: "People can generally be trusted", "Nowadays you can't rely on anyone", and "If you are dealing with strangers, it is better to be careful before trusting them". Respondents can answer either "agree completely", "rather agree", "rather disagree", or "totally disagree". Using the answers to these statements, I conduct a principle component analysis (PCA) following Dohmen

et al. (2008), yielding the variable *Generalized Trust*. Higher values of this variable indicate a higher level of generalized trust, that is clearly visible for West Germany.

The variables *High Interest in Politics in 1990* and *Politically Engaged in 1990* are two dummy variables which are equal to one if an individual had a high interest in politics in 1990 or had some sort of political or civic engagement in 1990, respectively, and otherwise zero. While East Germans seemed to be as politically engaged as West Germans in 1990, they are much more interested in politics.

Member in a Church in 1990 captures whether participants in the GSOEP indicate that they have been a member of a church in 1990, and zero otherwise. Here, large differences between East and West Germany are visible, demonstrating the effectiveness of GDR's efforts to reduce the influence of the churches.

RES in 1990 captures the likelihood for individuals to loose their job in the transition years following 1990. The construction of the variable is explained in detail in the appendix. *Unemployment Experience between 1991-1999* and *Years of Unemployment between 1991-1999* are constructed by only considering individuals who experienced unemployment between 1991 and 1999 or stayed in employment over the entire period. The variables are either equal to one if an individual reported to be unemployed between 1991 and 1999, or equal to the number of years spent in unemployment in this period, or else equal to zero, if an individual was employed throughout the entire period. The means of these variables suggest that East Germans have experienced unemployment much more often and also for a longer period of time than West Germans.

In terms of education, East Germans are much more likely to hold a higher than a lower secondary schooling degree compared to West Germans. Tertiary education and school dropouts are less frequent in East Germany than in West Germany.

District Level Variables

In addition to individual level data, I employ information about the district in which an individual lives at the time of the survey. Information on district level variables comes from the INKAR data base, which gives access to a host of regional data for Germany and is administered by the Federal Institute for Construction, City, and Space Research (Bundesinstitut für Bau-, Stadt- und Raumforschung). Data is available consistently from 2000 to 2014 for population size, whether a district is considered an urban area or not, GDP per capita (in thousand Euros), the average household income in the district (in thousand Euros), the unemployment rate, and the share of marginally employed workers per 1,000 working-age residents. The averages of these variables show that East Germany is considered much more rural, poorer in terms of GDP and household income, more riddled with high unemployment, but count fewer marginally employed workers.

The share of foreigners is available from 1995 to 2014 and is used as a measure of exposure to immigrants at the local level. In addition, I use the share of foreigners from 1987 for West Germany and from 1989 for East Germany to better reflect exposure to immigrants around the

Table A1: Summary Statistics from GSOEP Data

	West Germany					East Germany				
	Mean	SD	Min	Max	Obs.	Mean	SD	Min	Max	Obs.
Dependent Variables:										
Concerned about Immigration	0.29	0.45	0	1	177,004	0.33	0.47	0	1	69,246
Ordinal Scale (1,2,3)	2.02	0.74	1	3	177,004	2.12	0.73	1	3	69,246
Alternative Definition	0.73	0.44	0	1	177,004	0.79	0.41	0	1	69,246
Concerned about Hostility against Foreigners	0.27	0.44	0	1	176,284	0.27	0.45	0	1	69,062
Contact to Immigrants	0.46	0.49	0	1	43,915	0.19	0.39	0	1	16,859
Would vote for AfD	0.02	0.14	0	1	15,382	0.05	0.22	0	1	3,989
Would vote for Extreme Right Party	0.00	0.06	0	1	98,850	0.01	0.12	0	1	26,103
Individual Level Variables:										
Male	0.48	0.50	0	1	177,004	0.47	0.50	0	1	69,246
Age	56.60	13.94	28	105	177,004	56.50	13.48	28	99	69,246
Generalized Trust	0.08	1.30	-3.4	3.9	28,379	-0.26	1.26	-3.4	3.9	11,317
High Interest in Politics in 1990	0.41	0.49	0	1	48,791	0.56	0.50	0	1	31,100
Politically Engaged in 1990	0.21	0.41	0	1	48,778	0.21	0.41	0	1	30,216
Member in a Church in 1990	0.90	0.30	0	1	48,757	0.35	0.48	0	1	30,956
RES in 1990	0.12	0.58	-2.1	1	31,828	-1.98	6.33	-23.5	0.7	21,377
Unemployment Experience between 1991-1999	0.16	0.37	0	1	54,318	0.42	0.49	0	1	34,204
Years of Unemployment between 1991-1999	0.31	0.92	0	10	54,318	1.00	1.57	0	9	34,204
No School Degree in 1992	0.02	0.13	0	1	49,987	0.00	0.05	0	1	31,460
Lower Secondary in 1992	0.53	0.50	0	1	49,987	0.32	0.47	0	1	31,460
Higher Secondary in 1992	0.26	0.44	0	1	49,987	0.51	0.50	0	1	31,460
Tertiary in 1992	0.19	0.40	0	1	49,987	0.16	0.37	0	1	31,460
District Level Variables:										
log(Population)	12.51	0.84	10.4	15.1	176,065	12.36	0.89	10.5	15.1	65,185
Urban Area	0.74	0.44	0	1	177,004	0.35	0.48	0	1	69,246
GDP per Capita	30.75	13.63	11.3	143.1	143,198	21.17	6.77	11.3	88.0	55,842
Average HH Income	1.57	0.23	1	3.5	153,550	1.31	0.16	1	2.4	59,471
Unemployment Rate	7.76	3.32	1.2	24.7	159,491	14.49	4.59	1.2	25.4	62,661
Marginally Employed	91.66	15.89	32.4	185.3	162,527	61.84	13.24	32.4	185.3	62,842
Share of Foreigners (contemp.)	0.10	0.05	0.01	0.3	159,491	0.03	0.04	0.01	0.3	62,661
Share of Foreigners 1987/1989	0.07	0.04	0.0	0.2	48,893	0.02	0.02	0.0	0.1	30,278

Note: The Table reports the sample averages, standard deviation, minimum, maximum, and number of observations by place of residence before German reunification. Data comes from GSOEP.

time of reunification. For the FRG, these numbers come from the 1987 population census and are available at the district level. The share of foreigners in the GDR comes from the statistical yearbook of 1989 (Statistische Jahresbücher) and is only available at the precinct level (Bezirk), which is one administrative level above districts. To utilize this information, I proportionately attribute the numbers from the precinct level to today's district classification.

East Germany

Table A2 presents information on East Germans who experienced state socialism. The first four rows supply information on the number of people who migrated from East to West Germany after and prior to reunification.

The variable *Felt surveilled by State* is constructed from participants' statement on whether they felt surveilled in the GDR or not. If respondents indicate that they felt surveilled, the variable takes on the value of one. Data on Stasi spying density at the district level comes from

Table A2: Summary Statistics for Former GDR Citizens from GSOEP Data

	Mean	SD	Min	Max	Obs.
Individual Level Variables:					
Moved to West Germany after Reunification	0.08	0.26	0	1	70,940
Years since moved to West Germany	7.43	5.30	1	26	5,361
Moved to West Germany before Reunification	0.02	0.15	0	1	70,940
Years lived in GDR before moved to West Germany	8.01	7.31	0	36	1,694
Felt surveilled by State	0.24	0.43	0	1	28,530
District Level Variables:					
East Berlin	0.07	0.25	0	1	64,248
Brandenburg	0.17	0.38	0	1	64,248
Mecklenburg-Vorpommern	0.10	0.30	0	1	64,248
Saxony	0.30	0.46	0	1	64,248
Saxony-Anhalt	0.18	0.38	0	1	64,248
Thuringia	0.18	0.38	0	1	64,248
Mean Unofficial Informer Density	0.32	0.14	0.12	0.78	28,728
West German TV	0.90	0.30	0	1	31,123
Soviet Military Base	0.48	0.50	0	1	31,123

Note: The Table reports the sample averages, standard deviation, minimum, maximum, and number of observations for former GDR Citizens. Data comes from GSOEP.

Lichter et al. (2020). *Mean Unofficial Informer Density* captures the extent to which the Stasi was active between 1980 and 1988 in a specific district. It gives the number of unofficial informers divided by the average district-level population for that period.

Access to West German TV broadcast is categorized according to Bursztyn and Cantoni (2016). The corresponding variable is equal to one, if the district had potentially access to West German TV broadcasts, and zero otherwise. Data on Soviet military bases in the GDR stems from the archive at the Centre for Military History and Social Science of the Federal Armed Forces (Zentrum für Militärgeschichte und Sozialwissenschaften der Bundeswehr). The database refers to all known Soviet bases which operated in 1989 and 1990. The variable *Soviet Military Base* is equal to one, if the district hosted a Soviet military base in these years, and zero otherwise.

Table A3: Summary Statistics from Wildenmann (1990) Data

	West Germany					East Germany				
	Mean	SD	Min	Max	Obs.	Mean	SD	Min	Max	Obs.
Attitudes toward Immigration	0.23	0.42	0	1	1,690	0.34	0.47	0	1	805
Male	0.46	0.50	0	1	1,700	0.47	0.50	0	1	808
Age	47.75	17.73	18	90	1,700	45.37	17.55	18	85	808
Married	0.55	0.50	0	1	1,700	0.63	0.48	0	1	808
Widowed	0.16	0.37	0	1	1,700	0.11	0.31	0	1	808
Divorced	0.07	0.26	0	1	1,700	0.09	0.29	0	1	808
Single	0.21	0.41	0	1	1,700	0.17	0.38	0	1	808
No. of Children	2.05	0.92	1	6	1,129	1.98	0.91	1	6	565
No School Degree	0.12	0.33	0	1	1,700	0.09	0.29	0	1	808
Lower Secondary	0.52	0.50	0	1	1,700	0.29	0.46	0	1	808
Higher Secondary	0.22	0.41	0	1	1,700	0.01	0.12	0	1	808
Tertiary	0.14	0.34	0	1	1,700	0.60	0.49	0	1	808
Non-Working	0.12	0.33	0	1	1,681	0.03	0.17	0	1	771
Employed	0.49	0.50	0	1	1,681	0.67	0.47	0	1	771
Unemployed	0.14	0.35	0	1	1,681	0.06	0.24	0	1	771
In Training	0.04	0.21	0	1	1,681	0.02	0.13	0	1	771
Retired	0.20	0.40	0	1	1,681	0.22	0.41	0	1	771
log(Disp. HH Income)	1.46	0.49	0	2.3	1,700	1.31	0.52	0	2.2	808

Note: The Table reports the sample averages, standard deviation, minimum, maximum, and number of observations by place of residence before German reunification. Data comes from Wildenmann (1990).

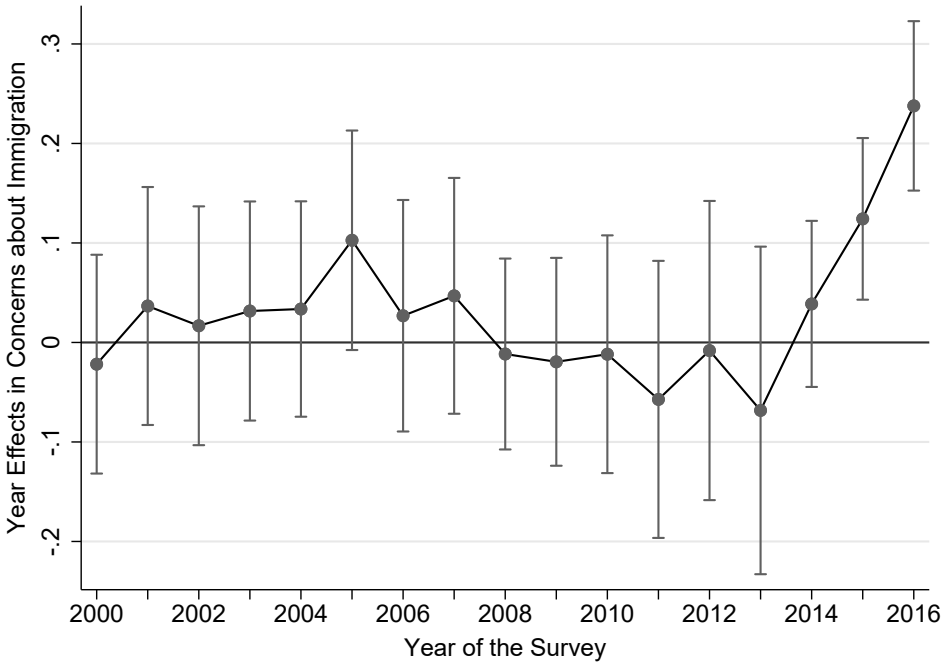
Table A4: List of Countries of Origin

	Years since Immigration	$\frac{\text{GDP}_{\text{Home}}}{\text{GDP}_{\text{GER}}}$	Number of Observations
Capitalist European Countries	**10.78**	**0.86**	**935**
Austria	6.63	1.04	27
Belgium	9.11	0.95	9
Denmark	3.00	0.99	2
Finland	5.14	0.86	14
France	6.64	0.92	28
Greece	10.60	0.68	214
Ireland	4.00	1.04	2
Italy	12.35	0.94	374
Norway	8.50	1.61	8
Portugal	9.40	0.65	53
Spain	9.84	0.80	120
Sweden	13.55	0.92	22
Switzerland	12.08	1.32	13
The Netherlands	9.00	1.07	28
United Kingdom	9.81	0.83	21
Post-Socialist European Countries	**9.36**	**0.36**	**2,507**
Albania	11.10	0.14	40
Belarus	9.81	0.25	37
Bosnia-Herzegovina	8.82	0.18	90
Bulgaria	6.40	0.37	129
Croatia	13.90	0.39	111
Czech Republic	8.38	0.61	47
Hungary	7.62	0.50	86
Kosovo	7.99	0.18	96
Latvia	6.27	0.45	11
Lithuania	6.80	0.50	15
Macedonia	12.03	0.25	96
Moldova	7.07	0.10	14
Montenegro	9.00	0.30	10
Poland	9.27	0.44	546
Romania	7.81	0.38	480
Russia	11.08	0.44	355
Serbia	6.60	0.28	63
Slovakia	5.72	0.57	18
Slovenia	12.63	0.59	19
Ukraine	10.93	0.16	244

Note: The table reports the average years since migration to Germany, the average ratio of home country GDP per capita to GDP per capita in Germany at the time of arrival, and the number of observations per country of origin. Data for years since immigration comes from the GSOEP and includes only European immigrants to Germany after reunification. Data on the relative GDP of home and destination country is taken from the International Monetary Fund, World Economic Outlook Database, as of October 2018.

Additional Figures

Figure A1: Time Trends in Concerns about Immigration of East European Immigrants



Note: Graph shows the year effects in concerns about immigration of East European immigrants in Germany. The estimates come from an OLS regression of a dummy variable capturing concerns about immigration on a set of year dummy variables. Control variables include gender, a cubic polynomial of age, and years since migration to Germany. Data is taken from GSOEP. 95 percent confidence intervals are shown. Own depiction.

Detailed Robustness and Further Analyses

Pre-Division Attitudes

The crucial identifying assumption made in order to estimate the causal effect of living under state socialism on attitudes toward immigration is the absence of differences in these attitudes between East and West Germany before their division. This argument is likely to hold since the division of Germany after WWII into a socialist eastern part and a capitalist western territory is predominantly based on geography. East Germany was neighboring the Eastern Bloc under the control of the Soviet Union, forming a geographically consistent area. Nonetheless, there remains the possibility that there may have been differences in eastern and western attitudes toward immigration prior to the division of Germany. If people in the eastern part of Germany already held more skeptical views about immigration before the GDR and FRG were founded, and these views are very persistent over time, today's outcome might simply be a reflection of the past.

To investigate this relationship, I use several measures of anti-Semitism in the Weimar Republic. First, I utilize local vote shares of the Nazi party (NSDAP) at the federal election of

1928, in which the NSDAP ran its campaign predominantly on anti-Semitic, out-group rhetoric (Voigtländer and Voth, 2012).[15] As the upsurge of the Nazi party was heavily influenced by out-group biases against Jews, political opponents, and other countries as France and the UK, I rely on the assumption that differences in votes shares of the Nazi party in 1928 proxy out-group biases which may have been persistent over time (see Voigtländer and Voth, 2015; Cantoni et al., 2017). In addition, I investigate other dimensions of anti-Semitic hostility, which capture out-group biases at the local level. I draw on the data of Voigtländer and Voth (2012) for this purpose and consider pogroms in the 1920s, as well as pogroms and attacks on Synagogues from the *Reichspogromnacht* in 1938, in the course of which many Jewish communities were attacked.

Table A5 presents the results of several linear regressions, in which the dependent variable is one of the measures described above capturing out-group biases at the municipal level in interwar Germany. The dummy variable *East Germany* is the main, and in every first and third column, the only explanatory variable. It is equal to one if the municipality is located in the part of Germany which will become part of the GDR in the second half of the 20th century, and zero otherwise.[16] In every other column, the regression model also includes log population size in 1928 and whether a municipality was considered a city at that time.

Panel A of Table A5 shows that Nazi vote shares in municipalities in the East, areas which were to become part of the GDR, were statistically significantly lower. As the vote share for the Nazi party was on average three percent, the point estimate suggests a 1.1 percentage point lower vote share for the Nazi party in the East. Similarly, in the third and fourth column in Panel A, turnout at this election was approximately seven percentage points higher in the East than in the West. This hints at higher civic capital in the East at that time. All other indicators of the degree of out-group biases follow an analogous pattern. Dependent variables in Panels B and C are dummy variables equal to one if a pogrom happened or a Synagogue was damaged or destroyed in the *Reichspogromnacht* in the municipality, and zero otherwise, respectively. Results relating to pogroms, as well as on attacks against Synagogues, suggest that anti-Semitic out-group hostility was plausibly lower in the East. The same seems to be true in regard to the deportation of Jews between 1933 and 1944. The first and second columns in Panel D report the log number of deportations of Jews as the dependent variable, whereas columns three and four consider the share of deported Jews relative to the size of the Jewish community in 1933. The coefficients report that fewer deportations were carried out in East Germany, compared to West Germany.

Regression estimates in Table A5 suggest that the prevalence and intensity of local out-group biases were smaller in the East than in the West. Since these anti-Semitic measures represent very extreme cases of out-group hostility, and the crimes committed in the Nazi period were unprecedented, this analysis must be taken with a grain of salt. A lack of data on immigration

[15]The digitized vote shares are taken from Falter and Hänisch (1990). I am grateful to Davide Cantoni for sharing the regional identifier used in Cantoni et al. (2017) to match Weimar Republic election districts to today's districts.

[16]I exclude the eastern territories that are not part of post-WWII Germany anymore.

preferences impedes a formal balance test. Yet, if these out-group biases do correlate with negative attitudes toward immigration, and are persistent over time (as suggested by Cantoni et al., 2017), the evidence compiled in this section would suggest that the effect of state socialism on attitudes to immigration has been underestimated. Hence, the experience of state socialism may have influenced the formation of out-group biases (proxied by attitudes towards immigration) perhaps even more negatively than suggested in the main analysis.

GDR Emigrants before 1989

Until the Berlin Wall was built in 1961, emigration from the GDR to the FRG was still possible. If emigrants to the FRG were selected on their positive attitudes toward immigration of foreigners into the GDR, the population which remained in the GDR may mechanically have more negative attitudes than the West German population. Due to the absence of a measure of attitudes toward immigration at the time of German division, I cannot directly investigate the potential selection of GDR emigrants based on their preferences for immigration. I am able, however, to identify a small set of GDR citizens ($n = 130$, $N = 1694$), who migrated to the FRG *before* the fall of the Berlin Wall. This enables me to check for possible differences in their attitudes toward immigration *after* the fall of the Berlin wall.

In columns (1) and (2) of Table A6, I compare emigrants from the GDR to the FRG before the fall of the Berlin Wall to GDR and FRG citizens, who did not migrate, respectively. In both cases, early emigrants hold more skeptical views about immigration, but both estimates are not statistically significant. This result suggests that, if at all, these migrants hold more negative attitudes toward immigration, hinting at a potential underestimation in the attitudinal gap. This analysis might serve as an indication. It is however, potentially prone to misinterpretation since individuals who moved to West Germany prior to 1989 were also subject to state socialism (though to a lesser extent than those who remained in East Germany). I therefore take a closer look at the intensive margin of exposure to state socialism, the number of years lived in the GDR before migrating to the West, as shown in column (3). The estimate confirms that emigrants' attitudes toward immigration become more negative, the longer they were exposed to life under state socialism. Results in column (1) to (3) seem to suggest that pre-1989 emigrants are not positively selected on attitudes toward immigration and that duration of life under state socialism may also have affected their attitudes to immigration. Column (4) of Table A6 also shows that the influence of life under state socialism on attitudes toward immigration is not dependent on the GDR citizens who stayed. In that specification, I estimate the main relationship only on persons born after 1961, i.e. the time when East-West migration was no longer feasible. Even though the German border was shut completely only from 1961, the results in Table A6 supply indicative evidence that early East-West migration did not drive the severe gap in attitudes toward immigration.

Table A5: Balance Tests: Anti-Semitism in the Weimar Republic and Nazi Germany

Panel A, Dependent Variable:	NSDAP Vote Share		Turnout	
East Germany	-0.011***	-0.011***	0.072***	0.070***
	(0.002)	(0.002)	(0.004)	(0.004)
Outcome Mean	0.03	0.03	0.73	0.73
Historic Control Variables		X		X
Adj. R-squared	0.01	0.02	0.10	0.11
N	2,452	2,452	2,452	2,452
Panel B, Dependent Variable:	Pogrom in 1920s		Pogrom in 1933	
East Germany	-0.017	-0.023*	-0.125***	-0.129***
	(0.012)	(0.013)	(0.024)	(0.024)
Outcome Mean	0.04	0.05	0.16	0.16
Historic Control Variables		X		X
Adj. R-squared	0.00	0.02	0.01	0.01
N	1,474	1,418	849	826
Panel C, Dependent Variable:	Synagogue Damaged		Synagogue Destroyed	
East Germany	-0.306***	-0.283***	-0.310***	-0.301***
	(0.030)	(0.032)	(0.031)	(0.032)
Outcome Mean	0.84	0.85	0.58	0.59
Historic Control Variables		X		X
Adj. R-squared	0.11	0.10	0.06	0.06
N	1,466	1,414	1,476	1,424
Panel D, Dependent Variable:	Deportations		Share of Deported	
East Germany	-1.650***	-1.645***	-0.157***	-0.170***
	(0.106)	(0.107)	(0.014)	(0.013)
Outcome Mean	3.55	3.58	0.34	0.33
Historic Control Variables		X		X
Adj. R-squared	0.15	0.15	0.08	0.10
No. Obs.	1,500	1,444	1,428	1,380

Note: The table reports OLS regression results of different dependent variables capturing Anti-Semitism in the Weimar Republic or Nazi Germany on a dummy variable *East Germany* equal to one if the municipality will belong to the GDR. The dependent variables in Panel A are shares varying between 0 and 1, and in Panel B and C are dummy variables equal to one if the indicated event happened in the municipality. The dependent variables in the first two columns in panel D are the log number of deportations of Jews between 1933 and 1944 and for the third and fourth column are the share of deported Jews relative to the Jewish population in 1933. Regressions in every second column include as historic control variables the log of the population in 1928 and whether the municipality was considered a city. Robust standard errors are displayed in parentheses. Statistical significance is indicated by asterisks according to: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

East–West Migration after Reunification

The absence of convergence in preferences over immigration is an important result. Is this due to geographical location dependence—the fact that life in East and West Germany continued to be different (in attitudes formation) after reunification? Or are these attitudes, once they have been formed by the politico-economic system, no longer malleable? In order to explore these questions,

Table A6: Pre-1989 GDR-FRG Migrants

	GDR	FRG		Born after 1961
Dependent Variable: Concerned about Immigration	(1)	(2)	(3)	(4)
Pre-1989 Movers	0.031	0.047		
	(0.030)	(0.029)		
Years lived under Socialism			0.008***	
			(0.002)	
Lived under Socialism				0.083***
				(0.009)
Year Dummies	X	X	X	X
Control Variables	X	X	X	X
Outcome Mean	0.33	0.29	0.29	0.28
Adj. R-squared	0.03	0.02	0.02	0.03
No. Ind.	7,878	25,355	25,355	10,192
No. Obs.	70,940	177,004	177,004	66,291

Note: The table reports OLS regression results of a dummy variable capturing concerns about immigration on variables indicating whether or how long an individual lived under socialism. Control variables include gender and a cubic polynomial of age. Standard errors are clustered at the individual level and displayed in parentheses. Statistical significance is indicated by asterisks according to: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

I focus on individuals who have moved between East and West Germany.

After the fall of the Berlin Wall in November 1989, movement between East and West Germany once again became feasible. In the subsequent years, many East Germans took the opportunity to relocate to West Germany. Of course, the East Germans who moved do not constitute a random sample of the East German population. According to Hunt (2006) and Fuchs-Schündeln and Schündeln (2009), who analyze the emigration of East Germans to West Germany, movers are moderately to highly selected based on education and skill. Since this group is usually in favor of immigration, the results derived from analyzing movers must be interpreted whilst keeping this selection process in mind.

In Table A7 I introduce a dummy variable *Moved from East to West* that is equal to one if an individual decided to move to West Germany after reunification, and equal to zero for all East Germans who stayed, and the variable *Years since Moved from East to West* which analogously captures the years the movers spent in West Germany. Column (1) presents the estimates of a model containing individual fixed effects and restricting the estimation sample to former GDR citizens. The coefficient of interest is statistically insignificantly different from zero, indicating that East Germans who moved to West Germany do not exhibit statistically different concerns about immigration than former GDR citizens, who did not move.

Though movers from East to West Germany seem to hold on average the same views about immigration than those who remain in East Germany, the attitudes of those who have relocated might change with their duration living in West Germany. I explore this conjecture in column (2) of Table A7. The coefficient of *Years since Moved from East to West* is now only estimated on individuals that moved from East to West Germany. The estimate is negative, yet

Table A7: East to West Movers

	GDR	Movers
Dependent Variable: Concerned about Immigration	(1)	(2)
Moved from East to West	0.039	
	(0.025)	
Years since moved from East to West		-0.002
		(0.002)
Year Dummies	X	X
Control Variables	X	X
Ind. FE	X	
Outcome Mean	0.33	0.35
Adj. R-squared	0.04	0.03
No. Ind.	7,748	832
No. Obs.	69,246	5,361

Note: The table reports regression results with a dummy variable capturing concerns about immigration as dependent variable. Column (1) includes the independent variable *Moved from East to West* which captures whether an East German migrated to West Germany after reunification or not. Column (2) includes the independent variable *Years since moved from East to West* which captures the years an East German lives in West Germany after reunification. Control variables include gender and a cubic polynomial of age. Standard errors are clustered at the individual level and displayed in parentheses. Statistical significance is indicated by asterisks according to: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

small and statistically insignificant, indicating that the length spent in West Germany is not changing attitudes toward immigration. These regression results imply that the influence of GDR socialization on these attitudes seems to be extremely persistent. Even East Germans who have lived in the West for several years, and have therefore very likely been exposed to a different mindset of neighbors, co-workers, and the local community, do not converge to West German levels of attitudes to immigration.

Regional Heterogeneity in the GDR

Thus far, the GDR has been seen as monolithic bloc without acknowledging any regional heterogeneity throughout the country. In Table A8, I explore potential regional variation in the influence of state socialism on attitudes toward immigration. Column (1) reports the results of the baseline specification estimated on a sample of individuals who lived either in West or in East Berlin before reunification. Recall that the Berlin Wall divided the city into a socialist, eastern part belonging to the GDR, and a western, capitalist part which was an exclave of the FRG. The *Lived under Socialism* coefficient now reflects the difference in attitudes toward immigration between those who lived in the same city, but under different politico-economic systems. The size of the estimated coefficient is in line with previous estimates of state socialism on attitudes toward immigration, but statistically not distinguishable from zero due to a substantial increase in the standard error. Nonetheless, the size of the estimate may serve as indicative evidence that corroborates the robustness of the main result.

In the model in column (2), I separate the previously uniform influence of state socialism

Table A8: Regional Heterogeneity

Dependent Variable: Concerned about Immigration	(1)	(2)
East Berlin	0.069	0.103***
	(0.046)	(0.022)
Brandenburg		0.029**
		(0.011)
Mecklenburg-Vorpommern		0.004
		(0.017)
Saxony		0.032***
		(0.008)
Saxony-Anhalt		0.035***
		(0.011)
Thuringia		0.032***
		(0.010)
Year Dummies	X	X
Baseline Control Variables	X	X
Regional Control Variables		X
Outcome Mean	0.39	0.30
Adj. R-squared	0.02	0.02
No. Ind.	350	32,757
No. Obs.	3,585	241,250

Note: The table reports OLS regression results with a dummy variable capturing concerns about immigration as a dependent variable. In column (1), the dummy variable *East Berlin* indicates whether an individual lived in the eastern part of Berlin at the time of the fall of the Berlin Wall. Column (2) presents the coefficients of dummy variables equal to one if the individual lived under socialism before reunification and lives in the respective federal state at the time of the survey. Baseline control variables include gender and a cubic polynomial of age. Regional control variables include districts' log population size and a dummy variable indicating whether the district is considered as an urban or rural area. Standard errors are clustered at the individual level and displayed in parentheses. Statistical significance is indicated by asterisks according to: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

for each of the new federal states (Bundesland) after reunification. Instead of a single dummy variable, I include a dummy variable for each East German federal state. In each case, this dummy is equal to one if a survey participant lives in the respective state today and lived under state socialism before reunification.[17] In addition, I control for log population size and whether individuals live in urban or rural areas. The estimate of state socialism is broadly similar across regions. The only outlier is Mecklenburg-Vorpommern with a positive, but small and statistically insignificant estimate. Although the null hypothesis of the influence of state socialism in this state cannot be rejected, the analysis reveals that the results thus far are not driven by specific, geographic regions within the former GDR.

[17]Due to the structure of the GSOEP data I can only identify a small number of survey participants who lived in a specific state before reunification (see for instance the number of observations in column (1) of Table A8 for East Berlin). To avoid losing too many observations, I do not restrict mobility across East German states in the estimation.

Economic Transformation of East Germany

Following reunification, East Germany underwent a severe economic transformation. High unemployment rates in the East resulted from the reduction and closure of many former socialist state-run East German firms which could no longer compete with the more productive firms in West Germany. The substantial negative economic shock after reunification and the persistent economic difference between the East and West thereafter could be an additional contributing factor for the more negative opinion about immigration among individuals who lived under state socialism. I undertake three different approaches in addressing this concern.

First, I make use of the stark differences in industry structure between East and West Germany before reunification. The idea for this is that when the centrally planned economy in the former GDR converged to the market economy benchmark of the FRG, workers in industries that were relatively larger in the GDR than in the FRG, were subject to poor employment prospects (see Liepmann, 2018). This was due to the excess of labor supply in these industries in reunified Germany. By comparison, workers in relatively smaller industries in the GDR than in the FRG were better off in terms of employment opportunities. Since reunification was largely unexpected, workers in the GDR did not sort into specific industries in order to benefit from a potential reunification at some point in the future. The differences in industry employment are thus exogenous from the point of view of a worker. I conceptualize the differences in the employment structures in East and West Germany in 1989 by using a measure of relative excess supply (RES) of workers in a specific industry j according to Liepmann (2018):

$$RES_j^{GDR} = \frac{(Emp_j^{GDR}/Emp^{GDR}) - (Emp_j^{FRG}/Emp^{FRG})}{Emp_j^{GDR}/Emp^{GDR}} \ ,$$

where Emp_j^{GDR} refers to the number of employed workers in industry j in the GDR and Emp^{GDR} to the total number of employees in the GDR.[18,19] Depending on the industry in which a worker in the GDR is employed, they may have benefited or suffered from reunification. Thus, RES_j^{GDR} reflects a macro shock to individuals, capturing the economic transformation of the GDR into a market economy.

Second, I construct two variables about actual unemployment experience after reunification. The dummy variable *Unemployed between 1991-1999* is equal to one if someone reports having been unemployed between 1991 and 1999, i.e. in the period of economic transformation, and zero otherwise. In addition, the variable *Years Unemployed between 1991-1999* captures the cumulative time spent in unemployment for the years 1991 to 1999.

Third, I augment the baseline specification by using contemporary regional economic control variables.

Table A9 presents the regression results of the baseline specification augmented with the

[18] I calculate an analogous term $RES_j^{FRG} = \frac{(Emp_j^{FRG}/Emp^{FRG}) - (Emp_j^{GDR}/Emp^{GDR})}{Emp_j^{FRG}/Emp^{FRG}}$ for West Germans.

[19] Data on industry employment for the GDR is taken from the Statistisches Bundesamt (1994) and for the FRG from Statistisches Bundesamt (1993).

measure of relative excess supply in column (1). The first row includes the estimate which is obtained from the baseline regression on the sample of the augmented model. In column (1), the estimation sample includes only individuals who took part in the survey in 1990. This enables me to identify the industry in which each individual worked at that time. When I control for the RES of workers, the estimate of socialism on attitudes toward immigration remains sizable and statistically significant. In line with the interpretation of an adverse economic shock, the point estimate of RES is positive and statistically significant. Column (2) of Table A9 includes the regression results of the baseline specification augmented with the dummy variable for post-reunification unemployment. The regression result indicates that any experience of unemployment between 1991 and 1999 reduces the estimate of the gap in attitudes between former GDR and FRG citizens, but leaves it sizable and statistically significant. A similar impact of including the cumulative time spent in unemployment between 1991 and 1999 in the regression model is visible in column (3). Both unemployment variables are statistically significant different from zero and positive, thus exhibiting the expected sign and seem to matter for attitudes toward immigration. Interacting them with either the *Lived under Socialism* or year dummies yields analogous results (see Table A10). In column (4), I assess the influence of contemporary differences in regional economic variables. The inclusion of these variables only marginally change the *Lived under Socialism* coefficient. This result also indicates that contemporary regional disparities between East and West Germany cannot close the estimated gap in attitudes toward immigration.

The results in Table A9 suggest that the experience of unemployment after reunification as well as an extreme transformation of the economy, as measured in the relative excess supply of East German workers in certain industries, does indeed contribute to more concerns about immigration. However, they not seem to drive the persistent differences in East and West German attitudes to immigration as the estimates of exposure to state socialism are only slightly affected by the inclusion of the economic control variables into the regression framework. Similarly, contemporary regional differences, such as the local economic conditions, are not sufficient to explain the gap in attitudes to immigration.

The Role of Education

Several studies in the literature on the determinants of attitudes toward immigration highlight the importance of education (e.g. Mayda, 2006; Hainmueller and Hiscox, 2007; Margaryan et al., 2019). Education may affect attitudes toward immigration by two dimension: First, by having a smaller degree of substitutability to (low-skilled) immigrants. Second, by enjoying more the benefits of cultural diversity. Given that schooling in the GDR was quite different from schooling in the West (Block and Fuchs, 1993), the influence of educational attainment on attitudes toward immigration might be different not only between the two parts of Germany but also within. In order to elucidate on this topic, I augment the baseline regression framework by the highest

Table A9: Economic Post-Reunification Shock

Dependent Variable: Concerned about Immigration	(1)	(2)	(3)	(4)
Baseline Model:				
Lived under Socialism	0.026**	0.036***	0.036***	0.033***
	(0.011)	(0.008)	(0.008)	(0.011)
Augmented Model:				
Lived under Socialism	0.031***	0.023***	0.026***	0.037***
	(0.011)	(0.005)	(0.009)	(0.009)
RES	0.003**			
	(0.001)			
Unemployed between 1991-1999		0.048***		
		(0.010)		
Years Unemployed between 1991-1999			0.014***	
			(0.003)	
GDP per Capita				-1.142**
				(0.485)
Average HH Income				-0.083***
				(0.030)
Unemployment Rate				0.003*
				(0.002)
Marginally Employed				0.001***
				(0.000)
Year Dummies	X	X	X	X
Baseline Control Variables	X	X	X	X
Regional Control Variables				X
Mediation	19.84	33.57	25.65	12.23
Outcome Mean	0.34	0.33	0.33	0.29
Adj. R-squared	0.02	0.03	0.03	0.02
No. Ind.	4,323	7,543	7,543	31,452
No. Obs	53,205	88,522	88,522	195,230

Note: The table reports OLS regression results of a dummy variable capturing concerns about immigration on a dummy variable *Lived under Socialism* indicating whether an individual lived under socialism or not. The first row presents the coefficient of *Lived under Socialism* on the same sample as the estimated *Lived under Socialism* coefficient of the augmented model excluding the mediating variable. Column (2) and (3) include only individuals who have either been employed throughout 1991 to 1999 or have had experienced unemployment within these years. GDP per capita and the average household income are given in 1,000 Euros, the unemployment rate and the share of foreigners are given in percent, and the number of marginally employed workers are reported per 1,000 working-age residents. Baseline control variables include gender and a cubic polynomial of age. Regional control variables include districts' log population size, a dummy variable indicating whether the district is considered as an urban or rural area, and the share of foreign-born residents. The percentage of mediation is calculated using the `medeff` package from Hicks and Tingley (2011). Standard errors are displayed in parentheses and clustered at the individual level in column (1) to (3) and at the district level in column (4). Statistical significance is indicated by asterisks according to: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

educational degree obtained by 1992.[20] Figure A2 depicts the average marginal effect of an educational degree on being concerned about immigration. The reference category is having no school degree at all. The estimates reveal that a higher school degree is associated with less concerns about immigration in West Germany. For East Germany, however, individuals with lower

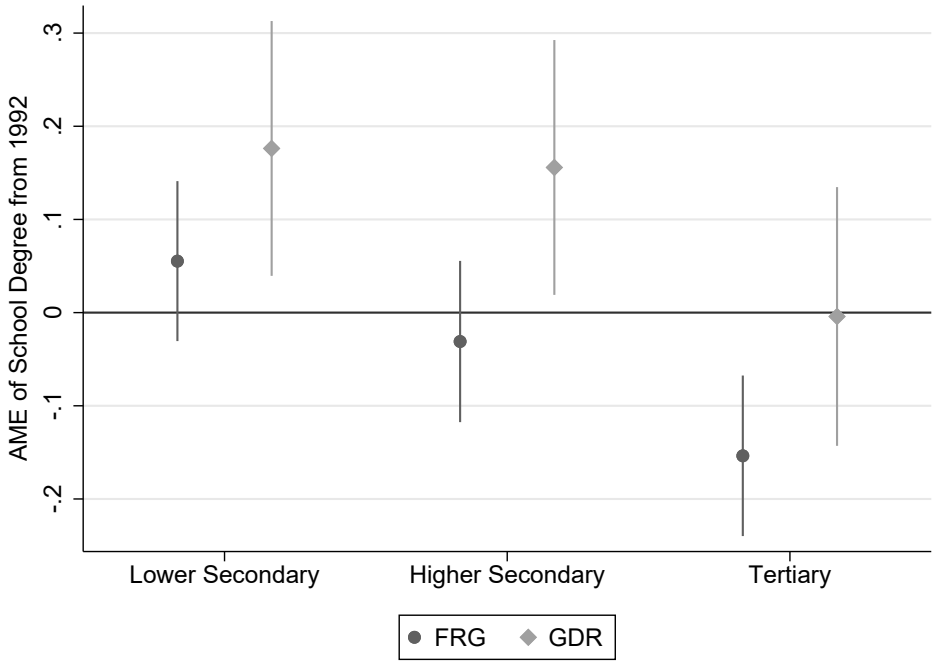
[20]The year 1992 is the first year for which harmonized educational degrees for East and West Germany are reported in the GSOEP.

Table A10: Addendum Table A9

	Unemployed [0/1]		Years Unemployed	
Dependent Variable: Concerned about Immigration	(1)	(2)	(3)	(4)
Baseline Model:				
Lived under Socialism	0.036***	0.036***	0.036***	0.036***
	(0.008)	(0.008)	(0.008)	(0.008)
Augmented Model:				
Lived under Socialism	0.023***	0.031***	0.026***	0.031***
	(0.009)	(0.010)	(0.009)	(0.009)
Measure of Unemployment	0.039***	0.063***	0.009**	0.019***
	(0.013)	(0.014)	(0.005)	(0.005)
Measure of Unemployment				
× Lived under Socialism		-0.028		-0.008
		(0.019)		(0.006)
× Year 2000	-0.007		0.001	
	(0.014)		(0.005)	
× Year 2001	-0.000		0.001	
	(0.015)		(0.005)	
× Year 2002	0.008		0.004	
	(0.015)		(0.005)	
× Year 2003	0.013		0.003	
	(0.015)		(0.005)	
× Year 2004	0.014		0.009	
	(0.016)		(0.006)	
× Year 2005	0.012		0.005	
	(0.017)		(0.006)	
× Year 2006	0.036**		0.006	
	(0.017)		(0.006)	
× Year 2007	-0.009		-0.000	
	(0.017)		(0.006)	
× Year 2008	-0.005		0.003	
	(0.017)		(0.006)	
× Year 2009	0.024		0.015**	
	(0.017)		(0.006)	
× Year 2010	-0.006		-0.005	
	(0.018)		(0.006)	
× Year 2011	0.009		0.001	
	(0.019)		(0.007)	
× Year 2012	0.007		0.003	
	(0.019)		(0.007)	
× Year 2013	0.011		0.004	
	(0.020)		(0.007)	
× Year 2014	-0.008		0.003	
	(0.021)		(0.008)	
× Year 2015	0.041*		0.020**	
	(0.022)		(0.008)	
× Year 2016	0.046**		0.027***	
	(0.024)		(0.008)	
Year Dummies	X	X	X	X
Control Variables	X	X	X	X
Outcome Mean	0.33	0.33	0.33	0.33
Adjusted R-squared	0.03	0.03	0.02	0.02
No. Ind.	7,543	7,543	7,543	7,543
No. Obs.	88,522	88,522	88,522	88,522

Note: The table reports OLS regression results of a dummy variable capturing concerns about immigration on a dummy variable *Lived under Socialism* indicating whether an individual lived under socialism or not. The first row presents the coefficient of *Lived under Socialism* on the same sample as the estimated *Lived under Socialism* coefficient of the augmented model excluding the mediating variable(s). *Measure of Unemployment* is a placeholder for either whether an individual was unemployed between 1991 and 1999 (column (1) and (2)) or the cumulative time in years an individual was unemployed (column (3) and (4)). The reference group are individuals, who were employed throughout 1991 to 1999. Control variables include gender and a cubic polynomial of age. Standard errors are displayed in parentheses and clustered at the individual level. Statistical significance is indicated by asterisks according to: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Figure A2: Concerns about Immigration and School Degrees in East and West Germany



Note: Graph shows the average marginal effect (AME) of the respective school degree relative to having no school degree. AME were estimated from an OLS regression of a dummy variable capturing concerns about immigration on a *Lived under Socialism* dummy variable, capturing whether respondents lived in the GDR before German reunification or not, interacted with a categorical variable that comprises information on the highest school degree obtained by the year 1992. Data is taken from GSOEP. 95 percent confidence intervals are shown. Own depiction.

and higher secondary education are most likely to be concerned about immigration. This result may be the outcome of socialist indoctrination at school, which was predominantly taught in classes at the end of secondary education (Fuchs-Schündeln and Masella, 2016). While individuals with no school degree in the GDR most likely were young individuals who opposed the system, and socialist education was heavily reduced in tertiary education, individuals with secondary education may have been exposed most thoroughly to socialist indoctrination at school.

Evidence on further Channels

As potential further channels of the main result, I assess the importance of access to West German TV and exposure to immigrants in the GDR. The GDR had a dual purpose in building the Berlin Wall and fortifying the border to West Germany. In the first instance, the socialist state aimed at preventing citizens from emigrating to West Germany, however, it also sought to prevent the spread of knowledge about life in the GDR in the West. The official term for the wall in the GDR was *Antifaschistischer Schutzwall* (anti-fascist protective barrier), thus highlighting to their own population that the wall was built to protect the country from the fascist ideology of the West. West Germany however, deliberately built broadcast stations close to the border

in order that they were still able to supply homes in the GDR with West German TV and radio programs. This strategy enabled West Germany to reach the majority of households in the GDR. For technical and topographical reasons (see Panel (a) in Figure A3 for a visualization), some parts of the GDR were not able to receive West German broadcast. These circumstances generated quasi-experimental variation in access to alternative, non-socialist information within the GDR (Kern and Hainmueller, 2009; Bursztyn and Cantoni, 2016).

I use this variation in order to assess whether having access to non-socialist information affected attitude formation in regard to immigration. By employing the definition of Bursztyn and Cantoni (2016) which regions in the GDR had access to West German TV and which did not, I generate a dummy variable *West German TV* which is either equal to one for areas able to receive West German broadcasts, or otherwise equal to zero. Columns (1) and (2) in Table A11 show OLS estimates of the influence of having had access to West German TV on attitudes toward immigration for East Germans whose place of residence in 1990 is known. Both estimates are statistically insignificant and the one in column (2), when additionally controlling for contemporary regional conditions, is close to zero. These estimation results suggest that access to West German TV did not influence the formation of attitudes to immigration in the GDR. This is also in line with the findings of Kern and Hainmueller (2009) and Bursztyn and Cantoni (2016), who demonstrate that East Germans predominantly watched West German broadcasts for entertainment, rather than for informational purposes.

Placing great importance on internal stability also had an adverse effect on migration in socialist states. Freedom of movement was severely restricted and only gradually and inconsistently relaxed. The GDR, as a rather homogenous state after WWII, limited not only emigration but also immigration. In 1989, only 1.16 percent of the population were foreign-born. The absence of free movement of people into or out of the GDR hampered individual international contact. Moreover, the few labor migrants who were living in the GDR were considered temporary. The GDR implemented several policies designed to deter integration and to locally separate labor migrants from GDR citizens (Elsner and Elsner, 1994; Poutrus et al., 2000). In addition, in the last years of the socialist regime, the leading party in the GDR even began to openly blame immigrants for the persistent economic downturn (Poutrus et al., 2000). Citizens' attitudes to immigration and immigrants likely have been influenced by the low number and the treatment of foreigners living in the GDR.

Even decades after reunification, large differences remain in the share of foreign-born residents in the two parts of Germany. While the average share of foreigners in West German states is 8.6 percent, it is on average only 1.7 percent in East German states.[21] The relative lack of foreigners in East Germany before and after reunification might explain the large differences in attitudes toward immigration between East and West Germans. To investigate this hypothesis, I use information on the share of foreigners in respondents' districts. The shares of immigrants at a regional level is commonly used to measure an individual's exposure to foreigners (see,

[21] Numbers based on Census data from 2011, excluding Berlin.

among others, Halla, Wagner, and Zweimüller, 2017; Dustmann, Vasiljeva, and Damm, 2018). The models in column (3) and (4) of Table A11 are augmented with the contemporary share of foreign-born residents at the district level and the share of foreigners at the time of reunification, respectively. Controlling for either share does not negate the influence of exposure to state socialism on attitudes toward immigration.

In column (5) and (6) of Table A11, I assess the relevance of a different measure of salience of foreigners by employing information on Soviet military bases in the GDR. The largest community of foreigners within the GDR were soldiers and their families from the Soviet Union. Kowalczuk and Wolle (2010) estimate that 380,000 to 450,000 Soviet soldiers were deployed in the GDR since the late 1970s. Perceptions of them in the GDR were rather mixed. Officially, the GDR welcomed the Soviet 'brothers'. The local population, however, struggled with the presence of the Soviet soldiers. At first, they were seen as occupants and feared due to the war crimes committed in the final days of WWII. Later, GDR citizens were suspicious of them because they were generally isolated from the local residents (Kowalczuk and Wolle, 2010). Attitudes toward immigration in the GDR may have been thoroughly shaped by the experiences that the East German population had with that immigrant group.

Using data on Soviet military bases in the GDR, I test whether living close to these bases is associated with attitudes toward immigration. I make use of the archive relating to military bases of the Soviet Union, which are held at the Centre for Military History and Social Science of the Federal Armed Forces (Zentrum für Militärgeschichte und Sozialwissenschaften der Bundeswehr). The database refers to all known Soviet bases which operated in 1989 and 1990.[22] It contains information on the type of base, i.e. accommodation, checkpoint, military training area, etc., the name of the municipality, ZIP code, and precinct, as well as its military codename. Based on the geographical information, I geocode the data and match it to today's municipality identifier (see Panel (b) of Figure A3). Via this procedure, I can verify whether respondents in the GSOEP lived in a district with a Soviet military base.

In column (5) and (6), the baseline regression specification is augmented by a dummy variable *Soviet Military Base*, which is equal to one if a GDR citizen lived in a district in 1990 where a Soviet military base was present, and zero otherwise. The estimation sample includes only former GDR citizens. Both estimates of *Soviet Military Base* are statistically insignificant, and when controlling for contemporaneous regional conditions in column (6), also close to zero. Thus, living close to a Soviet military base in 1990 does not seem to be associated with contemporaneous attitudes toward immigration.

It is worth noting, that military bases are most likely not randomly located in the GDR. That is, the analysis might be confounded by unobservable local factors. However, it can be argued that from the perspective of an individual living in the GDR, a new opening of a Soviet military base is an exogenous shock. Together with the evidence on the share of foreign-born residents, these estimates give an indication that exposure to foreigners, played, if at all, only a

[22] In 1990, the GDR was split into 217 districts of which 104 hosted a Soviet military base. In total, 681 bases were reported by the Zentrum für Militärgeschichte und Sozialwissenschaften der Bundeswehr.

Table A11: Access to West German TV and Exposure to Foreigners in the GDR

	TV Reception		Exposure to Foreigners			
Dependent Variable: Concerned about Immigration	(1)	(2)	(3)	(4)	(5)	(6)
West German TV	0.026	-0.003				
	(0.031)	(0.029)				
Lived under Socialism			0.034***	0.028**		
			(0.011)	(0.016)		
Share of Foreigners (contemporary)			0.035			
			(0.127)			
Share of Foreigners 1987/1989				-0.047		
				(0.198)		
Soviet Military Base					-0.024	-0.002
					(0.016)	(0.017)
Year Dummies	X	X	X	X	X	X
Baseline Control Variables	X	X	X	X	X	X
Regional Control Variables	X	X	X	X	X	X
Economic Control Variables		X				X
Outcome Mean	0.35	0.34	0.29	0.34	0.35	0.34
Adj. R-squared	0.02	0.02	0.02	0.02	0.03	0.02
No. Ind.	2,554	2,358	32,562	6,745	2,554	2,358
No. Obs.	29,648	22,478	217,203	76,643	29,648	22,478

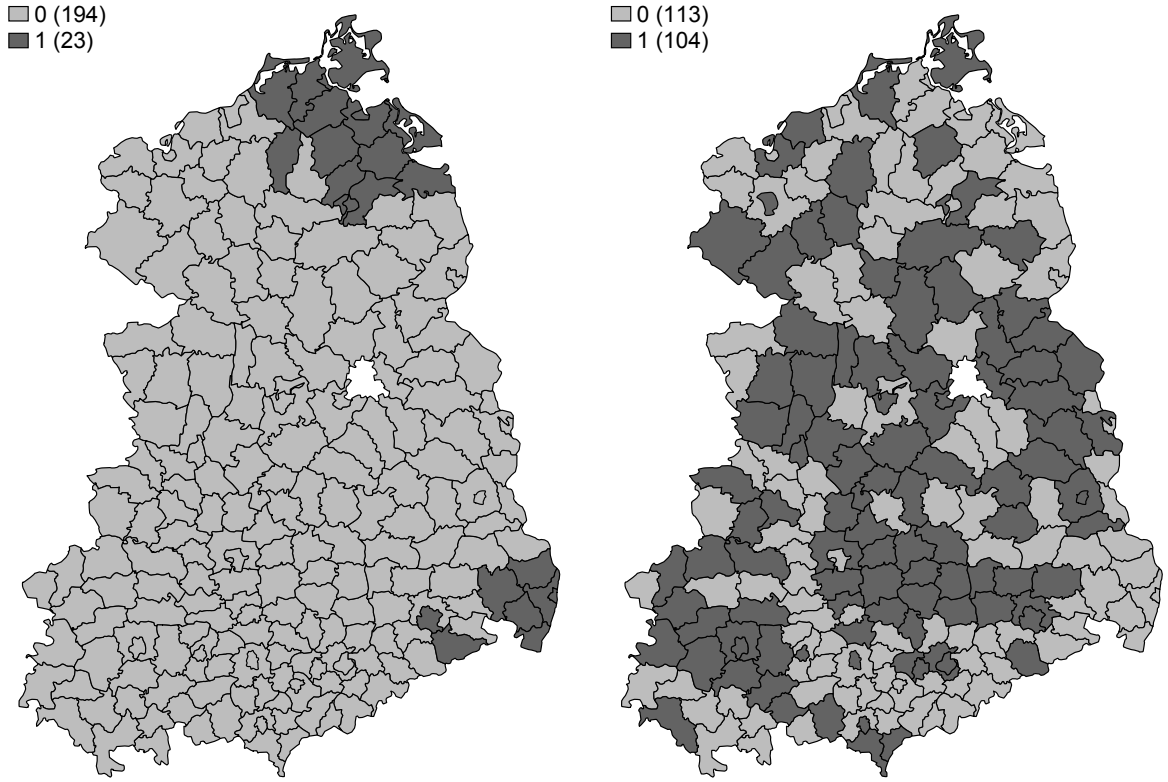
Note: The table reports OLS regression results of a dummy variable capturing concerns about immigration on the dummy variables *West German TV* indicating whether an individual had access to West German TV broadcasts in the GDR, *Lived under Socialism* indicating whether an individual lived under socialism, or *Soviet Military Base* indicating whether an individual lived in a district that hosted a Soviet military base. Column (3) and (4) include the share of foreign-born individuals among all residents at the district level. Baseline control variables include gender and a cubic polynomial of age. Regional control variables include districts' log population size, a dummy variable indicating whether the district is considered as an urban or rural area. Economic control variables include GDP per capita, the average household income in 1,000 Euros, the unemployment rate and the number of marginally employed workers per 1,000 working-age residents. Standard errors are clustered at the district level and displayed in parentheses. Statistical significance is indicated by asterisks according to: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

minor role in the formation of attitudes toward immigration of former GDR citizens.

Alternative Measures of Attitudes toward Immigration

In this section, I consider alternative definitions of my main dependent variable, as well as alternative concepts to proxy attitudes toward immigration. Column (1) and (2) of Table A12 report the estimated coefficients of alterations of the dependent variable that should capture concerns about immigration. First, I estimate an ordered probit model on the original answer categories to the question regarding concerns about immigration to Germany. The dependent variable now takes on three values, which are either 1 - not concerned at all, 2 - somewhat concerned, 3 - very concerned. Second, I perform an OLS regression on an alternative version of the main dependent variable. The variable is constructed by putting the answers "somewhat/very concerned" into one category coded as one, and the answer "not concerned at all" into a singular

Figure A3: No Access to West German TV and Soviet Military Bases



(a) No Access to West German TV (b) Soviet Military Bases

Note: Maps of East Germany are based on 1989 districts. Data on West German TV availability comes from Bursztyn and Cantoni (2016). Districts coded as unity received no West German Broadcasts in the GDR. Data on Soviet military bases are retrieved from Zentrum für Militärgeschichte und Sozialwissenschaften der Bundeswehr. Districts coded as unity hosted at least one Soviet military base in 1989 or 1990. Own depiction.

category coded as zero. The positive and statistically significant estimates in column (1) and (2) are in line with the baseline estimates.

Column (3) presents the estimation results when using the responses to the question "How concerned are you about hostility to foreigners?". The idea here is to assess whether the large differences in the main dependent variable "Concerned about Immigration" between East and West Germans may not be driven by negative associations to immigrants but by concerns about immigrants' safety in Germany. The dependent variable in column (3) is either equal to one if respondents are "very concerned" or equal to zero if they are "somewhat concerned" or "not concerned at all". The estimated coefficient is close to zero and statistically insignificant, suggesting that concerns about hostility against foreigners is not different between those exposed to state socialism and those who have not. This result indicates that concerns about immigration are not driven by concerns about immigrants' safety and may indeed reflect negative attitudes to immigration.

As an alternative measure for attitudes toward immigration, I use information on individual contact to foreigners in the past year. I employ the questions "In the last 12 months, have you visited people who are not from Germany or people whose parents are not from Germany in their homes?" as well as "In the last 12 months, have people who are not from Germany or people whose parents are not from Germany visited you in your home?" and create a dummy variable, which is equal to one if respondents answered yes to one of these questions, and zero otherwise. These questions are available in the GSOEP survey every other year from 2007 to 2015. Using contact to immigrants as a dependent variable, I estimate a substantial difference between those who were exposed to state socialism and those who were not in column (4) of Table A12: East Germans are 27.5 percentage points less likely to have contact to immigrants.

In columns (5) and (6) I additionally consider voting intentions, which are indicative for attitudes to immigration. I generate two dummy variables equal to one if survey participants claim that they would vote for an extremist right-wing party or an anti-immigrant, populist party at the next federal election, and zero otherwise. For the first dummy variable, I use support for the *Alternative für Deutschland* (AfD), a populist party which is running electoral campaigns profoundly and almost exclusively on anti-foreigner sentiment. As the AfD was only established in 2013, information on voting intentions for this party have been included in the GSOEP since 2014. For the second dummy variable, I consider only extremist right-wing parties with a clear anti-immigration agenda and potentially racist political ideologies. These parties include the *Nationaldemokratische Partei Deutschland* (NPD), *Republikaner*, and *Die Rechte*, for which information is available in the survey since 1990. The estimates of the *Lived under Socialism* coefficient are positive, large, and statistically significant for both voting variables. In both cases, the estimates are as big as the sample mean, suggesting that individuals who were exposed to state socialism are twice as likely to vote for the AfD or an openly extremist right-wing party than a person who has lived in the democratic, capitalist West before reunification.

Estimation and Weighting

Thus far, regressions have been based on repeated cross-sections with multiple respondents in different years. This approach guarantees maximum power in the estimation and enables detailed heterogeneity analyses in subsamples. Nonetheless, there might be the concern that erroneous estimates have been obtained as a result of unbalanced samples and panel attrition. Columns (1) to (5) of Table A13 address this concern.

In order to exploit the panel structure of the data, I estimate a random effects model in column (1). The random effects model isolates the individual specific effect and assumes that this effect is a random variable and uncorrelated with other explanatory variables. If one is willing to make this strong assumption, the random effects model delivers efficient estimates. The estimated coefficient of GDR exposure in column (1) of Table A13 corroborates the result from the baseline regression.

The remaining columns of Table A13 show the regression results either on a sample including

Table A12: Alternative Outcome Variables

	Immigration Concerns				Party Preferences	
	(1) Ordered Probit	(2) Alt. Definition	(3) Hostility	(4) Contact	(5) AfD	(6) Ext. Right
Lived under Socialism	0.145***	0.050***	0.002	-0.275***	0.030***	0.010***
	(0.013)	(0.004)	(0.004)	(0.006)	(0.005)	(0.002)
Year Dummies	X	X	X	X	X	X
Control Variables	X	X	X	X	X	X
Outcome Mean	2.05	0.75	0.27	0.39	0.03	0.01
Adj. R-squared		0.03	0.03	0.11	0.02	0.01
No. Ind.	33,103	33,103	33,072	21,445	8,848	23,549
No. Obs.	246,250	246,250	245,346	60,774	19,371	124,953

Note: The table reports estimation results with an independent variable *Lived under Socialism* indicating whether an individual lived under socialism or not. The dependent variables in column (1) and (2) capture concerns about immigration. The dependent variables in column (3) to (6) are dummy variables equal to one if individuals are very concerned about hostility against foreigners, have contact to immigrants, intend to vote for the AfD, or intend to vote for extreme right-wing parties, and otherwise zero, respectively. Control variables include gender and a cubic polynomial of age. Standard errors are clustered at the individual level and displayed in parentheses. Statistical significance is indicated by asterisks according to: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

only the first observed response of survey participants in the GSOEP, based on the mean of the outcome and control variables over the period 1999 to 2016, weighted by the inverse probability that an individual participates in the survey, or includes weights reflecting imbalanced probabilities for panel attrition. All estimates of the influence of exposure to state socialism on attitudes toward immigration in theses alternative regressions remain quite similar to that of the baseline estimate.

Table A13: Alternative Sample Restrictions

		Single Observation		Weighted	
	RE	First Obs.	Mean	Inv. Prob.	Panel
Dependent Variable: Concerned about Immigration	(1)	(2)	(3)	(4)	(5)
Lived under Socialism	0.049***	0.031***	0.052***	0.042***	0.045***
	(0.004)	(0.006)	(0.004)	(0.007)	(0.005)
Year Dummies	X		X	X	X
Control Variables	X	X	X	X	X
Outcome Mean	0.30	0.30	0.29	0.32	0.31
Adj. R-squared	0.02	0.03	0.01	0.03	0.03
No. Ind.	33,103	33,103	33,103	27,050	28,135
No. Obs.	246,250	33,103	33,103	223,479	223,694

Note: Column (2), (4), and (5) report OLS regression results of a dummy variable capturing concerns about immigration on a dummy variable *Lived under Socialism* indicating whether an individual lived under socialism or not. Column (2) reports the results of an OLS regression based on the mean of the outcome and control variables between 1999 and 2016. Column (1) reports results of an Random Effects model. Control variables include gender and a cubic polynomial of age. Standard errors are clustered at the individual level and displayed in parentheses. Statistical significance is indicated by asterisks according to: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

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ZEW – Leibniz-Zentrum für Europäische Wirtschaftsforschung GmbH Mannheim
ZEW – Leibniz Centre for European Economic Research

L 7,1 · 68161 Mannheim · Germany
Phone +49 621 1235-01
info@zew.de · zew.de

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