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ABSTRACT

Family and Politics: Does Parental Unemployment Cause Right-Wing Extremism?*

Recent years have witnessed a rise in right-wing extremism among German youth and young adults. This paper investigates the extent to which the experience of parental unemployment during childhood affects young people's far right-wing attitudes and xenophobia. Estimates from three different German data sets show a positive relationship between growing up with unemployed parents and right-wing extremism, with xenophobia in particular. This paper uses differences in unemployment levels between East and West Germany, both before and after reunification, to investigate a causal relationship. Instrumental variables estimates suggest strong and significant effects of parental unemployment on right-wing extremism. This is consistent with classical theories of economic interest and voting behaviour which predict that persons who develop feelings of economic insecurity are more susceptible to right-wing extremism and anti-foreign sentiments.

JEL Classification: C23, D72, J6, P16

Keywords: right-wing extremism, unemployment, instrumental variable, intergenerational links, panel estimators, matching

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1. Introduction

Right-wing extremist ideas, parties and movements are a problem in contemporary Germany. In a speech on 10 April 2005, Paul Spiegel — the then President of the Central Council of Jews in Germany — stated: “Since right-wing extremist parties have gained or regained seats in the parliaments of Saxony and Brandenburg, not a week goes by without the right-wing extremist managing to become the focus of political discussion in Germany. What they are saying is nothing new: open racism and anti-Semitism are complemented by firing up people’s weariness of the political discussion in Germany”.¹

In the above-mentioned federal state election in Saxony in September 2004, the right-wing extremist Nationaldemokratische Partei Deutschlands (NPD) received 9.2 percent of the votes.² Support among young male voters was particularly strong with one in five men aged 25 and younger casting their vote for the NPD (Statistisches Landesamt des Freistaates Sachsen).³ Figure 1 illustrates the evolution of the number of “violence-prone right-wing extremists” (not in organised groups) and neo-Nazis (in organised groups) in Germany between 1990 and 2005. The period saw an over 100 percent increase in the number of right-wing extremists. Germany is also seeing increased right-wing violence by youth and young adults (Federal Ministry of the Interior, 2003). Between 1996 and 1999, more than 41,000 right-wing extremist crimes were officially registered in Germany, 6.8 percent of which were violent crimes (Falk and Zweimüller, 2005).

What are the driving forces behind right-wing extremism?⁴ To what extent do family background characteristics, such as parental unemployment during childhood, affect affinity towards right-wing extremism? This paper seeks to shed new light on these questions in the case of young people in Germany. In particular, it examines the

¹ Abstract of a speech at the Occasion of the National Commemoration of the 60th Anniversary of the Liberation of the Concentration Camps. <<http://www.thueringen.de/de/politisch/veranstaltungen/17531/>>.

² Die Republikaner and the Deutsche Volks Union (DVU), two other right-wing extremist parties in Germany, also had electoral successes in regional elections in both East and West Germany during the 1990s. (see, for example, <<http://www.bundeswahlleiter.de>>).

³ Similarly, nearly one in four first-time voters cast their vote for the DVU in the 1998 federal state election in Sachsen-Anhalt (Winkler and Falter, 2002). In 2006, 17 percent of voters aged 29 and younger voted for the NPD in the federal state election in Mecklenburg-Western Pomerania.

⁴ To date, there exists no agreed definition of the term right-wing extremism. I define right-wing extremism according to the following five core features: nationalism, racism, xenophobia, anti-democracy and a strong centralized state. According to Mudde (2000), these are the five most commonly used features in defining right-wing extremism in the academic literature.

extent to which maternal and paternal unemployment during childhood have an impact on political far right-wing views, affinities to right-wing extremist parties, and the chances of joining skinhead or neo-Nazi groups. Also examined are young Germans' prejudices and hostile attitudes toward foreigners and asylum-seekers.

One of the difficulties in estimating the true impact of parental unemployment on children's political outcomes is that the relationship of interest could be driven by characteristics that are unobservable to the researcher, rather than representing causality. For instance, parents who have a higher risk of being unemployed may also be more prone to antidemocratic and xenophobic sentiments, and these attitudes may in turn affect their children's political attitudes irrespective of the parents' actual employment histories.

This study accounts for these potential omitted factors influencing both parental unemployment and young people's right-wing behaviour using several econometric methods which rely on different assumptions and thereby checking robustness. A baseline reference point is produced by estimates from linear probability models. In a second step, I estimate various panel models with data from the German Socio-Economic Panel. Third, I apply instrumental variable models exploiting stark differences in unemployment levels between the region of the former German Democratic Republic (GDR) and the Federal Republic of Germany (FRD) both before and after German reunification in 1990, as an exogenous source of variation in parental unemployment. Finally, I apply propensity score matching methods.

Investigating whether parental unemployment has an impact on young people's right-wing behaviour is of substantial interest since the majority of right-wing extremist crimes in Germany are conducted by young men aged 15-25 years (Neubacher, 1999). In addition, attitudes and orientations in general are most susceptible to influences and events during childhood and early adolescence (Krosnick and Alwyn, 1989). For instance, Wahl (2003) argues that many individuals who have been either suspected or found guilty of right-wing extremist crimes in Germany had mental-health problems stemming from destructive events during their childhood. Furthermore, since attitudes and political values are relatively stable from early adulthood on (Krosnick and Alwyn, 1989), young people's right-wing extremism today may have a lasting impact on their political values and behaviour in the future.

The question of how parental unemployment influences young people's right-wing extremism is also crucial for the economic domain. First, anti-foreign sentiments within the population could have an adverse effect on the social and economic integration of immigrants and thus influence economic performance and trade (Dustman and Preston, 2001; Epstein and Gang, 2004). Second, xenophobia and right-wing extremism could influence migration patterns. For instance, fear of right-wing assaults could result in people leaving certain areas of the country, or deter immigration into particular regions. In fact, the creation of nationally liberated zones ("National befreite Zonen"), i.e. areas in which right-wing extremists exercise social control, is one declared aim of right-wing extremist groups in contemporary Germany (Döring, 2006). Third, right-wing extremism in the population could severely limit the attractiveness of certain regions as locations for business investment and thus hamper economic growth.

This paper is unique in that it is the first study trying to investigate causal effects of right-wing extremism and xenophobia. It also provides first evidence on intergenerational relationship between parental economic conditions and young people's right-wing extremist attitudes and behaviour. I find a strong and significant association between parental unemployment and various right-wing extremist outcomes for young Germans in simple cross-sectional estimations, in particular for men. I document that the relationship is robust to young people's feelings of marginalization and economic insecurity, their dissatisfaction with the political system, and the influence of parents' political attitudes and economic expectations. Various panel estimates and results from propensity score matching yield similar conclusions. Furthermore, using instrumental variable regressions I show that there is convincing evidence in favour of a causal effect from parental unemployment during childhood on young people's right-wing extremism.

The paper is organized as follows. Section 2 briefly discusses relevant economic and political theories. Section 3 presents the various data sources that are used in the empirical work. Eight different outcome measures of right-wing extremism are described in Section 4, and summarized in Section 5. Regression estimates from multiple identifying strategies are presented in Sections 6-9. Sensitivity analyses are discussed in Section 10. The final section concludes.

2. Theoretical background

Theories of economic interest (Lipset, 2002; Downs, 1957) suggest reasons why parental unemployment may help explain right-wing sentiments and xenophobia. Individuals whose parents experienced unemployment may perceive employment opportunities as scarce and develop feelings of socio-economic insecurity. They may conclude that the scarce jobs available are being occupied by foreigners. Hence, there exists a risk that these individuals will be more receptive to right-wing extremist propaganda and feel closer to right-wing parties that claim to protect their interests as natives. For example, the right-wing extremist German party, Die Republikaner, campaigned for the last election with the slogan “Jobs for Germans first!” (“Arbeit zuerst für Deutsche!”).⁵

A related argument can be made based on the economic theory of voting behaviour. This assumes that individuals are self-interested, rational and vote for the party from which they expect to receive the highest utility. If individuals perceive a loss in their socio-economic status, they may be more prone to sympathise with and vote for right-wing extremist parties, believing the parties’ promises to prioritize job creation for natives.

This paper also touches on arguments from the political science literature (see, for example Roth and Schäfer, 1994). Two political theories help to explain why parental unemployment may affect children’s right-wing extremist sentiments and party affinities. The first concerns the hypothesis of a rational protest vote. The idea here is that individuals cast right-wing extremist votes as a protest against socio-economic conditions, or out of dissatisfaction with the political system or disillusionment with the traditional parties. Hence, a person’s statement of support for a right-wing party could be a means of channelling social and economic discontent — triggered, for example, by parental unemployment — rather than representing genuine right-wing ideological conviction. A second theory argues that far right-wing voting is an expression of ideological convictions. The hypothesis is that support for extreme right-wing parties and organisations is based on genuine political beliefs and right-wing convictions rather than the result of opportunistic protest voting and behaviour. Having these theories in mind is useful in motivating and interpreting the empirical analysis below.

⁵ See, for example, < http://www.im.nrw.de/pe/pm2001/pm2001/news_140.htm >.

3. Data sources

Three German data sources are used in this study. The first is the German Socio-Economic Panel (SOEP), a panel survey of approximately 17,000 individuals in about 6,000 households interviewed each year since 1984. In June 1990, following German reunification, the SOEP was expanded to the former German Democratic Republic, bringing in nearly 4,500 individuals in 2,000 new households. Ongoing representativeness of the population has been maintained by using a following rule typical of household panel surveys. This study uses the years following the German reunification from 1990 to 2004 (Waves 7-21).⁶

The second data source is the Youth and Young Adult Longitudinal Study (YYAS) which surveyed a national sample of youth and young adults in 1991 and 1996. Overall, the YYAS interviewed approximately 7,300 young people in both East and West Germany, asking detailed questions on political orientations and social experiences.

The third data source is the DJI Youth Survey, a repeated cross-sectional survey which was carried out in 1992 and 1997 on young adults aged 16-29 in East and West Germany. This survey collected data from approximately 7,000 individuals in each of the two years. The survey is representative of the total German population in that age range and contains extensive information on respondents' political orientations and behaviour. The questionnaire also asked about prejudices against immigrants and asylum seekers.

I restrict the analysis to native Germans aged 16-29 years. In addition, because some previous studies report differences in right-wing extremist crimes against foreigners between East and West Germany (Krüger and Pischke, 1997), in most cases separate regressions are estimated for both parts of Germany.

4. Measures of right-wing outcomes

This section explains the definitions of the measures of right-wing behaviour used in this study.⁷ Using several measures allows me to investigate young people's right-wing attitudes and xenophobia from different angles.

⁶ See Haisken-DeNew and Frick (2005) and Burkhauser et al. (1997) for further details about the SOEP.

⁷ The precise wording of the questions and a description of each of the outcome measure is provided in the Appendix, Table A1.

The first two variables measure affinity to right-wing parties in Germany and participation in right-wing extremist organizations such as neo-Nazi / skinhead groups. These groups are closely watched by the German intelligence service and regularly mentioned in the Annual Report of the Office for the Protection of the Constitution (Verfassungsschutzbericht) in the sections on right-wing extremism.⁸ Furthermore, members of neo-Nazi / skinhead groups have been found guilty of numerous xenophobic crimes in Germany (Willems, 1993).

Leaning towards an extremist right-wing party. Respondents to the SOEP and the YYAS are asked which political party they are closest to. The variable takes the value one if respondents name a right-wing extremist party, and zero otherwise.⁹ Similarly, if respondents to the DJY Youth survey indicated closeness to the party Die Republikaner, the variable was set equal to one, and zero otherwise.

Participation in skinhead / neo-Nazi groups. The DJI Youth Survey and the YYAS Study collect information on participation in and approval of right-wing extremist groups. In the former, respondents were asked about their attitudes towards “Neo-Nazis and right-wing skinheads” and other right-wing groups (“Nationalistische Gruppierungen”). I defined respondents as participants if they said either that they take an active part in or occasionally attended a right-wing extremist group. The YYAS Study asks individuals about their perception of “skinheads” on a six-point scale. I define participants as those individuals who answered that they were part of a skinhead group.

Far right-wing political views. In the DJI Youth Survey, respondents were asked where they placed themselves on the Left-Right political scale. I define respondents as having far right-wing political views if they placed themselves in the two outmost right boxes on the political Left-Right scale.¹⁰

Recent studies point to a strong relationship between right-wing political ideology, racism and anti-foreign sentiments in the German society (Alba and Johnson, 2003; Heitmeyer, 2003). The remaining outcome variables therefore measure young people’s attitudes and sentiments toward foreigners and asylum-seekers in Germany.

⁸ See, <<http://www.bmi.bund.de>> for further information.

⁹ Note that respondents in the SOEP are specifically asked about their long-term party affinity.

¹⁰ Qualitatively similar results are obtained when using a more restrictive measure of right-wing views, i.e. a dummy variable that equals one if the respondents placed themselves at the far right end of the political Left-Right continuum, and zero otherwise.

Anti-foreign sentiments. The DJI Youth Survey includes a module of items aiming to measure respondents' xenophobia. The following questions are worded to examine individual's perceptions and sentiments about foreigners:

- “When there is a shortage of jobs, foreigners should be sent back to their home countries”
- “It would be better if all foreigners left Germany”

If respondents state the two strongest expressions of agreement (“totally agree”, “agree”) on a six-point scale, I set the dependent variables to one, and zero otherwise. Respondents are also asked about whether they think that “using violent means to make it clear to asylum-seekers that they should return to their home country” is acceptable, unacceptable, or whether it may possibly be acceptable. If young people say that using violent means is acceptable, I define the variable to take the value one, and zero otherwise. Attitudes toward asylum seekers are of particular relevance in Germany, given the series of right-wing extremist riots during the early 1990s, including the pogrom-like attacks on asylum-seekers in Hoyerswerda and Rostock. Some of these were supported by German bystanders who clapped and cheered while the attacks were taking place (Krüger and Pischke, 1997).

Right-wing behaviour and xenophobia. Finally, I construct two variables aimed at providing a stricter and narrower proxy for (a) right-wing behaviour and (b) xenophobia. My measure of right-wing behaviour equals one if respondents in the DJI Youth Survey state leaning towards a right-wing extremist party, participate in a skinhead / neo-Nazi group and show right-wing political views, and zero otherwise.¹¹ Accordingly, I define the xenophobia variable as one if respondents agree with all three anti-foreign statements described above, and zero otherwise.

Table 1 presents unconditional means for all outcome variables by sample, region of residence and parental unemployment experience during childhood. The table shows that the proportion of young people with right-wing outcomes is considerably higher among those whose parents were unemployed in all but one case. This is equally true for young people living in East and West Germany.

¹¹ In the YYAS, the variable right-wing behaviour equals one if respondents lean towards a right-wing extremist party and state their participation in a skinhead / neo-Nazi group, and zero otherwise.

5. Data and descriptive statistics

The definition of the main explanatory variable ‘parental unemployment during childhood’ varies across the three data sets. First, parental unemployment is reported retrospectively by respondents (aged 16-29) in both the DJI Youth Survey and the YYAS. In the SOEP, however, parental unemployment is self-reported. Second, the YYAS and the SOEP cover young people’s entire childhoods (ages 0-16), whereas the DJI Youth Survey provides parental unemployment information only in the year respondents were aged 16. Finally, the period over which parental unemployment is measured varies as well. In the DJI Youth Survey and the YYAS the time period spans the years 1979-1997 and 1977-1996, respectively. The SOEP also covers more recent years up to 2004. If young people grow up in a single-parent family, parental unemployment covers unemployment of the single parent only.¹² Differences in both the definition of the key explanatory variable and the time period over which it is measured explain the variation in the proportion of young people who grow up with unemployed parents across the three data sets.

A common set of explanatory variables (in addition to parental unemployment) can be derived from each survey, including age, sex, year of birth, highest general schooling degree of the children and parents, and a maximum set of year and federal state dummies. The measure of educational qualification has three categories: general secondary school qualification or less, intermediate school qualification, and higher school qualification. I also control for the annual state-level unemployment rate as a proxy for local labour market conditions.¹³ Furthermore, I include a variable measuring the proportion of foreigners in the population at the federal state level to capture differences in ethnic composition across states and over time. Previous research found that a higher concentration of minorities increased hostility against foreigners in Germany (Krüger and Pischke, 1997). Finally, to account for neighbourhood characteristics, I add dummy variables capturing the district size respondents live in. In the DJI Survey, I also control for father’s occupation. Summary statistics of explanatory variables are provided in the Appendix, Table A2.

¹² Note that both the DJI Youth Survey and the YYAS comprise both mother and father-only families, whereas young people who grew up in father-only families were excluded from the SOEP sample.

¹³ In unreported regressions, I also controlled for youth unemployment levels. This generated similar results. These results and all estimates and robustness checks which are not reported in the paper are available from the author upon request.

6.1 Parental unemployment and right-wing extremism

I start by estimating OLS linear probability regressions of the form¹⁴:

$$\textit{right-wing} = f + t + u^p \beta_l + X\gamma + e, \quad (1)$$

where *right-wing* represents one of the right-wing extremist outcome variables, *f* are federal state dummies, *t* are year dummies, *u^p* is a dummy variable equal to one if a person experienced parental unemployment during childhood and zero otherwise, and *X* is a vector of child- and family-specific variables. The parameter of greatest interest is β_l , which captures the relationship between growing up with an unemployed parent and young people's propensity to show right-wing extremist attitudes. The year dummies *t* capture common shocks to young people's right-wing behaviour, the state dummies *f* control for regional differences and the error term *e* captures all other omitted factors.

Table 2 presents the baseline results. For brevity, only the estimates of β_l are reported.¹⁵ The table shows a positive significant association between experience of parental unemployment and children's right-wing extremism in 21 out of 24 regressions. The largest point estimates are obtained for the outcome variable "when there is a shortage of jobs, foreigners should be sent back to their home countries". Individuals who grow up with an unemployed parent show a 6-13 percent higher likelihood to agree with this statement. Similarly, individuals are 5-7 percent more likely to state that it "would be best if all foreigners left Germany" and show a significantly higher propensity to approve of using violence against asylum seekers if they experienced parental unemployment during childhood. Finally, Panel C reports the point estimates for the two outcome variables right-wing behaviour and xenophobia. There exists a statistically significant correlation between parental unemployment experience during childhood and right-wing behaviour for young people living in East Germany, but not in West Germany. In contrast, the association with xenophobia is positive and significant for young people living in East and West Germany, but larger in magnitude among West Germans.¹⁶ Overall, the results suggest a significant positive

¹⁴ The results presented here are robust to estimating the models using probit regressions.

¹⁵ The estimated coefficients for explanatory variables besides parental unemployment are not shown here but are available from the author upon request.

¹⁶ I also run ordered probit regressions in case an ordinal right-wing extremist scaling was possible to derive. In the DJI Youth Survey, respondents expressed the first two anti-foreign statements in Table 2,

association between parental unemployment experience during childhood and various right-wing extremist outcomes for young people in Germany.

6.2 Alternative explanations why parental unemployment affect young people's right-wing extremism

Having determined that parental unemployment is positively associated with young people's right-wing extremism I now examine reasons why this might be the case. I consider four hypotheses. The first is that young people who grew up with an unemployed mother or father might be more likely to be unemployed themselves later in life (O'Neill and Sweetman, 1998) and their political behaviour might be influenced by their own labour market prospects. Some previous studies have pointed to a positive correlation between being unemployed and the propensity to cast a right-wing extremist vote (Lubbers and Scheepers, 2001). I examine how young people's own unemployment affects their right-wing attitudes by including a dummy variable that equals one if the young person was unemployed when interviewed, and is zero otherwise.

Second, I examine the potential direct influence of young people's feelings of socio-economic deprivation and insecurity. If parental unemployment is a measure of general economic uncertainty, the positive correlation between parental unemployment and right-wing outcomes should weaken. To test this hypothesis, I control for young people's financial worries and whether or not they feel disadvantaged by the German reunification. In addition, in the regressions based on the SOEP, I can control for whether parents are currently worried about their financial situation.

The third hypothesis is that parents' political beliefs play a key role in determining their children's political attitudes (Lazarsfeld et al., 1948). To the extent that the influence of parental unemployment on right-wing outcomes is diminished by the inclusion of variables that capture parents' political beliefs, one could conclude that parents' political orientations – rather than their unemployment – are the driving force

Panel B on a six-point scale, with (6) indicating “totally agree” and (1) “totally disagree”. I collapsed the responses (1)-(3) into one category, providing a four-point ordinal indicator of intensity of anti-foreign sentiments. Intergenerational links were large, positive and highly significant. In addition, using factor analysis, I collapsed the information contained in the first six right-wing measures (Table 2) in the DJI Youth Survey and the two right-wing outcomes in the YYAS respectively, into one dependent variable. The new outcomes can be interpreted as measuring “overall right-wing extremism”. With one exception, the association with right-wing extremism was positive and highly significant.

behind young people's right-wing extremism. This is tested using SOEP data. Two proxy variables are used for parents' political views: parents' affinity to a right-wing extremist party, and whether parents indicate being in favour of democracy.

Fourth, it is commonly believed and argued that right-wing extremism is closely associated with disillusionment with the political system (Backer, 2000). To account for this, covariates capturing respondents' disaffection with politicians and the government are included in the regressions. Political dissatisfaction is proxied by whether respondents think that politicians trick people (DJI Youth Survey) and whether they report having no or low levels of trust in government (YYAS).

Table 3 investigates the robustness of the baseline results by progressively adding further covariates that might be behind the positive association between parental unemployment and right-wing extremism. For the sake of brevity, I report results for one outcome only.¹⁷ Panels A and B show the estimates obtained for young people living in East and West Germany respectively. Column (1) in each of the three surveys shows a positive and significant association between young people's own unemployment and their right-wing party affinity in East Germany, which varies considerably in magnitude among the three data sets. The relationship is much weaker for those living in West Germany.

Results in columns (2) and (3) paint a picture consistent with the theory of economic interest. Financial worries and feelings of being disadvantaged by the German reunification are positively correlated with individuals' leanings toward right-wing extremist parties. Using data from the SOEP, columns (4) and (5) present results for an intergenerational link in political attitudes. The estimates suggest that having a parent who at any point responded feeling an affinity to a right-wing extremist party is positively associated with young people's affinity to these extremist parties, and this effect is very strong. Children in West Germany whose parents responded feeling an affinity to right-wing extremist party show a 34 percent higher chance of feeling close to far-right wing parties. The intergenerational effect in East Germany is nearly double the size. Finally, column (6) in the YYAS and DJI Youth survey show that there is a positive and statistically significant association between having no trust in politicians or the government and right-wing extremism. This result is consistent with Backer (2000).

¹⁷ The results for the other right-wing measures were broadly similar to the results reported in Table 3.

To further examine the influence of parental unemployment, I distinguish between young people who experienced unemployment of both parents during childhood and those who experienced either maternal or paternal unemployment.¹⁸ One would expect a stronger intergenerational association if both parents were unemployed and resulting in higher levels of socio-economic insecurity within the family. Furthermore, since fathers have higher labour earnings than mothers on average, one might hypothesise that paternal rather than maternal unemployment has a larger impact on children's right-wing extremism. Table 4 presents results for two outcome measures: leaning towards a right-wing extremist party and participation in skinhead / neo-Nazi groups. There is a positive intergenerational association when both parents were unemployed during childhood years in regressions based on the YYAS and DJI Youth Survey. In the majority of regressions, the link is larger in magnitude for unemployment of both parents than for unemployment of one parent only. No clear-cut evidence emerges with respect to the second hypothesis.

6.3 Gender, household income, parental unemployment and right-wing extremism

Table 5 investigates how the impact of parental unemployment on right-wing extremism varies with gender. The table reports separate OLS estimates for women and men living in East and West Germany, respectively. Overall, the results show that the intergenerational relationship is much stronger for men than for women. For example, young male Germans who experienced parental unemployment have a 3-7 percentage point higher chance of participating in skinhead / neo-Nazi groups. For female respondents, the point estimates are between one and five percentage points.

The impact of parental unemployment on right-wing extremism might also differ across the distribution of parents' household income during childhood. For instance, young Germans who grew up with low-income parents and experienced parental unemployment might be more likely to become right-wing extremists than more affluent peers who also experienced parental unemployment during childhood. Thus, one might expect a stronger intergenerational relationship at the bottom of parental earnings distribution. Table 6 reports estimates by parental household income quartiles

¹⁸ Due to small sample sizes, regressions are pooled for respondents living in East and West Germany.

using data from the SOEP.¹⁹ Among young people in East Germany, the positive relationship between parental unemployment and right-wing extremism is stronger in the tails of the income distribution. For West Germans, the relationship across generations is bell-shaped, with lower intergenerational associations at the bottom and top of parental income distribution in comparison to the middle (2nd and 3rd quartile).

In sum, the results so far show a positive association between parental unemployment experience and various right-wing outcomes for young Germans, in particular for young men. However, if parental unemployment and right-wing extremism of children is correlated with some common unobservable characteristics, then the OLS estimates will be biased. In the following sections, I therefore present several econometric approaches to further identify an impact of parental unemployment, and discuss the results produced. It is important to keep in mind that each of the methods has potential limitations, but by applying a broad range of estimation methods with differing identifying assumptions, I am able to draw more robust conclusions than with one method only.

7. Panel data estimates

Using panel data from the SOEP has several important advantages over cross-sectional surveys. First, the panel data structure allows one to control for unobserved family-specific and child-specific effects. Second, since parental unemployment is self-reported, this is likely to result in lower levels of measurement error than if reported by children retrospectively. Third, using parents' retrospective employment histories enables me to measure parental unemployment over young people's entire childhood as opposed to a single point (or year) in time (Wolfe *et al.* 1996). Thus, it is also possible to investigate the impact of parental unemployment duration during childhood on right-wing extremism. Fourth, the SOEP data allows me to control for other family background characteristics, such as family structure (growing up in a non-intact family; family size and birth order). Fifth, the SOEP allows me to examine whether the intergenerational effect might differ according to when the individual experienced parental unemployment: young children may be affected differently than teenagers. Finally, maternal and paternal employment status is observed not only during

¹⁹ Household income is post-government household income during childhood (ages 0-16) averaged over

individuals' childhood years (ages 0-16), but also at later ages, so one can measure parental unemployment over a longer period, including early adulthood. According to the impressionable years hypothesis (Krosnick and Alwin, 1989), parental unemployment during adulthood should have a lower impact on young people than during childhood. Table 7 presents results from various estimation methods using the SOEP, for East and West Germany separately. The first two columns present results from linear probability models which include additional family background variables. The remaining columns report estimates from individual random-effect models and family fixed effect linear probability models. The first method uses all person-year observations for which respondents' party affinity is observed more than once. This method controls for any unobserved individual effects assumed to be uncorrelated with the explanatory variables.²⁰ The second method uses the sub-sample of young people in which at least two siblings with the same mother were interviewed. Sibling models relate differences in right-wing outcomes among siblings to sibling differences in parental unemployment experience during childhood. Although family fixed effect models are not a panacea against unbiasedness, they are useful in controlling for unobserved environmental or genetic characteristics that do not change over time (Ermisch and Francesconi, 2001).²¹ For example, young adults who grow up with xenophobic parents (which is unobserved in the SOEP) might show a stronger leaning towards right-wing extremist parties. Assuming that parents' anti-foreign sentiments remain stable over time, family fixed effect models help to control for family-specific influences that might have an impact both on parents' unemployment propensities and children's political attitudes.

I start by discussing the results in Panel A, Table 7. The first two columns show that the association between parental unemployment and right-wing outcomes is robust to including further explanatory variables. With the exception of the number of brothers in East Germany, family structure variables have no significant effect.²² The random

all the years for which positive household income is available.

²⁰ Note that the random-effect estimates are consistent if parental unemployment is the only endogenous variable.

²¹ One potential problem with fixed effect estimation is that by using within group variation errors-in-variables bias may increase (Griliches, 1979).

²² I also distinguished between individuals whose mother was unmarried at their birth from individuals who had ever lived with a separated/divorced mother and individuals who experienced the death of their

effect estimates in Panel A also suggest a positive and significant intergenerational relationship. In contrast, sibling difference estimates are positive and statistically significant for young people living in East Germany only.²³ The impact is large, suggesting that East Germans who grew up with an unemployed parent have a 6 percent higher risk of leaning towards a right-wing extremist party than those in East Germany whose parents were not unemployed during their childhood.

Estimates in Panel B report whether the impact of parental unemployment varies with the age at which it was experienced. To this end, I break down the most recent phase of parental unemployment into two mutually exclusive childhood stages: early childhood (birth to age 12) and late childhood (ages 13-16). From the theoretical considerations in Section 2, it became apparent that right-wing extremism might be triggered by parental unemployment, acting as an outlet for feelings of deprivation and socio-economic insecurity. This implicitly suggests that young people were aware of their parents' unemployment, which is more likely at an older stage of childhood. Hence, one would expect an impact of parental unemployment in late childhood rather than early childhood. Consistent with this hypothesis, Panel B in Table 7 shows a positive significant impact of parental unemployment during late childhood on right-wing party affinity in the majority of regressions. Hardly any significant effect appears for parental unemployment during early childhood.

The results for parental unemployment experience during childhood and adolescence (ages 17+) are shown in Panel C. Note that the point estimates from the various estimation methods are smaller in magnitude here than the corresponding ones in Panel A. This suggests that parental unemployment during late childhood – rather than at ages 17 and above – plays a crucial role in right-wing extremism. Similar conclusions can be drawn from the impact of parents' current unemployment (Panel D). In addition, I also run fixed-effect estimates of current parental unemployment on the propensity to feel close to a right-wing extremist party. The coefficients were not

father during childhood. None of the three variables showed a significant association with the outcome measure.

²³ Note that the imprecision of the sibling fixed effects for West Germany is not surprising since there are fewer differences in parental unemployment during childhood for siblings in the West compared to the East.

significantly different from zero with -0.002 (0.018) for West Germans, and 0.002 (0.012) for East Germans, respectively.²⁴

Finally, Panel E reports the impact of the number of years of maternal and paternal unemployment on affinity to a right-wing extremist party. Note that all coefficients are positive, whereas only the number of years fathers were unemployed in West Germany is significantly positive linked with right-wing extremism. On average, an additional year of paternal unemployment increases the affinity to a right-wing extremist party by one percentage point. Every year since the start of the SOEP in 1984, respondents were asked to report their employment status in the previous year using a monthly employment “calendar”.²⁵ In contrast, for the years prior to 1983, parental unemployment status is available on an annual basis only. As a final exercise, I investigated the relationship between the number of months parents were unemployed during childhood and right-wing extremism for the period 1983-2004. Again, paternal unemployment duration showed a stronger positive link with right-wing extremism than maternal unemployment duration.²⁶

Taken as a whole, the results provide further evidence for Germany that there exists a positive link between parental unemployment and young people’s affinity to right-wing extremist parties. Furthermore, they indicate that parental unemployment during late childhood (ages 13-16) plays a crucial role in children’s affinity to right-wing extremist parties.

8. Instrumental variable estimates

To investigate causal intergenerational effects, instrumental variable regressions are estimated. As a source of exogenous variation in parents’ unemployment, I exploit the stark differences in unemployment rates between East and West Germany, both before and after reunification in 1990. The GDR had a centrally planned economy: prices,

²⁴ In the YYAS, young people are also asked whether their parents were unemployed in the six months prior to the interview. This sheds further light on whether it is unemployment experience during childhood or more recent parental unemployment at an older age that is most strongly associated with right-wing extremism. In all but one regression, the estimates showed parental unemployment during childhood to be more strongly associated with right-wing extremism (in both magnitude and significance) than more recent parental unemployment.

²⁵ SOEP respondents are asked to mark on a calendar their monthly labour market status in previous years such as full-time employment, part-time employment, short-time contract, unemployment, etc.

²⁶ However, smaller sample sizes reduced the precision of the estimates and the relationship was only significant at the 10 percent level for young people living in East Germany.

production and allocation of resources were state-planned, and unemployment was very low. In the years following reunification, unemployment levels surged in the area of the former GDR, reaching 20.1 percent in 2004 (ZUMA, 2005). In contrast, the West had a free market economy, with unemployment levels in the range of 3.8 to 9.3 percent during the 1980s, and “more moderate” increases in unemployment levels than East Germany in the years following the fall of the Berlin Wall. Figure 2 depicts the development of unemployment levels in East and West Germany since 1990. A steeper increase in unemployment rates in East Germany after reunification is apparent. Figure 3 shows the proportion of young people growing up with an unemployed parent over time by using data from the YYAS, separately for individuals living in East and West Germany. The vertical line represents the year of the collapse of the Berlin Wall in 1989. The figure shows (1) that the proportion of young people with unemployed parents during childhood was close to zero in the GDR before 1989 compared to the FRG, and (2) that unemployment rates increased more dramatically there than in the West following the fall of the Berlin Wall. These huge differences over time and across both parts of Germany provide an exogenous source of variation for parental unemployment experience. The regression model consists of equation (1) as well as:

$$u^p = \alpha_0 + \alpha_1 \text{childhood}^{GDR} + X\alpha_3 + v. \quad (2)$$

The equations are estimated by Two Stage Least Square (2SLS), whereas equation (2) represents the first-stage equation and the variable childhood^{GDR} serves as an instrument for parental unemployment during childhood.

In the SOEP and YYAS Survey, childhood^{GDR} represents the number of years an individual lived in the GDR during childhood (ages 0-16). The idea is that the more years of childhood a young person spent in the former GDR, the less likely it is that she experienced parental unemployment because the socialist state provided “better protection” against unemployment than the free-market economy in the West. In the DJI Youth Survey, childhood^{GDR} is a dummy variable that equals one if the young person lived in East Germany at age 16, and zero otherwise.²⁷

²⁷ Note that in the DJI Youth Survey, the dummy variable childhood^{GDR} also equals one if the respondent lived in the former area of the GDR in the intermediate transition year 1991. This results in a stronger instrument and more precise estimates in the second stage.

To clarify the identification strategy and interpretation of IV estimates, I now use notation for potential treatment assignments following Imbens and Angrist (1994) and Angrist (2004). To keep things simple, I focus on the DJI Youth Survey, where the instrument is a dummy variable. Define potential treatment assignments (whether children experienced parental unemployment at age 16 or not) relative to binary instrument $childhood^{GDR}$ as u^p_0 and u^p_1 , where u^p_0 is the binary treatment if the respondent lived in FRG at age 16 ($childhood^{GDR} = 0$) and u^p_1 is the treatment if the respondent lived in GDR at age 16 ($childhood^{GDR} = 1$). Angrist (2004) showed that ‘monotonicity’ is one crucial assumption for the support of IV estimation. In simple words, this assumption requires that the instrument affects treatment assignment for everyone in the same direction. Here, I assume that $u^p_1 \leq u^p_0$ for all i . Since unemployment in the socialist GDR was virtually zero, nearly nobody who lived in the GDR at age 16 experienced parental unemployment, hence $u^p_1 \approx 0$ if $childhood^{GDR} = 1$ and thus monotonicity assumption is very likely to hold. Next, I turn to the remaining assumptions for identifying IV regressions, ‘first-stage’ and ‘independence’ and present results of IV regressions.

Results of the first-stage regressions are shown in Table 8. As expected, there exists a negative association between the number of childhood years spent in the GDR and the chances of growing up with unemployed parents in both the SOEP and YYAS. The estimates suggest that having spent an additional year of childhood in the former socialist system decreased the chances of experiencing parental unemployment during childhood by around 5-6 percentage points. Similarly, those who lived in the GDR at age 16 (DJI Youth Survey) had a 14 percent lower risk of experiencing parental unemployment in late childhood compared to those in the FRG. The first-stage relationships are very strong, suggesting that the instrument is highly correlated with the potential endogenous variable.²⁸

Using the DJI Youth Survey, I also distinguish between experience of parental unemployment in East Germany during the periods 1990-1993 and 1994-1997, respectively (IV_{II}). The probability of experiencing parental unemployment is around 11 percent and 19 percent higher for East than West Germans, in both periods and previous

²⁸ The t-statistics are in the range of 7-16, and the lowest F-statistic is 49. This suggests that the IV estimates are unlikely to be biased toward OLS (Staiger and Stock, 1997). Similarly, partial R^2 are large, also implying that the instruments are strong (Bound, Jaeger, and Baker, 1995).

time periods, respectively.²⁹ This second IV strategy allows me to test for over-identification later on. Pooled OLS and 2SLS results for young people living in Germany are presented in Table 9. Again, OLS estimates show a positive and statistically significant association with the majority of right-wing outcomes. With one exception, the 2SLS point estimates are higher in magnitude than the corresponding OLS results. This indicates a causal intergenerational impact of parental unemployment on children's right-wing extremism.

Several explanations are suggested in the literature why IV estimates might yield larger point estimates than corresponding OLS results: (1) measurement error in the explanatory variable parental unemployment and (2) heterogeneity in the effect of parental unemployment experience across the population of young people. The first issue occurs if measurement error, which results in downward bias of OLS estimates, outweighs potential upward bias due to omitted variables. As discussed in Section 5, measurement problems are likely to be most severe in the DJI Youth Survey and the YYAS. Indeed, comparing differences between the OLS and the corresponding IV estimates across the three data sets show relatively large differences in both YYAS and the DJI Youth Survey compared to SOEP estimates. Third, retrospective employment histories from the SOEP not only indicate that unemployment levels were lower among parents in the former GDR than among parents in the FRG, but also that unemployment duration was shorter on average. Hence, the instrumental variables might not only explain differences in the incidence of parental unemployment during childhood but also differences in parental unemployment duration between former East and West Germany. Finally, IV estimates might be larger because they represent the average effect of a particular and selected group of young people only. For instance, the impact of parental unemployment experience on young people's right-wing extremism might be larger among children with less-educated parents. Again using treatment effect terminology, the IV estimates capture the marginal effect for the young people who are affected by the instrument, the so-called local average treatment effect (LATE), whereas unbiased OLS estimates (i.e. in the absence of measurement error and omitted variable bias) correspond to the population average treatment effect (ATE). Furthermore, it can be shown that the LATE estimator in the present case corresponds to the average

²⁹ This is consistent with Mayer (2000) who finds higher transition rates into unemployment among East

treatment effect on the treated (ATT).³⁰ To clarify this, we can partition the population of young Germans into three mutually exclusive groups. (1) ‘*complier children*’, (2) ‘*never-taker children*’ and (3) ‘*always-taker children*’. *Complier children* are those who would have grown up with unemployed parents in the FRG, but not in the GDR. *Never-taker children* are those who would have never experienced parental unemployment during childhood, independent of the political and economic system they lived in. The group of *always-taker children* would consist of individuals whose parents would have been unemployed under both political regimes. However, since unemployment was virtually non-existent in the GDR, the set of *always-taker children* is zero, and therefore LATE equals ATT (Angrist, 2004).

Hence, the present IV estimates might capture the impact of parental unemployment on young people’s right-wing extremism among a sub-group of the population of young people who would have grown up with unemployed parents had they not lived in the former GDR. I argue that these are primarily individual’s with working-class parents with low educational levels who would have had a higher risk of experiencing parental unemployment when growing up in a free market economy rather than in a socialist, planned economy. In fact, in the years following German reunification, unskilled and semi-skilled workers in East Germany faced the highest risk of becoming unemployed (Mayer, 2000).

Do the instruments satisfy the exclusion restriction (*independence*)? In other words, does growing up in the former GDR affect young people’s right-wing extremism only through parental unemployment experience? It might be that growing up in a socialist, non-democratic state has a direct impact on individuals’ right-wing extremism, irrespective of parental unemployment during childhood. However, existing empirical evidence does not support the hypothesis that differences in socialization between former East and West Germany account for differences in right-wing crime in both parts of Germany during the 1990s (Falk and Zweimüller, 2005). Similarly, Kurthen *et al.* (1997: 3) write in this context: “Because they [East Germans] had lived under the conditions of a second dictatorship, they were expected to harbor antidemocratic, authoritarian, and intolerant views. In response to these fears, numerous empirical

Germans in the period July 1992 – March 1997 compared to January 1990 – June 1993.

³⁰ The ATT here measures the impact of parental unemployment on right-wing extremism among those who actually experienced maternal or paternal unemployment.

studies were begun in 1990 in the former GDR on voter profiles, issues regarding the political culture, and attitudes toward foreigners. ... The surveys' findings were surprising to many because they revealed only slight differences in levels of antisemitism and xenophobia between East and West Germans." Moreover, using survey data for the year 1992 in East and West Germany, Weil (1997: 129) summarizes: "And again, East Germans did not differ much from West Germans in ethnic tolerance after reunification — indeed, they were often even more tolerant — even though press reports suggested that long-suppressed ethnic hatreds were free to boil over." Similar findings are reported in Klingemann and Hofferbert (1994) and Veen and Zelle (1995). Overall, evidence from a broad range of studies casts serious doubt on the hypothesis that having lived in the GDR has a direct influence on right-wing extremism and xenophobia in Germany.

To further evaluate this point, the last column in Table 9 presents p-values of Sargan's (1958) test of overidentifying restrictions using IV_{II} estimation method. With the exception of the xenophobia outcome, the null hypotheses that the excluded instruments are not correlated with the error term cannot be rejected at reasonable significance levels. The result from the Sargan's test for the outcome variable xenophobia is interesting and plausible. First, it shows that Sargan's test has the power to reject the null hypothesis. Second, the xenophobia outcome captures "very extreme" respondents. Note that less than 1 percent of respondents are xenophobic according to the definition imposed. For this small and extreme group it seems that that growing up in a socialist, non-democratic state had a direct influence on right-wing extremism. Taken together, the IV estimates provide evidence of a significant causal relationship between parental unemployment experience during childhood and young people's right-wing extremism.³¹

9. Propensity score estimates

This section presents results for propensity score methods. The propensity score method compares treated individuals (who experienced parental unemployment during childhood) with a comparison group of young people who did not grow up with

³¹ For the West German sample, I also used the local unemployment rate at the time individuals were aged 16 and whether respondents lived in urban areas as potential instruments. Unfortunately, these IV

unemployed parents and have observable characteristics similar to those of the treated. Again, the key parameter of interest is the average treatment effect on the treated (ATT). Table 10 presents ATT estimated using propensity score matching. Column (1) shows estimates from local linear regressions, column (2) contains results from radius matching.³² Independently of the data set or matching method, all the estimates point to a positive and statistically significant impact of parental unemployment on young people's right-wing extremism. In line with the previous IV results, the propensity score estimates are larger in absolute value than the corresponding OLS estimates (albeit to a lower magnitude), also suggesting a causal relationship between parental unemployment experience during childhood and right-wing extremism.³³

10. Additional Sensitivity analysis

This section examines the sensitivity of the results for the outcome variable *leaning towards right-wing extremist party*.

Residential mobility Parents may have moved to avoid unemployment. I examine whether geographic mobility might bias the results by re-estimating the models on samples of young people who did not move during childhood. In the DJI Youth Survey, non-movers are defined as those still living in the federal state where they were born. In the YYAS survey, I define non-movers as those who did not move to a different town during childhood. Geographic mobility is very low in Germany: 78 percent in the YYAS did not move to a different town during their childhood and around 90 percent in the DJI Youth Survey still live in their federal state of birth. Panel A of Table 11 shows estimates on samples of non-movers. The results are very similar to previous level estimates, suggesting that geographic mobility is not a cause of concern.

Misreporting of right-wing extremism Young people might hide the fact that they have right-wing extremist views. In particular, this could be true if parents or an

candidates were not very strong. However, the majority of 2SLS coefficients were positive and larger in magnitude than corresponding OLS.

³² Estimations are performed with the Stata module `psmatch2` (Leuven and Sianesi, 2003) Following Sianesi (2004) and Caliendo and Kopeinig (2006), Table A3 in the Appendix reports a range of indicators of how successful matching on the estimated propensity score balanced the distribution of covariates between treatment and control group.

interviewer are present at the time of the interview. If misreporting is systematically related to parental unemployment, then estimates are biased. I try to control for potential misreporting problems by examining whether the inclusion of additional explanatory variables and their interaction with parental unemployment, such as whether respondents answered questionnaire with interviewer present (SOEP) and presence of a third party at the time of the interview (DJI Youth Survey), change the estimates. Results are presented in Panel B, Table 11. The results are mixed. Estimates based on the DJI Youth Survey indicate that misreporting might be a problem, downwardly biasing baseline estimates. In the absence of a third party at the interview, respondents in the DJI Youth Survey were more likely to report right-wing behaviour and xenophobia. The opposite was true for SOEP respondents with respect to the presence of an interviewer.

11. Summary and discussion

This paper examined whether parental unemployment experience during childhood (ages 0-16) increases the risk that young people in Germany become right-wing extremist. Estimates from cross-sectional regressions suggest that the experience of parental unemployment during childhood is significantly positive associated with right-wing extremist attitudes and anti-foreign sentiments for young people aged 16-29. For example, young Germans who grew up with an unemployed parent are 3-5 percentage points more likely to participate in a skinhead / neo-Nazi group. These are large effects, given that around 2 percent of respondents indicate having participated in skinhead / neo-Nazi groups. The intergenerational relationship is stronger in significance and magnitude for young male Germans.

By exploiting large differences in unemployment levels between East and West Germany, both before and after German reunification as an exogenous variation in parental unemployment, this paper provides evidence of a causal relationship between parental unemployment during childhood and young people's right-wing extremism. The majority of 2SLS estimates are larger in magnitude than the corresponding OLS results. Propensity score matching and panel data estimates also point to a positive

³³ Note that the lower magnitude of ATT estimates using propensity score methods compared to 2SLS estimates could be driven by measurement error in parental unemployment. See Battistin and Chesher (2004) for bias of propensity score estimates in case of covariate measurement error.

intergenerational relationship. Overall, three different data sets lead to similar conclusions: growing up with unemployed parents significantly increases young people's right-wing extremism in Germany. It is reassuring that the main conclusions appear to hold across varying data sets, time periods, outcome measures and differences in estimation methods.

Finally, some cautionary notes are in order here. First, it is not an easy task to control for any unobservable characteristics possibly influencing both parental unemployment and right-wing extremism. Different estimation methods rely on different identifying assumptions which are, depending on readers' beliefs, open to criticism. However, by applying a broad range of methods with different strengths and weaknesses, this paper aims to provide a more convincing picture than a study using one method only. Second, the results presented here do not necessarily carry over to other countries and other time periods. Third, the impact of peer group effects has not been investigated here. Interaction with peers may influence young people's political attitudes. For instance, growing up in an area where right-wing culture is strong may increase young people's susceptibility to right-wing extremism. Moreover, it is important to stress that right-wing extremism is a complex and multifarious phenomena: having found a causal relationship between parental unemployment during childhood and right-wing extremism does not mean that there are no other possible channels of influence. Similarly, unemployment might be associated with other extremist behaviour as well, such as left-wing extremism or criminal activities. Clearly, it is important for future research to investigate other mechanism that may further explain extremism in general.

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Figure 1: Right-wing Extremists in Germany

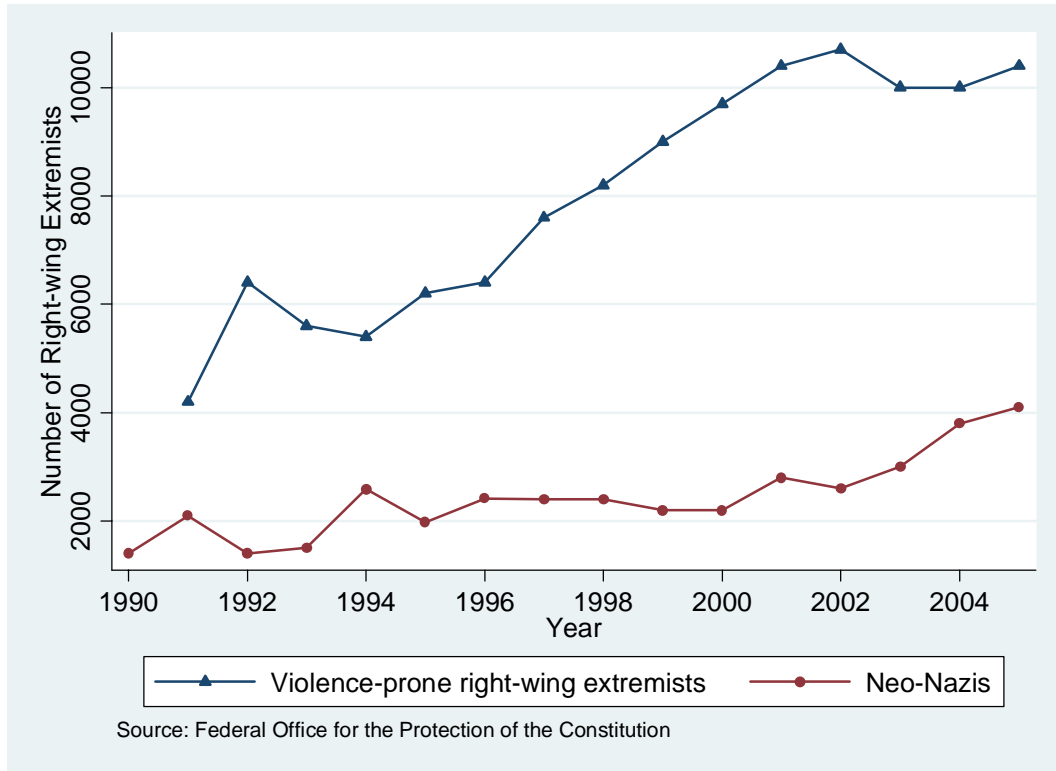


Figure 2: Unemployment Rate in East and West Germany

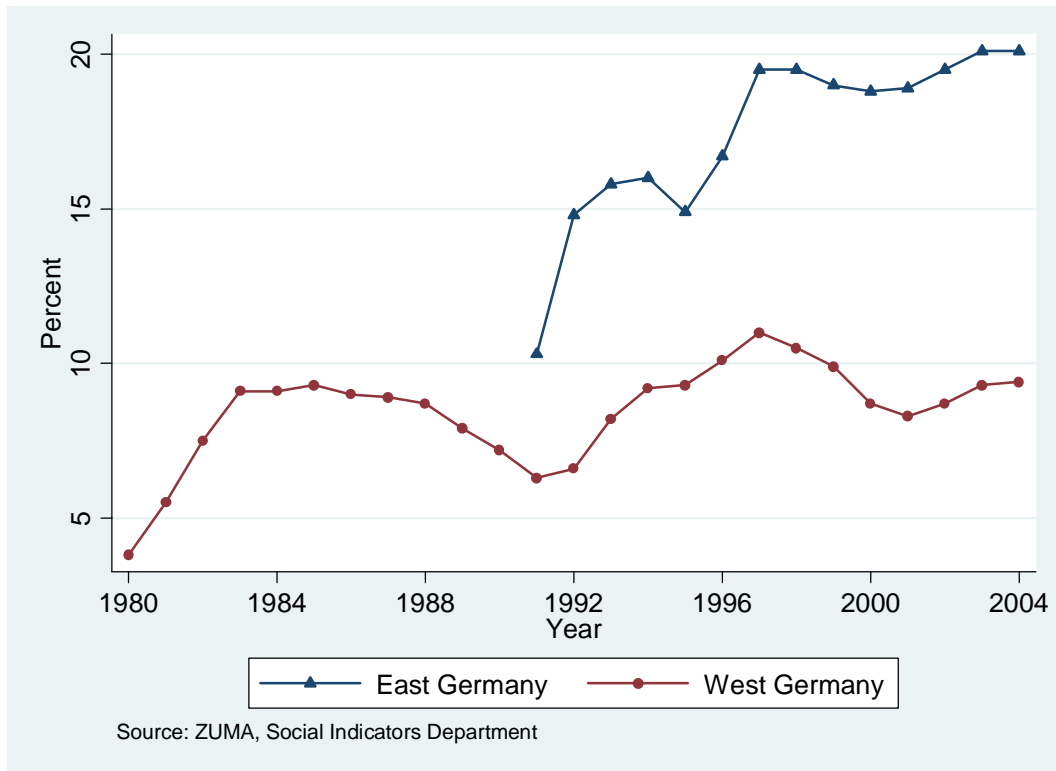


Figure 3: Proportion of Young People with Unemployed Parents by Region of Residence (East vs. West Germany) and Year

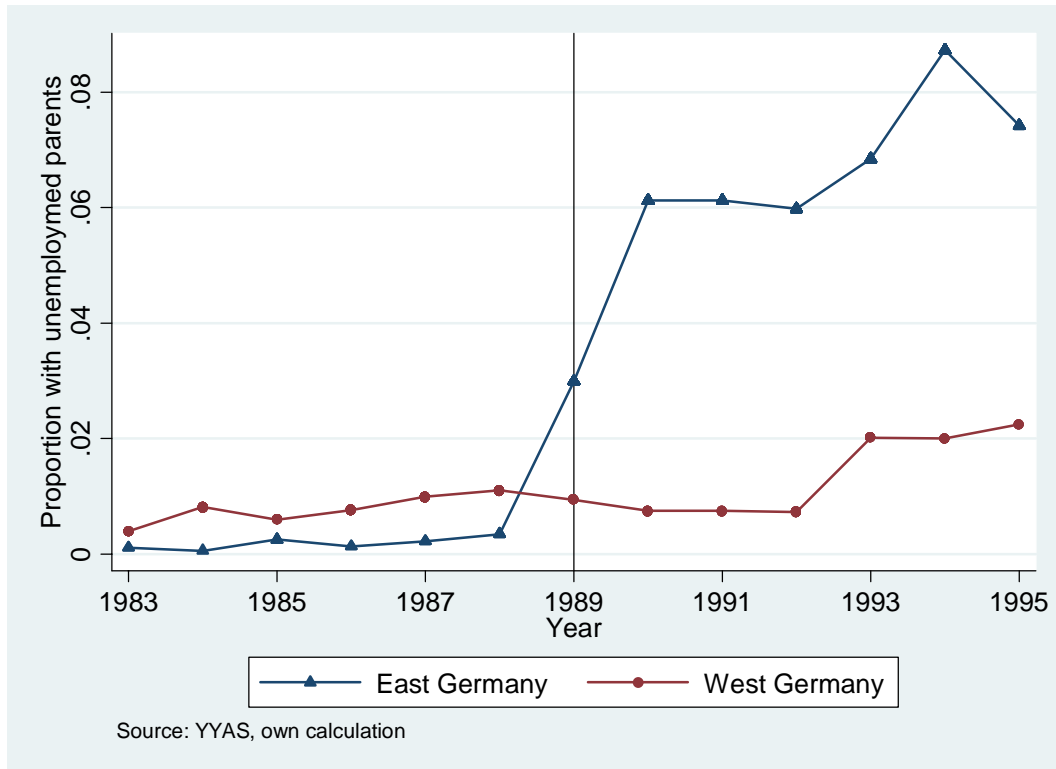


Table 1: Means of the Outcome Variables by Sample, Region of Residence and Parental Unemployment

| Outcomes | German Socio-Economic Panel (SOEP) | | | | Youth and Young Adult Survey | | | | DJI Youth Survey | | | |
|---|------------------------------------|-------|--------------|-------|------------------------------|-------|--------------|-------|------------------|-------|--------------|-------|
| | East Germany | | West Germany | | East Germany | | West Germany | | East Germany | | West Germany | |
| | [1] | [2] | [1] | [2] | [1] | [2] | [1] | [2] | [1] | [2] | [1] | [2] |
| Leaning towards right-wing extremist party | 0.054 | 0.097 | 0.020 | 0.046 | 0.030 | 0.091 | 0.026 | 0.014 | 0.029 | 0.090 | 0.023 | 0.101 |
| <i>N</i> | 799 | 432 | 3,437 | 1,084 | 1,270 | 121 | 2,181 | 145 | | | | |
| Participation in skinhead / neo-Nazi group | | | | | 0.015 | 0.048 | 0.015 | 0.036 | 0.014 | 0.070 | 0.009 | 0.062 |
| <i>N</i> | | | | | 2,021 | 249 | 3,243 | 223 | | | | |
| Right-wing political views | | | | | | | | | 0.030 | 0.092 | 0.035 | 0.085 |
| Totally\strongly agree with: | | | | | | | | | | | | |
| “When there is a shortage of jobs, foreigners should be sent back to their home country” | | | | | | | | | 0.360 | 0.476 | 0.201 | 0.372 |
| “It would be better if all foreigners left Germany” | | | | | | | | | 0.180 | 0.280 | 0.108 | 0.209 |
| Acceptable to: | | | | | | | | | | | | |
| “Using violent means to make it clear to asylum-seekers that they should return to their home country” ^a | | | | | | | | | 0.054 | 0.138 | 0.029 | 0.123 |
| Right-wing behaviour | | | | | | | | | 0.007 | 0.042 | 0.004 | 0.015 |
| Xenophobia | | | | | | | | | 0.019 | 0.067 | 0.007 | 0.054 |
| <i>N</i> | | | | | | | | | 2,917 | 357 | 5,797 | 129 |

Notes: N is person-year observations in the SOEP and the number of individuals in the Youth and Young Adult Survey and the DJI Youth Survey.

[1] No parental unemployment during childhood

[2] Parental unemployment during childhood

^aNumber of observations for this outcome variable are: 1,395; 246; 2,646 and 81.

Table 2: Parental Unemployment and Right-Wing Extremism

| Outcomes | German Socio-Economic Panel | | Youth and Young Adult Survey | | DJI Youth Survey | |
|--|-----------------------------|-------------------|------------------------------|--------------------|--------------------|--------------------|
| | East Germany | West Germany | East Germany | West Germany | East Germany | West Germany |
| Panel A | | | | | | |
| Leaning towards right-wing extremist party | 0.054** (0.026) | 0.021* (0.011) | 0.051** (0.019) | -0.017 (0.013) | 0.046** (0.010) | 0.067** (0.014) |
| Participation in skinhead / neo-Nazi group | | | 0.030** (0.010) | 0.022** (0.009) | 0.044** (0.008) | 0.048** (0.009) |
| Right-wing political views | | | | | 0.045** (0.011) | 0.040** (0.017) |
| Panel B | | | | | | |
| Totally\strongly agree with: | | | | | | |
| “When there is a shortage of jobs, foreigners should be sent back to their home countries” | | | | | 0.059** (0.027) | 0.131** (0.034) |
| “It would be better if all foreigners left Germany” | | | | | 0.049** (0.023) | 0.073** (0.027) |
| Acceptable to: | | | | | | |
| “Using violent means to make it clear to asylum-seekers that they should return to their home country” | | | | | 0.054** (0.018) | 0.083** (0.020) |
| Panel C | | | | | | |
| Right-wing behaviour | | | 0.038** (0.010) | -0.001 (0.003) | 0.030** (0.006) | 0.009 (0.006) |
| Xenophobia | | | | | 0.027** (0.009) | 0.042** (0.008) |

Notes: OLS regressions with standard errors in parentheses. In regressions based on the SOEP, standard errors are corrected for person-year clustering. Each estimate represents the coefficient from a different regression. * significant at the 10%, ** significant at the 5% level. Other explanatory variables are age, female, mother’s and father’s highest educational attainment (three groups: no degree or secondary general school degree, intermediate school degree, high school degree), young people’s highest educational attainment (four groups: no degree or secondary general school degree, intermediate school degree, high school degree, still in school), local unemployment rate, proportion of foreigners in federal state, and a maximal set of year dummies, district size dummies and federal state of residence dummies. Regressions based on the DJI Youth Survey also control for father’s occupation (five groups: worker, blue-collar worker, white-collar worker, self-employed, other).

Table 3: Parental Unemployment, Feelings of Economic Insecurity, Political Disaffection and Propensity to feel close to Extremist Right-Wing Party

| Selected Covariates | German Socio-Economic Panel | | | | | Youth and Young Adult Survey | | DJI Youth Survey | | | | |
|--|-----------------------------|--------------------|--------------------|--------------------|--------------------|------------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--|
| | (1) | (2) | (3) | (4) | (5) | (1) | (6) | (1) | (2) | (3) | (6) | |
| Panel A | | | | | | | | | | | | |
| East Germany | | | | | | | | | | | | |
| Young people's own unemployment | 0.091** (0.045) | 0.082* (0.046) | 0.078* (0.046) | 0.077* (0.043) | 0.076* (0.043) | 0.023** (0.007) | 0.037** (0.018) | 0.037** (0.011) | 0.035** (0.011) | 0.033** (0.011) | 0.034** (0.011) | |
| Worried about financial situation | | 0.032* (0.017) | 0.026 (0.017) | 0.026* (0.016) | 0.027 (0.016) | | | | 0.006 (0.006) | 0.005 (0.007) | 0.002 (0.007) | |
| Feels disadvantaged by reunification | | | | | | | | | | 0.008 (0.009) | 0.004 (0.009) | |
| No trust into politicians/government | | | | | | | 0.033** (0.015) | | | | 0.025** (0.007) | |
| Parents are worried about finances | | | 0.037** (0.017) | 0.020 (0.015) | 0.021 (0.015) | | | | | | | |
| Parents lean toward right-wing extremist party | | | | 0.584** (0.101) | 0.583** (0.101) | | | | | | | |
| Parents are very much in favour of democracy | | | | | 0.038 (0.029) | | | | | | | |
| Parental unemployment during childhood | 0.054** (0.026) | 0.055* (0.026) | 0.049* (0.025) | 0.044** (0.023) | 0.044** (0.023) | 0.031** (0.010) | 0.060** (0.022) | 0.054** (0.011) | 0.054** (0.011) | 0.054** (0.011) | 0.053** (0.011) | |
| <i>N</i> | | | 1,216 | | | | 1,378 | 709 | 3,103 | | | |
| Panel B | | | | | | | | | | | | |
| West Germany | | | | | | | | | | | | |
| Young people's own unemployment | 0.013 (0.024) | 0.005 (0.023) | 0.005 (0.023) | 0.006 (0.024) | 0.005 (0.023) | 0.022** (0.010) | 0.021 (0.018) | 0.051** (0.011) | 0.046** (0.011) | 0.045** (0.011) | 0.043** (0.011) | |
| Worried about financial situation | | 0.035** (0.014) | 0.035** (0.014) | 0.034** (0.014) | 0.034** (0.014) | | | | 0.015** (0.004) | 0.013** (0.004) | 0.012** (0.004) | |
| Feels disadvantaged by reunification | | | | | | | | | | 0.020** (0.005) | 0.018** (0.004) | |

| | | | | | | | | | | | |
|---|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| No trust into politicians/government | | | | | | | 0.032** | | | | 0.016** |
| | | | | | | | (0.013) | | | | (0.005) |
| Parents are worried about finances | | | 0.003 | 0.001 | 0.001 | | | | | | |
| | | | (0.008) | (0.007) | (0.007) | | | | | | |
| Parents lean towards right-wing extremist party | | | | 0.336** | 0.334** | | | | | | |
| | | | | (0.116) | (0.115) | | | | | | |
| Parents are very much in favour of democracy | | | | | -0.017 | | | | | | |
| | | | | | (0.011) | | | | | | |
| Parental unemployment during childhood | 0.021* | 0.020* | 0.020* | 0.021* | 0.022** | -0.020 | -0.030 | 0.067** | 0.066** | 0.066** | 0.065** |
| | (0.012) | (0.011) | (0.011) | (0.011) | (0.011) | (0.014) | (0.024) | (0.015) | (0.015) | (0.015) | (0.015) |
| <i>N</i> | | | 4,389 | | | 2,313 | 936 | | | 5,516 | |

Notes: See notes Table 2.

Table 4: Parental Unemployment and Right-Wing Extremism

| Selected Covariates | German Socio-Economic Panel | Youth and Young Adult Survey ^a | | DJI Youth Survey | |
|-------------------------|-----------------------------|---|--------------------|--------------------|--------------------|
| | Right-wing party | Right-wing party | Skinhead group | Right-wing party | Skinhead group |
| Mother unemployed | 0.025 (0.016) | 0.026** (0.012) | 0.003 (0.007) | 0.041** (0.010) | 0.049** (0.007) |
| Father unemployed | 0.036** (0.016) | 0.004 (0.013) | 0.019** (0.008) | 0.036** (0.014) | 0.041** (0.010) |
| Both parents unemployed | 0.009 (0.019) | 0.030** (0.015) | 0.030** (0.009) | 0.130** (0.023) | 0.036** (0.016) |
| <i>N</i> | 5,752 | 3,524 | 5,433 | 9,200 | |

Notes: ^a Information is only available with respect to parental unemployment in the last 6 months. Pooled OLS regressions for East and West Germany with standard errors in parentheses. In regressions based on the SOEP, standard errors are corrected for person-year clustering. Each estimate represents the coefficient from a different regression. * significant at the 10%, ** significant at the 5% level. Other explanatory variables are age, east, female, mother's and father's highest educational attainment (three groups: no degree or secondary general school degree, intermediate school degree, high school degree), young people's highest educational attainment (four groups: no degree or secondary general school degree, intermediate school degree, high school degree, still in school), local unemployment rate, proportion of foreigners in federal state, and a maximal set of year dummies, district size dummies and federal state of residence dummies. East is a dummy variable which equals one if respondent lives in East Germany, and is zero otherwise.

Table 5: Parental Unemployment and Right-Wing Extremism by Gender and Region

| Outcomes | SOEP | | | | Youth and Young Adult Survey | | | | DJI Youth Survey | | | |
|---|---------|---------|---------|---------|------------------------------|---------|---------|---------|------------------|---------|---------|---------|
| | Men | | Women | | Men | | Women | | Men | | Women | |
| | East | West | East | West | East | West | East | West | East | West | East | West |
| Leaning towards right-wing extremist party | 0.055* | 0.038* | 0.040 | 0.008 | 0.095** | -0.027 | 0.014 | -0.010 | 0.082** | 0.114** | 0.007 | 0.028* |
| | (0.029) | (0.023) | (0.039) | (0.012) | (0.035) | (0.024) | (0.016) | (0.013) | (0.019) | (0.024) | (0.011) | (0.014) |
| Participation in skinhead / neo-Nazi group | | | | | 0.037** | 0.027** | 0.022** | 0.015 | 0.068** | 0.041** | 0.018** | 0.053** |
| | | | | | (0.018) | (0.013) | (0.011) | (0.013) | (0.015) | (0.016) | (0.006) | (0.009) |
| Right-wing political views | | | | | | | | | 0.077** | 0.067** | 0.013 | 0.020 |
| | | | | | | | | | (0.019) | (0.028) | (0.010) | (0.018) |
| “When there is a shortage of jobs, foreigners should be sent back to their home country” | | | | | | | | | 0.098** | 0.104** | 0.020 | 0.157** |
| | | | | | | | | | (0.038) | (0.051) | (0.039) | (0.046) |
| “It would be better if all foreigners left Germany ” | | | | | | | | | 0.072** | 0.111** | 0.031 | 0.042 |
| | | | | | | | | | (0.033) | (0.041) | (0.032) | (0.036) |
| “Using violent means to make it clear to asylum-seekers that they should return to their home country” ^a | | | | | | | | | 0.077** | 0.098** | 0.030* | 0.067** |
| | | | | | | | | | (0.030) | (0.033) | (0.019) | (0.023) |
| Right-wing behaviour | | | | | | | | | 0.102** | 0.079** | 0.025** | 0.006 |
| | | | | | | | | | (0.020) | (0.013) | (0.009) | (0.007) |
| Xenophobia | | | | | | | | | 0.050** | 0.122** | 0.005 | 0.033** |
| | | | | | | | | | (0.015) | (0.024) | (0.008) | (0.012) |

Notes: OLS regressions with standard errors in parentheses. In regressions based on the SOEP, standard errors are corrected for person-year clustering. Each estimate represents the coefficient from a different regression. * significant at the 10%, ** significant at the 5% level. Other explanatory variables are age, mother’s and father’s highest educational attainment (three groups: no degree or secondary general school degree, intermediate school degree, high school degree), young people’s highest educational attainment (four groups: no degree or secondary general school degree, intermediate school degree, high school degree, still in school), local unemployment rate, proportion of foreigners in federal state, and a maximal set of year dummies, district size dummies and federal state of residence dummies.

Table 6: Parental Unemployment and Right-wing Extremism by Parental Income Groups (SOEP)

| Selected covariates | Household income quartiles | | | |
|--|----------------------------|------------------|-------------------|-------------------|
| | Bottom | 2nd | 3rd | Top |
| East Germany | | | | |
| Parental unemployment during childhood | 0.046 (0.092) | 0.031 (0.062) | -0.019 (0.051) | 0.099 (0.062) |
| Average household income | 22,279 | 28,524 | 34,311 | 46,680 |
| West Germany | | | | |
| Parental unemployment during childhood | 0.026 (0.017) | 0.046 (0.030) | 0.038* (0.021) | -0.015 (0.010) |
| Average household income | 23,444 | 31,400 | 39,781 | 60,693 |

Notes: OLS regressions with standard errors in parentheses. Standard errors are corrected for person-year clustering. Each estimate represents the coefficient from a different regression. * significant at the 10%, ** significant at the 5% level. Other explanatory variables are age, female, mother's and father's highest educational attainment (three groups: no degree or secondary general school degree, intermediate school degree, high school degree), young people's highest educational attainment (four groups: no degree or secondary general school degree, intermediate school degree, high school degree, still in school), local unemployment rate, proportion of foreigners in federal state, and a maximal set of year dummies, district size and federal state of residence dummies. Average household income is post-government household income averaged over all childhood years (0-16) income information is available (expressed in 2000 Euros).

Table 7: Parental Unemployment and Leaning towards Right-Wing Extremist Party (SOEP)

| Selected Covariates | OLS ^a | | Random effect estimates ^a | | Sibling difference estimates ^b | |
|--|--------------------|-------------------|--------------------------------------|--------------------|---|--------------------|
| | East Germany | West Germany | East Germany | West Germany | East Germany | West Germany |
| <i>Panel A</i> | | | | | | |
| Parental unemployment during childhood (0-16) | 0.055** (0.026) | 0.020* (0.011) | 0.061** (0.027) | 0.020** (0.010) | 0.058** (0.023) | 0.011 (0.009) |
| Only child | -0.009 (0.030) | 0.010 (0.020) | | | | |
| Number of sisters | 0.022 (0.020) | -0.001 (0.004) | | | | |
| Number of brothers | 0.033* (0.019) | 0.001 (0.006) | | | | |
| Ever lived in a non-intact family during childhood (0-16) | -0.021 (0.029) | 0.015 (0.013) | | | | |
| <i>Panel B</i> | | | | | | |
| Most recent parental unemployment at ages: | | | | | | |
| 0-12 | -0.031 (0.026) | 0.026 (0.018) | -0.022 (0.047) | 0.015 (0.013) | 0.046* (0.025) | 0.004 (0.011) |
| 13-16 | 0.053* (0.028) | 0.012 (0.012) | 0.076** (0.028) | 0.022 (0.013) | 0.069** (0.034) | 0.020* (0.011) |
| <i>Panel C</i> | | | | | | |
| Parental unemployment during childhood, adolescence and adulthood: | 0.031* (0.017) | 0.014* (0.008) | 0.020 (0.018) | 0.015 (0.008) | | |
| <i>Panel D</i> | | | | | | |
| Parental unemployment during childhood (0-16) | 0.052** (0.026) | 0.017 (0.011) | 0.058** (0.028) | 0.020** (0.010) | | |
| Current parental unemployment | 0.022 (0.020) | -0.006 (0.012) | 0.014 (0.014) | 0.002 (0.009) | | |
| <i>Panel E</i> | | | | | | |
| Number of years mother was unemployed during childhood | 0.008 (0.010) | 0.001 (0.003) | 0.006 (0.008) | 0.001 (0.004) | 0.026 (0.017) | 0.007 (0.006) |
| Number of years father was unemployed during childhood | 0.015 (0.013) | 0.008* (0.004) | 0.012 (0.010) | 0.009** (0.003) | -0.029 (0.020) | 0.014** (0.007) |

Notes: * significant at the 10%, ** significant at the 5% level

^a Other explanatory variables are age, mother's and father's highest educational attainment (three groups: no degree or secondary general school degree, intermediate school degree, high school degree), young people's highest educational attainment (four groups: no degree or secondary general school degree, intermediate school degree, high school degree, still in school), local unemployment rate, proportion of foreigners, a maximal set of year dummies, district size and state of residence dummies.

^b Linear probability models. Other explanatory variables used were the sibling (differences) in age, year of birth, gender, highest educational attainment and a constant. Standard errors are robust to any form of correlation between siblings.

Table 8: First-Step Regressions (East and West Germany together)

| Outcomes | SOEP | YYAS | | DJI Youth Survey | | | |
|---|----------------------------------|----------------------------------|--|--|--------------------|----------------------------------|--------------------|
| | Leaning towards right-wing party | Leaning towards right-wing party | Participation in skinhead neo-Nazi group | All outcome variables except of attitudes towards asylum-seekers | | Attitudes towards asylum-seekers | |
| <i>Panel A (IV_I)</i> | | | | | | | |
| Number of childhood years lived in GDR | -0.047** (0.006) | -0.061** (0.005) | -0.063** (0.004) | | | | |
| Lived in GDR at age16 | | | | -0.140** (0.009) | | -0.131** (0.015) | |
| <i>Panel B (IV_{II})</i> | | | | | | | |
| Parental unemployment in East Germany in the years: | | | | | | | |
| 1990-1993 | | | | | 0.109** (0.010) | | 0.050** (0.018) |
| 1994-1997 | | | | | 0.183** (0.011) | | 0.172** (0.018) |
| Partial R ² | 0.022 | 0.042 | 0.048 | 0.022 | 0.028 | 0.015 | 0.020 |
| F-Statistic | 126.60 | 162.06 | 289.42 | 230.07 | 268.30 | 76.97 | 51.29 |
| N | 5,752 | 3,717 | 5,736 | 9,200 | | 4,368 | |

Notes: Other explanatory variables are age, female, east, mother's and father's highest educational attainment (three groups: no degree or secondary general school degree, intermediate school degree, high school degree), young people's highest educational attainment (four groups: no degree or secondary general school degree, intermediate school degree, high school degree, still in school), local unemployment rate, local unemployment rate, proportion of foreigners in federal state, and a maximal set of year dummies, district size dummies and state of residence dummies. Regressions based on the DJI Youth Survey also control for father's occupation (five groups: worker, blue-collar worker, white-collar worker, self-employed, other). East is a dummy variable which equals one if respondent lives in East Germany, and is zero otherwise.

Table 9: OLS and Instrumental Variable Estimations (East and West Germany together)

| Outcomes | German Socio-Economic Panel | | Youth and Young Adult Survey | | DJI Youth Survey | | | Over-identification test ^a |
|---|-----------------------------|------------------|------------------------------|--------------------|--------------------|--------------------|--------------------|---------------------------------------|
| | OLS | IV | OLS | IV | OLS | IV _I | IV _{II} | |
| Leaning towards right-wing extremist party | 0.027** (0.011) | 0.034 (0.057) | 0.012 (0.011) | 0.008 (0.053) | 0.052** (0.008) | 0.121** (0.051) | 0.059 (0.046) | 0.61 |
| Participation in skinhead / neo-Nazi group | | | 0.025** (0.007) | 0.063** (0.030) | 0.047** (0.006) | 0.071** (0.036) | 0.053* (0.033) | 0.12 |
| Right-wing political views | | | | | 0.046** (0.009) | 0.124** (0.058) | 0.083 (0.052) | 0.47 |
| Totally\strongly agree with: | | | | | | | | |
| “When there is a shortage of jobs, foreigners should be sent back to their home countries” | | | | | 0.089** (0.020) | 0.188 (0.129) | 0.243** (0.116) | 0.85 |
| “It would be better if all foreigners left Germany” | | | | | 0.064** (0.016) | 0.231** (0.104) | 0.212** (0.094) | 0.54 |
| “Using violent means to make it clear to asylum-seekers that they should return to their home country” ^b | | | | | 0.068** (0.012) | 0.175* (0.093) | 0.190** (0.080) | 0.07 |
| Right-wing behaviour | | | 0.016** (0.004) | 0.065** (0.021) | 0.024** (0.004) | 0.047** (0.025) | 0.022 (0.022) | 0.18 |
| Xenophobia | | | | | 0.037** (0.005) | 0.192** (0.037) | 0.156** (0.032) | 0.00 |

Notes: Pooled OLS and IV regressions for East and West Germany with standard errors in parentheses. Each estimate represents the coefficient from a different regression. * significant at the 10%, ** significant at the 5% level. Other explanatory variables are age, east, female, mother’s and father’s highest educational attainment (three groups: no degree or secondary general school degree, intermediate school degree, high school degree), young people’s highest educational attainment (four groups: no degree or secondary general school degree, intermediate school degree, high school degree, still in school), local unemployment rate, local unemployment rate, proportion of foreigners in federal state, and a maximal set of year dummies, district size dummies and state of residence dummies. East is a dummy variable which equals one if respondent lives in East Germany, and is zero otherwise.

^a Figures are p-values of Sargan’s test of overidentifying restrictions and the test has one degrees of freedom. ^b Number of observations is 4,368.

Table 10: Propensity Score Matching (East and West Germany)

| Outcomes | German Socio-Economic Panel | | Youth and Young Adult Survey | | DJI Youth Survey | |
|--|-----------------------------|--------------------|------------------------------|--------------------|--------------------|--------------------|
| | (1) | (2) | (1) | (2) | (1) | (2) |
| Leaning towards right-wing extremist party | 0.022** (0.008) | 0.021** (0.007) | 0.058* (0.034) | 0.057** (0.028) | 0.055** (0.012) | 0.054** (0.012) |
| Participation in skinhead / neo-Nazi group | | | 0.031* (0.016) | 0.034* (0.01) | 0.049** (0.012) | 0.047** (0.012) |
| Right-wing political views | | | | | 0.050** (0.013) | 0.051** (0.013) |
| Totally\strongly agree with: | | | | | | |
| “When there is a shortage of jobs, foreigners should be sent back to their home countries” | | | | | 0.106** (0.025) | 0.100** (0.024) |
| “It would be better if all foreigners left Germany” | | | | | 0.078** (0.021) | 0.073** (0.023) |
| Acceptable to: | | | | | | |
| “Using violent means to make it clear to asylum-seekers that they should return to their home country” | | | | | 0.076** (0.020) | 0.072** (0.021) |
| Right-wing behaviour | | | 0.034* (0.020) | 0.034 (0.026) | 0.026** (0.009) | 0.026** (0.009) |
| Xenophobia | | | | | 0.055** (0.016) | 0.053** (0.016) |

Notes: [1] Local Linear Regression

[2] Radius matching

See also table A5 for indicators of covariate balancing and included covariates in the matching models.

Table 11: Robustness checks

| Dependent variable: Leaning towards right-wing extremist party | | | | | | |
|--|-----------------------------|--------------|------------------------------|--------------|------------------|--------------|
| Selected Covariates | German Socio-Economic Panel | | Youth and Young Adult Survey | | DJI Youth Survey | |
| | East Germany | West Germany | East Germany | West Germany | East Germany | West Germany |
| <i>Panel A (excluding movers)</i> | | | | | | |
| Parental unemployment | | | 0.057** | -0.006 | 0.047** | 0.070** |
| | | | (0.020) | (0.018) | (0.011) | (0.015) |
| <i>N</i> | | | 1,086 | 1,803 | 2,987 | 5,332 |
| <i>Panel B</i> | | | | | | |
| Parental unemployment * (1 – Interview) ^a | 0.059** | 0.025* | | | -0.009 | 0.041 |
| | (0.027) | (0.015) | | | (0.027) | (0.031) |
| Parental unemployment * Interview ^a | 0.024 | 0.007 | | | 0.060** | 0.077** |
| | (0.045) | (0.011) | | | (0.016) | (0.021) |
| Equality p-value | | | | | | |

Note: ^aIn the SOEP, the dummy variable *Interview* equals one if questionnaire was filled out without interviewer present, and is zero otherwise. In the DJI Youth Survey, *Interview* equals one if no third person was present at the time of the interview, and is zero otherwise. See also notes to Table 2.

Appendix

Table A1: Variable definitions

| Outcome variable | Data | Question reads: | Variable in data set | Years available | Definition of right-wing outcome variable |
|---|------|--|--|-----------------|---|
| Leaning towards an extremist right-wing party | SOEP | “Many people in Germany lean towards one particular party in the long term, even if they occasionally vote for another party. Do you lean towards a particular party?” If respondents answer with yes, they are asked: “Which party do you lean toward?” | Respondent can choose: (1) SPD; (2) CDU; (3) CSU; (4) FDP; (5) Bündnis’90/Grüne; (6) DVU/Republikaner; (7) other. | 1990 - 2004 | Variable equals one if a respondent names DVU/Republikaner, and zero otherwise. Respondents who choose (7) are excluded from the analysis |
| | YYAS | “Overall, which political party are you closest to?” | Respondent can choose: (1) CDU; (2) SPD; (3) DSU; (4) PDS; (5) Bündnis’90/Grüne; (6) FDP; (7) CSU; (8) Republikaner; (9) other; (10) none. | 1991, 1996 | Variable equals one if a respondent names Republikaner, and zero otherwise. Respondents who choose (9) are excluded from the analysis |
| | DJI | “In very general terms, what do you think of the political parties here in Germany? Please answer on a scale of +5 to -5, with +5 meaning that you have the highest possible opinion of the party, and -5 meaning that you have the lowest possible opinion of the party. The values in between can be used to express varying degrees of positive or negative opinion.” | Respondents can indicate on the scale among the following parties: (1) CDU; (2) SPD; (3) CSU; (4) FDP; (5) Bündnis’90/Grüne; (6) Republikaner. | 1992, 1997 | Variable equals one if a respondent ticks the box +5 or +4 for Republikaner (6), and zero otherwise. |
| Participation in skinhead neo-Nazi group | YYAS | “On these cards are the names of a few groups of people who have been the subject of much public discussion recently. What is your attitude towards these groups?” | Among others, the group “Skinheads” was mentioned. Answer options: (1) I count myself as one of them; (2) I like them; (3) I don’t care much about them either way; (4) I can’t stand them; (5) I oppose them; (6) I have never heard of them. | 1991, 1996 | Variable equals one if a respondents chooses (1), and zero otherwise. Respondents who answer (6) are excluded from the analysis. |
| | DJI | “In our society there are some organizations with formal membership, but also other less formally organized groups and movements that one can view positively and be actively involved with. Please go through the list with me now and tell | Answer options: (1) I like them and am actively involved with them; (2) I like them and sometimes attend meetings or events; | 1992, 1997 | Variable equals one if a respondent chooses (1) or (2), and zero otherwise. Respondents who choose (6) are excluded from the analysis. |

| | | | | | |
|--|------|--|---|------------|--|
| | | me whether you like each group, whether or not you are actively involved with them, or whether you reject them.” Among them were: (1) Skinheads; (2) Fascists / Neo-Nazis; (3) Nationalist groups. | (3) I like them but am not actively involved with them; (4) I neither like nor dislike them: (5) I reject them; (6) I am not familiar with this group. | | |
| Right-wing political views | DJI | “Many people use the terms ‘left’ and ‘right’ to describe differing political views. Here we have a scale that runs from left to right. If you think of your own political views, where would you place them on this scale. Please tick one of the boxes.” | Respondents can answer on a 10 point scale from (1) left to (10) right. | 1992, 1997 | Variable equals one if a respondent chooses (9) or (10), and zero otherwise. |
| “When there is a shortage of jobs, foreigners should be sent back to their home countries” | DJI | “This list contains opinions that are sometimes expressed about foreigners. Please state the extent to which you agree with each opinion.” Among the items were: (1) “When there is a shortage of jobs, foreigners should be sent back to their home countries” (2) “It would be better if all foreigners left Germany”. | Respondents can answer on a scale from (6) to (1), with (6) representing “totally agree” and (1) “totally disagree”. | 1992, 1997 | Variable equals one if a respondent chooses (6) or (5), and zero otherwise. |
| “It would be better if all foreigners left Germany” | | | | | |
| “Using violent means to make it clear to asylum-seekers that they should return to their home country” | DJI | “There are a number of political acts and situations that can be judged in different ways. Please tell me whether you think each political act on this list is acceptable, unacceptable, or whether it may possibly be acceptable depending on the circumstances.” One item was: “Using violent means to make it clear to asylum-seekers that they should return to their home country.” | Answer options: (1) acceptable (2) unacceptable (3) depends on the circumstances. | 1997 | Variable equals one if a respondent chooses (1), and zero otherwise. |
| Right-wing behaviour | YYAS | Generated variable. Variable equals one if a respondent is (1) Leaning towards a right-wing extremist party; and (2) Participating in a skinhead neo-Nazi group, and zero otherwise. | | | |
| | DJI | Generated variable. Variable equals one if a respondent is (1) Leaning towards a right-wing extremist party; and (2) Participating in a skinhead neo-Nazi group; and (3) has right-wing political views, and zero otherwise. | | | |
| Xenophobia | DJI | Generated variable. Variable equals one if a respondent agrees with all three anti-foreign statements listed above, and zero otherwise. | | | |

Notes: For some questions, the exact wording of the questions changed slightly over the years outcomes are measured.

Table A2: Summary Statistics by Sample

| Covariates | SOEP | YYAS | DJI Youth Survey |
|--|------------------|-----------------|------------------|
| Age | 23.42 (3.98) | 22.07 (3.87) | 22.36 (4.29) |
| Year of birth | 1975.97 | 1970.98 | 1972.02 |
| Female | 0.429 | 0.506 | 0.480 |
| East Germany | 0.243 | 0.396 | 0.356 |
| Highest school degree | | | |
| No degree or secondary | | | |
| general school degree | 0.195 | 0.203 | 0.162 |
| Intermediate school degree | 0.370 | 0.396 | 0.357 |
| High school degree | 0.307 | 0.247 | 0.420 |
| Still in schooling | 0.129 | 0.154 | 0.061 |
| Mother's highest school degree | | | |
| No degree or secondary | | | |
| general school degree | 0.457 | 0.465 | 0.465 |
| Intermediate school degree | 0.420 | 0.375 | 0.385 |
| High school degree | 0.123 | 0.160 | 0.150 |
| Father's highest school degree | | | |
| No degree or secondary | | | |
| general school degree | 0.451 | 0.426 | 0.397 |
| Intermediate school degree | 0.343 | 0.321 | 0.339 |
| High school degree | 0.206 | 0.254 | 0.264 |
| Parental unemployment during childhood | 0.289 | 0.082 | 0.053 |
| District size (number of inhabitants) | | | |
| < 2,000 | 0.102 | 0.097 | 0.109 |
| 2,000-5,000 | 0.146 | 0.103 | 0.088 |
| 5,000-20,000 | 0.202 | 0.182 | 0.201 |
| 20,000-50,000 | 0.176 | 0.130 | 0.158 |
| 50,000-100,000 | 0.092 | 0.095 | 0.079 |
| 100,000-500,000 | 0.166 | 0.185 | 0.193 |
| >= 500,000 | 0.116 | 0.207 | 0.172 |
| Proportion of foreigners in state of residence | 8.30 (3.89) | 6.34 (4.93) | 7.35 (4.61) |
| Local unemployment rate in state of residence | 11.15 (4.71) | 11.47 (5.25) | 11.89 (5.29) |
| <i>Number of individuals</i> | <i>1,786</i> | <i>5,736</i> | <i>9,200</i> |
| Additional covariates | | | |
| Blue-collar worker | | | 0.426 |
| White-collar worker | | | 0.366 |
| Civil servant | | | 0.085 |
| Self-employed | | | 0.100 |
| Other | | | 0.023 |
| Young people's own unemployment | 0.057 | 0.202 | 0.064 |
| Worried about financial situation | 0.212 | | 0.479 |
| Feels disadvantaged by reunification | | | 0.239 |
| No trust into politicians/government | | 0.372 | 0.281 |
| Parents are worried about finances | 0.279 | | |
| Parents lean towards right-wing extremist party | 0.010 | | |
| Parents are very much in favour of democracy | 0.496 | | |
| Number of years mother was unemployed during childhood | 0.476 (1.318) | | |
| Number of years father was unemployed during childhood | 0.436 (1.343) | | |
| Non-movers | | 0.776 | 0.906 |
| Interview | 0.194 | | 0.836 |

Notes: Figures are sample means with standard deviations in parentheses. In the SOEP, sample means are measured in the last year individuals are observed in the panel.

Table A3: Indicators of Covariate Balancing, Before and After Matching, by Sample and Outcome Variables

| | Number of treated (1) | Number of non-treated (2) | Probit ps.- R ² before (3) | Probit ps.- R ² after (4) | Pr > χ^2 after (5) | Median bias before (6) | Median bias after (7) | Included Covariates (8) |
|---|-----------------------------|---------------------------------|---|--|-------------------------------|------------------------------|-----------------------------|--|
| SOEP | | | | | | | | |
| Leaning towards extremist right-wing party | 1,517 | 4,196 | 0.057 | 0.002 | 0.925 | 9.83 | 2.47 | Age, east, parent's highest educational attainment, only child, second born, third born and more |
| YYAS | | | | | | | | |
| Leaning towards extremist right-wing party | 118 | 767 | 0.319 | 0.006 | 0.968 | 17.72 | 5.35 | Number of years lived in GDR; female, parents' highest educational attainment |
| Participation in skinhead / neo-Nazi group Right-wing behaviour | 247 | 1,334 | 0.310 | 0.001 | 0.999 | 22.61 | 2.31 | |
| DJI Youth Survey | | | | | | | | |
| Leaning towards extremist right-wing party | 486 | 8,509 | 0.169 | 0.003 | 0.984 | 31.22 | 2.08 | East, year of birth, female, parents' highest educational attainment, father's occupation |
| Participation in skinhead / neo-Nazi group | 486 | 8,509 | 0.169 | 0.003 | 0.984 | 31.22 | 2.08 | |
| Right-wing political views | 481 | 8,518 | 0.169 | 0.003 | 0.984 | 31.22 | 2.08 | |
| “If jobs become scarce, foreigners living here should be sent home” | 486 | 8,509 | 0.169 | 0.003 | 0.984 | 31.22 | 2.08 | |
| “It would be better if all foreigners left Germany” | 486 | 8,509 | 0.158 | 0.004 | 0.995 | 31.22 | 2.08 | |

| | | | | | | | |
|--|-----|-------|-------|-------|-------|-------|------|
| “Using violent means to make it clear to asylum-seekers that they should return to their home country” | 327 | 4,031 | 0.158 | 0.005 | 0.995 | 39.19 | 1.99 |
| Right-wing behaviour | 486 | 8,509 | 0.169 | 0.003 | 0.984 | 31.22 | 2.08 |
| Xenophobia | 327 | 4,031 | 0.158 | 0.005 | 0.995 | 39.19 | 1.99 |

Notes: Results from local linear regressions. I also performed two-sample mean t-tests between treatment and comparison group for all covariates used after matching. None of the covariates is significantly different between both groups at the 5% level after matching.

- (1) The number of individuals who grow up with unemployed parents during childhood (ages 0-16)
- (2) The number of individuals who did not grow up with unemployed parents
- (3) Pseudo-R² from probit estimation of the conditional probability of experiencing parental unemployment, indicating how well the covariates explain the probability of parental unemployment experience.
- (4) Pseudo-R² from probit estimation of the conditional probability of experiencing parental unemployment. Comparison with (3) gives indication of how successful matching was. There should be no differences in the distribution of covariates between treatment and control group after matching, hence, the Pseudo-R² should be low.
- (5) P-value of the likelihood ratio test after matching. The joint significance of the covariates is always rejected.
- (6) Difference of sample means between the treated and control group as a percentage of the square root of the average of sample variances in both groups before matching.
- (7) Difference of sample means between the treated and control group as a percentage of the square root of the average of sample variances in both groups after matching.
- (8) Covariates included in propensity score estimates.