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Unemployment and Right-Wing Extremist Crime

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ABSTRACT

Unemployment and Right-Wing Extremist Crime*

Right-wing extremism is a serious problem in many societies. A prominent hypothesis states that unemployment plays a crucial role for the occurrence of right-wing extremist crime. In this paper we empirically test this hypothesis. We use a previously not used data set which includes all officially recorded right-wing criminal acts in Germany. These data are recorded by the German Federal Criminal Police Office on a monthly and state level basis. Our main finding is that there is in fact a significant positive relation between unemployment and right-wing criminal activities. We show further that the big difference in right-wing crime between East and West German states can mostly be attributed to differences in unemployment. This finding reinforces the importance of unemployment as an explanatory factor for right-wing crime and questions explanations based solely on the different socialization in former communist East Germany and the liberal West German states. Our data further allow us to separate violent from non-violent right-wing crimes. We show that unemployment is closely related to both types of crimes, but that the association with non-violent crimes is much stronger. Since right-wing crime is committed particularly by relatively young males, we also explore whether the youth unemployment rate is a better predictor for right-wing crime than total unemployment. This hypothesis can be rejected: given total unemployment, a higher share of youth unemployment does not affect right-wing extremist crime rates.

JEL Classification: K14, J60, J15

Keywords: hate crime, right-wing extremism, unemployment, cost of unemployment

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1 Introduction

Right-wing extremism is a serious problem in many societies. Germany, for example, has recently witnessed several fatal assaults against foreigners.[1] While these assaults have received a lot of attention they are just the most severe examples of right-wing crime. For instance, a total of 44,403 right-wing extremist crimes were officially registered in Germany during the years 1996 and 1999. More than 90 percent of these crimes were non-violent crimes, in particular propaganda offences. Among the violent crimes, 65 percent of the cases were hate crimes against the foreign population. In the U.S., the FBI recorded about 8,000 right-wing extremist crimes per year between 1998 and 2002. Great Britain has witnessed a dramatic increase of this type of crime from 13,878 cases in 1998 to 54,370 cases in 2002 (Statistics on Race and the Criminal Justice System). Similar numbers are available for other OECD countries. While different classifications and legislations make a cross country comparison impossible, the numbers demonstrate severeness of the problem and the need for a better understanding of its causes.

According to a prominent hypothesis, unemployment is a major cause for the occurrence of right-wing extremist crime. Historians, e.g., have argued that the rise of the Nazis in Germany in the 1930s was decisively affected by the high unemployment rates (Fischer 1968).[2] This hypothesis was supported by an empirical analyses of voting behavior on a state level (Frey and Weck 1981). A possible explanation for this relation is offered by relative deprivation theory (Hofstadter 1964, Lipset 1964, Bacher 2001, Falter 1994). According to this theory unemployment or the threat of becoming unemployed, causes a loss in status and feelings of deprivation. As a consequence, people develop a preference for authoritarian leaders, an anti-foreigner ideology, and violent predispositions[3].

Despite its intuitive appeal, almost no rigorous evidence exists on the relation between right-wing extremist crime and unemployment.[4] In this study we explore this relationship and use a data set

[1] In September 1991, asylum-seekers were attacked in their home in Hoyerswerda. Similarly, in Rostock-Lichtenhagen in August 1992, asylum seekers were attacked in progrom like riots. Fire assaults were committed against Turkish foreigners in Mölln (November 1992), and Solingen (Mai 1993).

[2] To illustrate: in the German Reichtstag elections in 1930 when the unemployment rate was 14.4 percent, the Nazi-party NSDAP (National Socialist German Labor Party) received 18.3 percent of the votes. In the elections of 1932, when unemployment had reached a level of 26.6 percent, 37.3 percent of the voters voted in favor of the NSDAP. Note, however, that the political environment in Germany at the onset of the great depression is hardly comparable to the current one. Hence a 1:1 comparison between now and then is problematic.

[3] A related literature on subjective well being shows that unemployment significantly reduces subjective well-being (Clark and Oswald 1997, Winkelmann and Winkelmann 1998, Frey and Stutzer 2002). Yang and Lester (1994) even show that the suicide rate of unemployed in the US is significantly higher than the one of the employed.

[4] The only exception is the study by Krueger and Pischke (1997), which we discuss below. While there are no studies on criminal acts, there are several studies on voting behavior in favor of right-wing parties and attitude studies, dealing with attitudes towards foreigners and minorities. We briefly discuss this literature in Section 4. There is also a literature on "regular" crime and unemployment, see Entorf (2002) for a comprehensive overview. For an interesting recent application to explain the incidence of regular crime across U.S. states, see Raphael and Winter-Ebmer (2001).

that records all violent and non-violent right-wing crimes in Germany. The data are collected by the German Federal Criminal Police Office and register right-wing crimes on a monthly and state level ("Länder") basis. Our main results are as follows. *First,* we find a significantly positive relation between state level unemployment and the incidence of right-wing extremist crimes. Importantly, the relation is robust to whether or not we control for economic and demographic variables (like the share of young males and foreigners, urban and rural population shares and levels of schooling), for policy variables (like expenditures for social welfare and young adults and crime conviction rates). Most importantly, the relationship remains highly significant and quantitatively strong even after allowing for state fixed effects. In other words, the relationship between unemployment and right-wing extremist crimes exists even after controlling for persistent unobservable differences across states – and hence unobserved differences between East and West Germany.

Second, we analyze two competing hypotheses for why the incidence of right-wing crime is so much more pronounced in East Germany compared to West Germany. According to the first hypothesis, these differences exist because of the politically and educationally vastly different socialization between former communist East Germany and western-oriented West Germany. The second hypothesis stresses the particularly strong economic hardship in East Germany characterized not least by a substantially higher unemployment rate than in the Western states. In order to test these hypotheses we estimate the impact of unemployment on right-wing crime separately for high and low unemployment incidence. Interestingly, we find that there is a very similar and significant impact of unemployment on right-wing crime both in high-unemployment East German states and in high-unemployment West German states. For low-unemployment states we do not find any such relationship. Thus the relationship between unemployment and right-wing extremist crimes is not a particular East German phenomenon. Instead our estimates point to the importance of non-linearities: the relationship between right-wing crimes and unemployment becomes relevant, once a critical level of unemployment has been exceeded.

Our *third* result focuses on differences between violent and non-violent right-wing crimes. As laid out in more detail in the next section, these two categories comprise very different types of crime. For non-violent crimes, all results are very similar to the ones obtained from analyzing the total incidence of crime, including the non-linearity in the impact of unemployment. We also find a significant relation between unemployment and violent crime. However, this relation is weaker than for non-violent crimes.

Finally, our *fourth* result shows that *total* unemployment predicts the incidence of right-wing crime better than *youth* unemployment. Prima facie this finding is surprising since right-wing criminals are typically young men between 15 and 25 years (Willems 1993 and Neubacher 1999). One could therefore expect that youth unemployment affects these criminals more directly. However, unemployment may affects right-wing crime not (or not only) at the individual level. In other words, crimes are not necessarily committed by those who are actually *unemployed* but affects right-wing crime in a more complex way. One interpretation is that high unemployment rate increases the fear of *losing* a job.

This may lower people's willingness to support humanitarian values of tolerance and altruism. As a consequence, in a high-unemployment environment the normative pressure against right-wing criminals eradicates.

To the best of our knowledge, the only study that empirically investigates the impact of unemployment on right-wing extremist crime is Krueger and Pischke (1997). They regress the incidence of anti-foreigner crimes in Germany on unemployment rates in the period between 1991 and 1993. Lacking official data they collected county-level crime data on these crimes based on newspaper reports. They report a significant relation between unemployment and crime incidents. This relation, however, becomes insignificant after controlling for the difference between East and West Germany. Several reasons may be responsible for why their result differs from ours: first, since they rely on newspaper data, the precision of measurement is potentially questionable. Second, they analyze violent crimes only. This is due to the fact that non-violent crimes are typically not reported in the newspapers. In our data, which comprises violent and non-violent crimes, the incidence of violent crimes as a fraction of all crimes is only about 6 percent in West Germany and 9 percent in East Germany. In absolute terms, our data sample comprises 44,403 crimes, whereas the one of Krueger and Pischke (1997) identified "only" 1,056 such crimes. Thus they analyze only a relatively small proportion of all committed right-wing extremist crimes. Moreover, as our results show, the association between violent crimes and unemployment is much weaker than for non-violent crimes.

The paper is organized as follows. In the next section we present the data and some preliminary evidence. Section 3 contains our main results. In section 4 we discuss our findings and relate them to studies on attitudes and voting behavior.

2 Data and descriptive evidence

To assess the role of unemployment on right-wing violent and non-violent crime we use previously not analyzed data collected by the *Federal Criminal Police Office* (*Bundeskriminalamt*, *PKS-Polizeiliche Kriminalstatisktik*). The data set uses information reported by the police departments in the various German states ("Länder") on a monthly basis. The variable to be explained is the number of registered right-wing extremist crimes (REC) per 100,000 inhabitants. The *Federal Criminal Police Office* classifies right-wing extremist criminal activities in "violent right-wing extremist crimes" and "non-violent right-wing extremist crimes". The former include offenses such as murder and attempted murder, bomb and fire attacks, assault and battery, offenses against the laws relating to civil disorders and rioting. The latter include sedition, disruption of graveyard peace, threat/coercion, right-wing extremist propaganda, willful damage to property, etc. While the focus of our empirical analysis below will concentrate on the role of unemployment as a determinant of total right-wing crimes, we will also look separately at the two subcategories non-violent and violent right-wing crimes.

The focus of our analysis will concentrate on the period 1996 to 1999 for which consistent data are available. Over this period, a total of 41,535 right-wing extremist crimes were officially registered, of which 93.2 % were non-violent and 6.8 % were violent right-wing crimes. Among non-violent RECs, 65 % were right-wing propaganda delicts and "other" right-wing extremist activities, and 35 % non-violent crimes were non-violent hate crimes against foreigners, and anti-Semitic crimes. Among violent crimes, 65 % of the cases were hate crimes against the foreign population.

Figure 1

Right-wing extremist crimes, Germany 01.1996 - 12.1999

Figure 1 reports the total number of registered right-wing extremist crimes (RECs) in Germany over the period 1996 to 1999, separately for non-violent and for violent criminal activities. Over this period, the average monthly number of RECs amounted to about 800 cases of non-violent RECs per 100,000 residents. The highest registered non-violent crime record occurred in September 1997 when more than 1200 cases were observed and was lowest in January 1997 with "only" about 500 such cases. About 60 violent right-wing crimes per month were registered during the observation period, with considerable fluctuations over time. The highest value was observed in April 1997 with about 100 registered violent crimes. The lowest value was about 30 registered violent crimes in December 1998. While both time-series show considerable fluctuations, they do not show any underlying trend.

Do the data show any systematic relationship between REC rates and unemployment rates? Figure 2 gives a first hint on this issue. On the horizontal axis we measure the monthly unemployment rate at the state level, adjusted for seasonal fluctuations. On the vertical axis, we measure non-violent REC rates per 100,000 residents. As indicated by the positive slope of the regression line, the unconditional correlation between the unemployment rate and REC rates is clearly positive, both for non-violent (upper panel) and for violent right-wing crimes (lower panel). Furthermore, both for violent and for non-violent crimes, the correlation seems to be weak at low levels and gets stronger at higher levels of unemployment.

Figure 2

Monthly REC rates and unemployment rates, German states, 01.1996 - 12.1999

An issue which received quite some attention in the German public debate relates to the question whether or not right-wing criminal activities are primarily a problem of the "new states", the East German states that formed the former communist Democratic Republic of Germany. The issue here is to which extent the higher incidence of right-wing extremism in East Germany is rooted in the post-WWII historical and political differences and to which extent it is related to the weak economic performance and, in particular, to the high unemployment rates in the East. Table 1 presents descriptive statistics on East-West differences in unemployment and right-wing extremist crimes. On average over

the period 1996-1999, the total monthly REC rate in the new states (East German states) amounted to 2.575 per 100,000 residents and was almost three times as high as in the old states (West). Furthermore, the fraction of violent crimes in total RECs was 9.2 % in East Germany, almost 1.5 times higher than in the West. This suggests that East-West differences of right-wing extremist crimes are dramatic. Clearly, one of the most important differences between the new and the old states are the differences in labor market conditions. The (unweighted) average unemployment rate in the new states was 17.6 %, which compares to 10.5 % in the old states. Interestingly, with respect to youth unemployment, East and West German states do not differ that much. The unweighted mean across East German states is 15.7 % which compares to 12.2 % in the West.

Table 1

Right-wing extremist crime and unemployment in East and West Germany, 1996 - 1999

3 Unemployment and the incidence of right-wing crime

3.1 Empirical models

The above descriptive evidence focuses exclusively on unconditional correlations between REC and unemployment rates. It is clear, however, that not only levels of unemployment but also other state-characteristics may play a potentially important role to explain the incidence of REC rates across states and time. Our empirical analysis focuses on two basic models. The first model pools all data and runs a simple OLS regression of the following relationship

$$REC_{it} = \beta \cdot UR_{it} + x_{it}\gamma + \varepsilon_{it}, \tag{1}$$

where REC_{it} measures the number of right-wing crimes at state i in month t, UR_{it} is the overall unemployment rate, x_{it} is a vector of (potentially time-variant) state characteristics, and ε_{it} is an error term that captures unobserved determinants of crime rates (and measurement/classification errors). The coefficient β is of primary interest to our analysis and captures the impact of unemployment on crime. In order to rule out any spurious correlation that results from fluctuations in that variable across seasons, we use the seasonally adjusted unemployment rate. The vector of coefficients γ (which includes an intercept term) estimates the impact of other control variables on registered crime rates.

Our second basic model controls for permanent differences in REC rates across states.

$$REC_{it} = b \cdot UR_{it} + x_{it}c + d_i + e_{it} \tag{2}$$

In this second model the parameter b captures the effect of changes in the unemployment rate on right-wing crimes *within states.* The vector x_{it} consists of time-varying state-characteristics. A vector of coefficients c (including an intercept term) measures the impact of our control variables on right-wing crime rates. The state-level fixed effect d_i controls for permanent differences in such crime rates

across states. The variable e_{it} denotes a time-varying state-specific error term and accounts for both unobserved heterogeneity and measurement or classification errors.

3.2 Results

The impact of unemployment on total REC rates Table 2 shows the impact of total unemployment on total REC rates under alternative specifications. The first column of Table 2 shows the unemployment coefficient from a regression that does neither include control variables not state fixed effects. This coefficient indicates that an increase in the unemployment rate by one percentage point significantly increases the number of total REC cases by 0.174 cases per 100,000 residents. Evaluated at means, this implies an elasticity of total RECs with respect to unemployment of 1.54.

The second column in Table 2 accounts for additional influences, which may potentially affect right-wing crime. We include economic and demographic variables such as per-capita incomes, education, the population share of young males and of foreigners, as well as urban and rural population shares. We further controlled for policy variables such as crime conviction rates and expenditures of regional governments for facilities and support of the young population, as well as expenditures for social welfare[5]. The goodness of fit increases strongly (adjusted R-squared) increases stronlgy, from .423 without these regressors to .604, once these regressors are included. Furthermore, the inclusion of these covariates decreases the point estimate of the unemployment rate which drops to almost half of its original size. However, the coefficient is still highly significant and quantitatively important with an implied elasticity at sample means of .80[6].

Table 2

Unemployment and RECs

The coefficients of the first two columns in Table 2 are based on data that are pooled across states and time, i.e., on our basic model (1). It is possible, however, that the unemployment coefficient is correlated with the error term as unobserved states-characteristics may affect both, unemployment and REC rates. Our second basic model (2) accounts for such regional characteristics by introducing states fixed-effects. These fixed-effects pick up variation in REC rates that arises from unobserved, time-invariant state-characteristics. The resulting unemployment coefficient is shown in column 3 of Table 2. The unemployment coefficient in this regression is larger than in the pooled estimates and equal to .132. To get a sense of the quantitative importance of this estimate, let us calculate the effects on the total REC rate predicted by a one-standard-deviation increase in the unemployment rate. The overall standard deviation in observed unemployment rates amounts to 4.116 in the data (see Table A2 in the appendix). The impact on total REC rates predicted by such a change in the unemployment rate

[5]In Table A2 we report a summary statistic and description of all variables.

[6]In Table A3 in the appedix we report the results on all coefficients.

equals +.543 (= +.132 * 4.116). This compares to a standard deviation of total REC rates of 1.098 observed in the data. Hence increasing the unemployment rate by one UR standard deviation predicts an increases on total REC rates that amounts to 50 % of the standard deviation of REC rates observed in the data. This suggests that there is a very close link between unemployment and REC rates.

Unemployment and East-West differences in right-wing crimes As mentioned above, an important issue in the German public debate has been (and still is) whether the higher incidence of right-wing extremism in East Germany is a phenomenon related to particular historical or political circumstances; or whether this is due to the worse economic conditions in East Germany, in particular with respect to unemployment. Compared to the West, individuals in East Germany grew up in a communist and highly authoritarian regime, i.e., there was little chance to learn democratic and liberal thinking and conflict resolution. This may well have made East Germans more receptive for extremist "solutions" and activities. A second explanation emphasizes the particular economic problems to which East Germans are exposed. The process of transition from a socialist to a market economy, that has begun with the fall of the Iron Curtain and the German reunification of the early 1990s, imposed particular hardships on many individuals in East Germany. As a result of job loss and unemployment, many individuals found themselves – at least in relative terms – as economic losers. Unemployment is associated with occupational downgrading, loss of human capital, and little hope for rapid and significant improvement. The particularly bad labor market conditions in East Germany may have generated a social climate conducive to right-wing criminal activities. According to this view, the high unemployment rates in the East – rather than other specific circumstances not necessarily related to the labor market – explain the incidence of RECs between the old and the new states.

In what follows we use versions of model (2) to shed light on this issue. In particular, we use the results from our fixed-effects regressions to decompose the observed REC-differences between East and West Germany into (i) a component that is due to differences in unemployment and (ii) a component that is due to other (observed and unobserved) differences between the two regions. In other words, we use our estimated coefficient for the following thought experiment: To which level would East German REC rates decrease, would unemployment rates in East-Germany go down to West-German levels?

To get a first - and preliminary - answer to this question, we use the estimated coefficient in Column 3 of Table 2 and the descriptive evidence in Table 1. The East-West difference in total REC rates amounts to 1.661 (= 2.575 – .914) and the difference in average unemployment rates was 7.1 percentage points. Using the estimates of Column 1 Table 3, the predicted reduction in REC rates would amount to .937 (= .132 * 7.1). In other words, 56.4 % of the REC-difference between East and West Germany can be attributed to differences in unemployment. The remaining 43.6 % are due to permanent differences across states in observed characteristics x_{it} or in unobserved differences as captured by the state-fixed effects d_i.

In Table 3 we use versions of model (2) to analyze the East-West differences more thoroughly. The first column in Table 3 repeats the unemployment coefficient of the basic regression of model (2) for comparison. In the second column of Table 3, we assess whether there are different (unemployment-) slope coefficients between East- and West-Germany. In fact the relation between unemployment and right-wing crimes is much stronger in East German than in West German states. An additional percentage point unemployment is associated with an increase in total RECs by .045 cases per 100,000 residents in the West German states, the coefficient being statistically insignificant. In contrast the corresponding increase in total REC rates in East German states amounts to a significant increase of .163 cases per 100,000 residents, more than 3.5 times as large as the point estimate for West German states.

These results are consistent with the argument that specific historical and political circumstances in the new states are responsible for the higher incidence of crime in East Germany. Alternatively, it may be that no such East-West differences do exist; instead there may be non-linearities in the relationship between unemployment and REC rates: at modest levels of unemployment, right-wing criminal activities are low and almost unrelated to rates of unemployment but once a critical level of unemployment has been reached, a further increase in unemployment strongly increases right-wing criminal activities. In fact, Figure 1 suggests there may be non-linearities: a weak correlation at low unemployment levels but a strong one at higher levels.

Column 3 of Table 3 allows for differential effects of unemployment on right-wing extremist crime under high-unemployment and low-unemployment circumstances. We define a dummy variable $\overline{UR}_{it}$ that indicates whether the unemployment observation it is above the median unemployment rate observed in the whole sample (11.4 %). Interacting the unemployment rate with this indicator allows us to estimate the relationship between unemployment and REC rates when unemployment is high. Similarly, we interact unemployment with $1-\overline{UR}_{it}$ which indicates that observation it is below the median.[7] The estimates reported in Table 3 support the non-linearity explanation of unemployment. When unemployment is high, a one percentage point increase in the unemployment rate increases total REC rates significantly. The point estimate of .178 is even higher than the East German point estimate $east*UR$ in column 2. When unemployment is below the median, however, there seems to be no significant impact of an increase in unemployment on REC rates, the point estimate being even negative. Furthermore, as indicated by the increase in adjusted R-squared, the goodness of fit of the regression in column 3 is a better to the one in column 2.

The coefficients in column 4 of Table 3 are based on a model that allows a comparison between the impact of unemployment on right-wing crime in (i) East Germany (where all observed unemployment rates are above the median), (ii) high-unemployment West-Germany and (iii) low-unemployment states

[7] More precisely, the results in column 3 of Table 3 are based on the extended model (2) which is changed to $REC_{it} = b_0 \cdot \overline{UR}_{it} + b_1 \cdot \overline{UR}_{it} \cdot UR_{it} + b_2 \cdot (1-\overline{UR}_{it}) \cdot UR_{it} + x_{it}c + d_i + e_{it}$. Table 3 reports coefficients b_1 and b_2.

in West Germany. In line with the estimates in the previous columns we find that there is a high and statistically significant impact of unemployment on REC rates both in East German and in high-unemployment West German states. Furthermore, the point estimates are almost of identical size, comparable in magnitude to the estimates found in columns 2 and 3. For low-unemployment in West-Germany, we do not find any relationship between unemployment and REC rates. In sum, our estimates clearly point to the importance of non-linearities in the impact of unemployment rather than on an explanation that relies on specific differences between East and West German states. The relationship between right-wing crimes and unemployment becomes strong, both in the Eastern and the Western regions, once a critical level of unemployment has been exceeded.

Finally, let us repeat our above thought experiment with the estimates in columns 3 and 4. Eliminating the East-West unemployment gap of 7.1 percentage points would lead to a reduction in Eastern REC rates of, respectively, 1.264 (= .178 * 7.1), and 1.271 (= .179 * 7.1). In other words, the predicted reduction in total REC rates from bringing down East German unemployment to average West German levels, would amount to almost 80 % of the East-West gap in total REC rates. Only about 20 % of REC differences are due to other factors. This clearly underlines the enormous importance of unemployment as a predictor of the REC gap between East and West Germany.

Table 3

Unemployment and RECs: East/West versus high/low unemployment

Non-violent versus violent right-wing extremist crimes The regression results in Tables 2 and 3 were based upon the incidence of total right-wing extremist crimes, i.e., non-violent and violent crimes. As mentioned in Section 2, however, these two categories comprise very different types of crime. A separate analysis is therefore quite important for a better understanding and an assessment of the costs of right-wing extremist crimes to society. Table 4 addresses this issue by showing respective results once REC rates are differentiated by non-violent and violent crimes.

Table 4

Unemployment and non-violent / violent RECs

With respect to non-violent extremist activities (REC_nv in the upper panel of Table 4) the picture resembles the one obtained for total REC rates. The unemployment coefficient estimated from the pooled model (including control variables) is highly statistically significant (albeit somewhat smaller in size than in the total REC regressions); it becomes higher once we allow for state-fixed effects; and allowing for different unemployment coefficients according to East/West and high/low unemployment yields exactly the same picture as in the total REC regressions. Unemployment has a strong impact when unemployment is high, the effect being of equal size in East- and West-German states; unemployment does not have an impact on REC rates when unemployment is low.

The lower panel of Table 4 shows estimation results of the impact of unemployment on violent right-wing crimes (REC_v). Here the pooled model (including co-variates) shows an insignificant coefficient, which becomes significant and sizeable once we control for states fixed effects. The fact that the coefficient is smaller in absolute value than in the other regressions is due to the fact that violent crimes are less than 10 % of all crimes[8]. Furthermore, there are similar patterns with respect to the effect of unemployment in high/low unemployment regions and with respect to East/West. However, the coefficient on unemployment is no longer statistically significant for high-unemployment West states. This result resembles the one obtained by Krueger and Pischke (1997), who report no significant impact of unemployment on predominantly *violent* right-wing extremist crimes for Germany in the early 1990s.

Youth unemployment versus total unemployment One could argue that a large pool of unemployed individuals implies a large pool of potential committers of right-wing extremist crimes. Provided that the experience of unemployment induces individuals to commit right-wing criminal activities, one would expect that youth unemployment – rather than total unemployment – is a better measure for the potential impact of unemployment on crime. To examine this hypothesis, we reran regressions of Tables 2 to 4 with youth unemployment rather than the total unemployment rate as the explanatory variable (Table 5). In all other respects, the regressions are identical.

Table 5

Total unemployment versus youth unemployment

The first two columns in Table 5 report the unemployment coefficients for the basic model (2) and for the extended model (2) that allows for differences in unemployment rates between high/low unemployment regions and East/West. A clear picture emerges from these results. Youth unemployment, while being a significant predictor of total REC rates has a much smaller impact on REC rates than the total unemployment rate. The coefficient is only about a third of the coefficient of the total unemployment rate (.048 versus .132, see Tables 2 and 3). Allowing for heterogenous unemployment effects yields a qualitatively similar picture as in the previous regressions that use total unemployment as a regressor. However, also in these regression the youth unemployment coefficients are quantitatively much smaller; and the unemployment-coefficient of Western above-average unemployment is even higher than the corresponding East-coefficient.

The results in columns 1 and 2 suggest that overall unemployment rather than youth unemployment is important to explain the incidence of right-wing extremist crimes. Columns 3 and 4 of Table 5 address this issue directly. Column 3 reports the results from a model that includes the overall unemployment rate in addition to the youth unemployment rate. It turns out that the overall unemployment rates remains highly significant and of quantitative magnitude comparable to the previous estimates. The

[8]Note, however, that in terms of severeness and damage a violent crime is much worse than a non-violent one.

youth unemployment rate, however, becomes statistically insignificant and the point estimate even negative. As an alternative specification we included the youth unemployment rate relative to the overall unemployment as an indicator of the prevalence of youth unemployment problems. Again, it turns out that overall unemployment is the dominant variable whereas the ratio of youth unemployment relative to total unemployment is insignificant, with a negative point estimate. Obviously, the relationship between unemployment and RECs is not a simple one. An explanation that rests upon the hypothesis that higher unemployment increases the pool of potential committers does not seem to be supported by the data. As committers of RECs are typically younger individuals, the above hypothesis is certainly not consistent with the weak/absent effect of youth unemployment on RECs reported in Table 5. We will come back to this issue in the following section.

4 Discussion

In the previous section we have shown that there is a significant relation between unemployment and the incidence of right-wing crimes on a state level in Germany for the years between 1996 and 1999. In view of this evidence one would also expect a positive relation between unemployment and voting behavior in favor of right-wing parties. This is in fact what we find for the 1998 elections of the German parliament. In Figure 3 we depict the percentage of votes in favor of the DVU (Panel a) and in favor of the NPD (Panel b) in the 1998 elections of the German parliament for all 16 German states. These two parties are the most important far right-wing parties in Germany. Both parties are anti-liberal and favor an ideology against foreigners and minorities. They are under close inspection of the Office of the Protection of the Constitution[9]. On the horizontal axis of Figure 3 we depict the mean unemployment rate per state in 1998. The Figure clearly shows a positive correlation between unemployment and the support in favor of both parties with an R-squared of 0.86 for the DVU and 0.51 for the NPD.[10]

Figure 3

The above evidence on right-wing crime (and voting in favor of right-wing extremist parties) suggests a strong and systematic relationship between regional unemployment and the occurrence of right-wing activity. This evidence does *not* allow the conclusion, however, that right-wing crimes are predominantly committed by the actually *unemployed*. In fact the available evidence on individual data lends no or

[9]DVU stands for *Deutsche Volksunion (Union of the German People)*, NPD for *Nationale Partei Deutschlands (National Party of Germany)*. We show the votes, which determine the number of seats in the parliament ("Zweitstimme").

[10]A similar relation between unemployment and voting behavior is reported by Rotte and Steininger (2001). They examine the success determinants of right-wing parties in Germany, at the election of the European Parliament in 1994 and 1999. They find a positive and significant impact of local unemployment rates on votes in favor of right-wing parties controlling for a large set of variables, e.g., the East West difference, degree of urbanization, foreign population, education and welfare payments.

only weak support to this hypothesis. In a detailed analysis of people who are either suspects or actually sentenced for committing right-wing extremist crimes Wahl (2001, 2003), e.g., concludes that there is only a weak indication that individual unemployment is a key factor for committing right-wing extremist crimes. Instead he argues that these criminals have mental-health problems, often rooted in their early childhood. Studies on individual *attitudes* have not demonstrated a clear positive relationship between unemployment and resentments against foreigners either. Bacher (2001a,2001b) analyzes the 1996 wave of the *Allgemeine Bevölkerungsumfrage der Sozialwissenschaften* (ALLBUS), a representative opinion poll, which contained 42 questions concerning the attitudes towards foreigners and Jews in Germany. He concludes that there is a link between unemployment, discontentment with one's own living circumstances and far-right orientations. Unemployment seems to activate and enforce existing latent anti foreigner predispositions. In a comprehensive analysis of the same data set, Fertig and Schmidt (2002) find some indication that being unemployed or being afraid of losing a job has a negative effect on attitudes towards foreigners. Yet in their structural model the impact becomes insignificant. The by far most important variable in their analysis turns out to be the level of education: a better education is associated with more positive perceptions of foreigners and Jews. Gang, Rivera-Batiz and Myeong-Su Yun (2001) use data from the 1988 and 1997 *Eurobarometer Surveys*. They report that there was a sharp increase in anti-foreigner attitudes in Europe between 1988 and 1997. While in 1988 29.5 percent of the people felt that there are "too many foreigners" in their country, the percentage increased to a level of 42.1 percent in 1997. As a major factor for negative attitudes, Gang et al. identify the degree of competition in the labor market with immigrants. Interestingly, no significant difference between employed and unemployed was detected. As Fertig and Schmidt (2001), Gang et al. find that educational attainment strongly reduces anti-foreigner sentiments. Finally Bauer, Lofstrom and Zimmermann (2000) using the *International Social Survey Programme* (ISSP), find that being unemployed does not significantly change natives' answers to the question whether immigration should be reduced. It does, however, increase the perception that immigrants take away jobs. Again, more educated people report more positive attitudes towards immigrants, compared to the less educated.

The individual data evidence suggests that the observed systematic effect of regional unemployment on right-wing activity is not predominantly caused by those who are actually unemployed. This view is supported by our finding that - despite the fact that most crimes are committed by young men - youth unemployment is not a better predictor of right-wing crime than total unemployment. In our view the data suggest that high regional unemployment affects right-wing crime in a rather complex way, in particular it affects not only those who are currently unemployed. It seems very likely that living in a region with a high unemployment rate increases the fear of *losing* a job. This fear may negatively affect attitudes towards foreigners, creating a demand for scapegoats and lowering people's willingness to support humanitarian values of tolerance and altruism. As a consequence anti foreigner resentments develop and the normative pressure against committing right-wing crime eradicates. As an

example we refer to the riots in the cities of Rostock and Hoyerswerda (in former East Germany in 1991, mentioned in Footnote 1), where foreigners were collectively attacked for several days. Many residents who witnessed the riot, did not only tolerate the violence but actually supported it by clapping and yelling. This example illustrates that right-wing crime is an interactive process. It requires not only psychopathic people who are ready to lay violent hands on others (and who need not necessarily be unemployed) but also the majority of witnesses who fail to enforce social norms against (anti-foreigner) violence. If high unemployment rates reduce this willingness to enforce norms, unemployment may therefore be associated with right-wing crime, even though the actual criminals are not unemployed.

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Figures

Figure 1: Right–wing extremist crimes, Germany 01.1996 – 12.1999

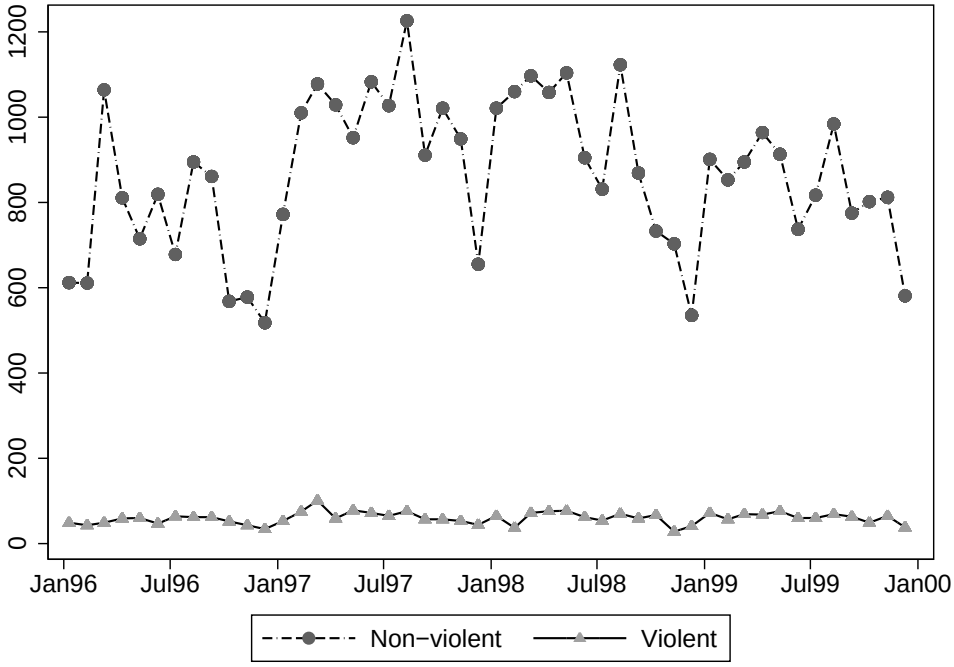


Figure 2: Right–wing extremist crime rates (REC, violent and non–violent) and unemployment rates, German States 01.1996 – 12.1999

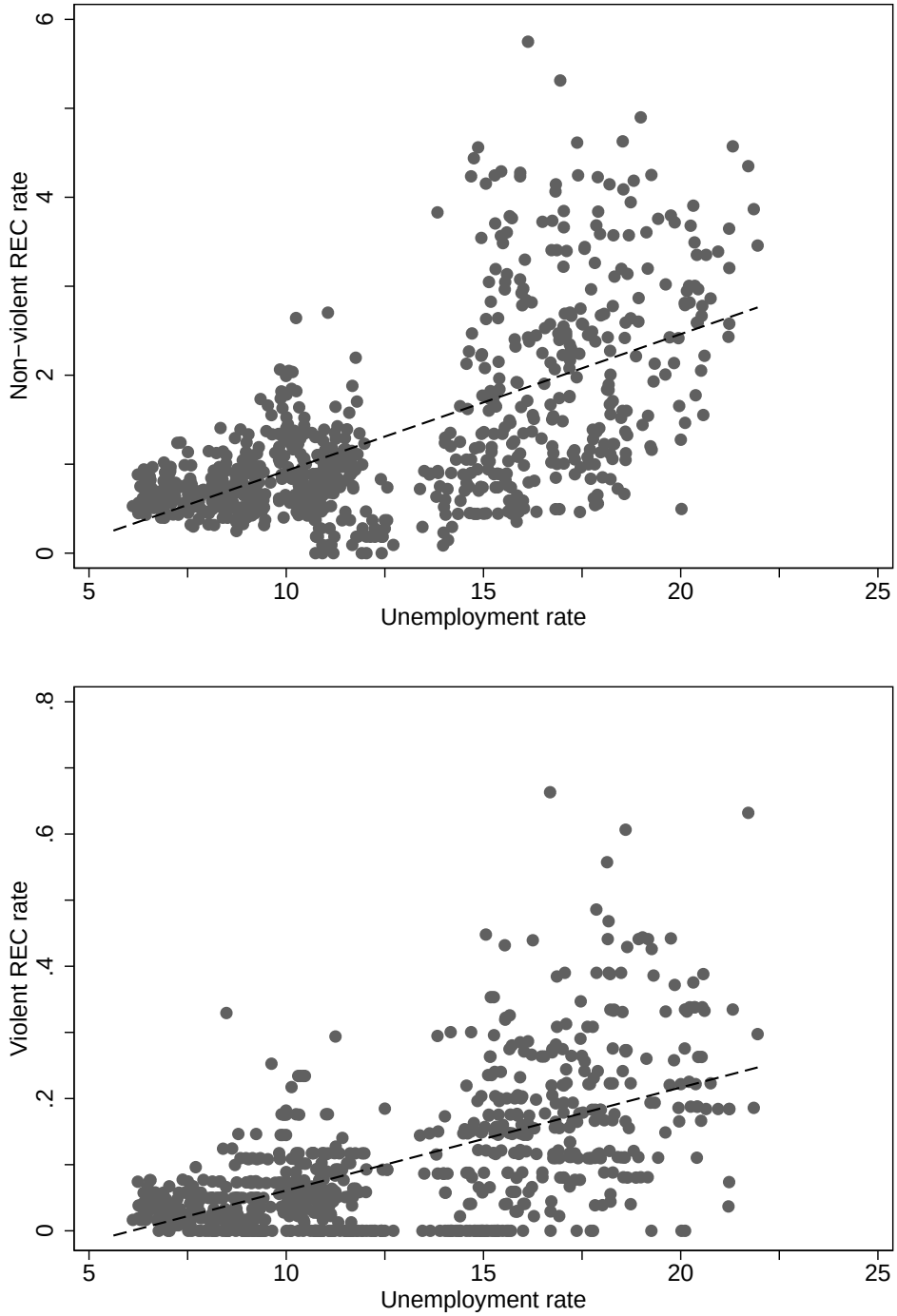
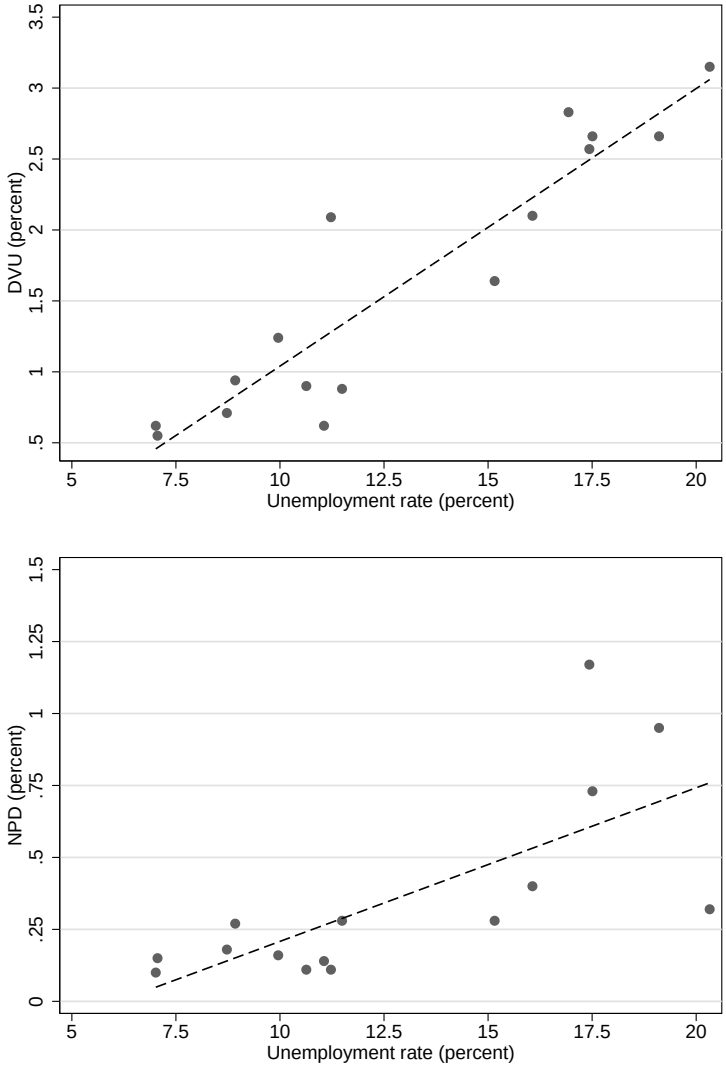


Figure 3: Percentage of votes for the far right–wing parties (DVU and NPD) and unemployment rate



Note: Elections of the German Parliament 1998, own calculations.

Tables

Table 1: Right–wing extremist crimes (REC) and unemployment in East and West Germany

	West Germany	East Germany
Total REC rate	0.914	2.575
	(0.530)	(1.160)
Violent crimes as fraction of total REC	0.061	0.092
	(0.060)	(0.064)
Unemployment rate	10.469	17.646
	(2.667)	(1.765)
Youth unemployment rate	12.231	15.658
	(3.731)	(1.782)

Notes: Averages over the entire period 01.1996 – 12.1999. Standard deviations in parentheses.

Table 2: Unemployment and right–wing extremist crimes (REC)

Dependent variable:	REC_total		
UR	0.174***	0.091***	0.132***
	(0.007)	(0.020)	(0.033)
Control Variables	No	Yes	Yes
Fixed effects	No	No	Yes
Observations	768	768	768
Adjusted R-squared	0.423	0.604	0.722

Notes: All regressions estimated by OLS. Standard errors in parentheses. *, **, *** denote statistical significance at the 10%, 5%, 1% level, respectively.

Table 3: The non–linear impact of unemployment on right–wing extremist crimes (REC): East/West versus High/Low unemployment

Dependent variable:	REC_total			
UR	0.132***			
	(0.033)			
east*UR		0.163***		0.179***
		(0.036)		(0.036)
west*UR		0.045		
		(0.057)		
$\overline{\text{west}}$*UR				0.182**
				(0.076)
$\underline{\text{west}}$*UR				-0.011
				(0.090)
$\overline{\text{UR}}$*UR			0.178***	
			(0.035)	
$\underline{\text{UR}}$*UR			-0.084	
			(0.083)	
Control variables	Yes	Yes	Yes	Yes
Fixed effects	Yes	Yes	Yes	Yes
Observations	768	768	768	768
Adjusted R-squared	0.722	0.722	0.726	0.727

Notes: All regressions estimated by OLS. $\overline{\text{west}}$ ($\underline{\text{west}}$) is a dummy variable taking the value 1 for observations in West German states with an unemployment rate above (below) the median unemployment rate of West German states. $\overline{\text{UR}}$ ($\underline{\text{UR}}$) is a dummy variable taking the value 1 for observations with an unemployment rate above (below) the overall median unemployment rate. Standard errors in parentheses. *, **, *** denote statistical significance at the 10%, 5%, 1% level, respectively.

Table 4: The impact of unemployment on non–violent and violent right–wing extremist crimes (REC)

Dependent variable:	REC_nv		
UR	0.088***	0.126***	
	(0.019)	(0.031)	
east*UR			0.163***
			(0.034)
$\overline{\text{west}}$*UR			0.156**
			(0.071)
$\underline{\text{west}}$*UR			0.032
			(0.085)
Control variables	Yes	Yes	Yes
Fixed effects	No	Yes	Yes
Observations	768	768	768
Adjusted R-squared	0.584	0.720	0.724

Dependent variable:	REC_v		
UR	0.003	0.010**	
	(0.003)	(0.005)	
east*UR			0.014***
			(0.005)
$\overline{\text{west}}$*UR			0.017
			(0.012)
$\underline{\text{west}}$*UR			-0.012
			(0.014)
Control variables	Yes	Yes	Yes
Fixed effects	No	Yes	Yes
Observations	768	768	768
Censored observations	130	130	130
Log likelihood	512.298	539.827	542.596
LR χ^2	442.502	497.561	503.099
Prob > χ^2	0.000	0.000	0.000

Notes: All regressions in the first (second) panel are estimated by OLS (Tobit). $\overline{\text{west}}$ ($\underline{\text{west}}$) is a dummy variable taking the value 1 for observations in West German states with an unemployment rate above (below) the median unemployment rate of West German states. Standard errors in parentheses. *, **, *** denote statistical significance at the 10%, 5%, 1% level, respectively.

Table 5: Youth unemployment and right–wing extremist crimes (REC)

Dependent variable:	REC_total			
YUR	0.048*		-0.043	
	(0.025)		(0.035)	
east*YUR		0.056*		
		(0.034)		
$\overline{\text{west}}$*YUR		0.090**		
		(0.045)		
$\underline{\text{west}}$*YUR		-0.028		
		(0.060)		
UR			0.172***	0.133***
			(0.046)	(0.033)
YUR / UR				-0.512
				(0.523)
Control variables	Yes	Yes	Yes	Yes
Fixed effects	Yes	Yes	Yes	Yes
Observations	768	768	768	768
Adjusted R-squared	0.717	0.717	0.722	0.722

Notes: All regressions estimated by OLS. $\overline{\text{west}}$ ($\underline{\text{west}}$) is a dummy variable taking the value 1 for observations from West German states with a youth unemployment rate above (below) the median youth unemployment rate of West German states. Standard errors in parentheses. *, **, *** denote statistical significance at the 10%, 5%, 1% level, respectively.

A Appendix

Table A.1: Definitions of variables

Variable		Description	Source
Dependent variables			
REC_total	:	Total registered rightwing extremist crimes per 100'000 inhabitants	(a)
REC_nv	:	Non–violent registered rightwing extremist crimes per 100'000 inhabitants	(a)
REC_v	:	Violent registered rightwing extremist crimes per 100'000 inhabitants	(a)
Independent variables			
UR	:	Total unemployment rate, seasonally adjusted	(b)
YUR	:	Youth unemployment rate (age $\leq$ 25), seasonally adjusted	(b)
rincome	:	Real GDP per capita in 1'000 DM, prices of 1995	(c)
male15_25	:	% male population, 15 $\leq$ age $\leq$ 25	(c)
foreign	:	% foreign population	(c)
village	:	% population living in communities $\leq$ 5'000 inhabitants	(c)
city	:	% population living in communities $\geq$ 500'000 inhabitants	(c)
ext_elem	:	% of school leavers with extended elementary school degree ("Hauptschule")	(c)
secondary	:	% of school leavers with secondary school degree ("Realschule")	(c)
college	:	% of school leavers with college degree ("Fachhochschule")	(c)
university	:	% of school leavers with university degree ("Universit"at")	(c)
convict_nv	:	Probability of conviction, non–violent crimes	(c)
convict_v	:	Probability of conviction, violent crimes	(c)
ryouth	:	Real youth welfare service spending per male inhabitant between 18 und 25 years in 1'000 DM, prices of 1995	(c)
rwelfare	:	Real social welfare spending per capita in 1'000 DM, prices of 1995	(c)

Notes: (a) Federal Criminal Police Office, Wiesbaden 2004 (PKS – Polizeiliche Kriminalstatistik), (b) German Federal Employment Agency, Nuremberg 2004, (c) Federal Statistical Office Germany, Wiesbaden 2004 and own calculations

Table A.2: Descriptive statistics

Variable	Mean	Standard deviation		
		Overall	Between	Within
REC_total	1.433	1.098	0.951	0.598
REC_nv	1.330	1.035	0.895	0.565
REC_v	0.103	0.109	0.078	0.079
UR	12.712	4.116	4.156	0.852
YUR	13.302	3.617	3.542	1.143
rincome	42.483	12.556	12.927	0.892
male15_25	5.818	0.663	0.675	0.109
foreign	7.791	5.018	5.160	0.433
village	20.681	17.407	17.944	0.872
city	20.700	35.558	36.700	0.000
ext_elem	25.137	8.088	8.275	1.067
secondary	39.196	6.302	6.398	1.137
college	0.684	0.721	0.723	0.173
university	25.109	4.129	4.220	0.576
convict_nv	50.402	5.719	5.405	2.298
convict_v	70.981	8.084	8.154	1.716
ryouth	12.437	8.130	5.204	6.378
rwelfare	0.541	0.314	0.272	0.170

Notes: All statistics over the entire period 01.1996 – 12.1999.

Table A.3: Fixed effects regressions, all crimes

Dependent variable:	REC_total	
UR	0.091***	0.132***
	(0.020)	(0.033)
rincome	0.007	0.070
	(0.006)	(0.044)
male15_25	-0.143	-1.814***
	(0.095)	(0.334)
foreign	0.023	0.026
	(0.020)	(0.057)
village	0.027***	-0.061**
	(0.003)	(0.027)
city	-0.009***	-0.097***
	(0.003)	(0.027)
ext_elem	-0.237***	-0.064
	(0.022)	(0.060)
secondary	-0.180***	-0.083
	(0.020)	(0.054)
college	-0.028	-0.052
	(0.050)	(0.169)
university	-0.182***	-0.012
	(0.024)	(0.066)
convict_nv	0.057***	0.078***
	(0.012)	(0.020)
convict_v	-0.030**	-0.043*
	(0.014)	(0.026)
ryouth	-0.005	0.005
	(0.004)	(0.005)
rwelfare	0.171	0.321*
	(0.152)	(0.191)
Constant	17.096***	15.943***
	(1.901)	(5.632)
Fixed effects	No	Yes
Observations	768	768
Adjusted R-squared	0.604	0.722

Notes: Standard errors in parentheses. *, **, *** denote statistical significance at the 10%, 5%, 1% level, respectively.