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Jobs, Crime, and Votes – A Short-run Evaluation of the Refugee Crisis in Germany

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Abstract

Millions of refugees made their way to Europe between 2014 and 2015, with over one million arriving in Germany alone. Yet, little is known about the impact of this inflow on labor markets, crime, and voting behavior. This article uses administrative data on refugee allocation and provides an evaluation of the short-run consequences of the refugee inflow. Our identification strategy exploits that a scramble for accommodation determined the assignment of refugees to German counties resulting in exogeneous variations in the number of refugees per county even within states. Our estimates suggest that migrants have not displaced native workers but have themselves struggled to find gainful employment. We find very small increases in crime in particular with respect to drug offenses and fare-dodging. Our analysis further suggests that counties which experience a larger influx see neither more nor less support for the main anti-immigrant party than counties which experience small migrant inflows.

Keywords: Immigration, Refugees, Unemployment, Crime, Voting
JEL codes: J6, J15, K4, D72

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1 Introduction

Immigration has become one of the more contentious issues in the public discourse on policies related to labor markets, crime, trade, and the political economy. The debate has intensified in light of the recent inflow of refugees to European countries. The main goal of this paper is to use this sharp and unexpected rise in the number of migrants coming to Germany in 2014/2015 as a natural experiment in order to evaluate its effect on unemployment, crime, and voting behavior. In this, we build on numerous studies that have investigated the impact of migration and immigration, often with a focus on labor market outcomes. Arguably, a consensus has not been reached. For example, Card (2001) and Dustmann et al. (2013) find very moderate or insignificant effects of immigrant inflows on natives wages and employment prospects. Borjas (2003) and Aydemir and Borjas (2007), on the other hand, show substantial negative effects of immigration on natives labor market outcomes. These conflicting findings can be explained by differences in the model assumptions, in particular the degree to which natives and immigrants are substitutes (Borjas et al., 2012; Card, 2012). Moreover, the frequently applied spatial correlations approach, which divides data into cells based on geography and skill levels, is prone to endogeneity issues not least because immigrants are likely to differentially sort into regions that offer them the best employment prospects. As a result, a range of natural experiments such as the Mariel boatlift (Card, 1990; Borjas, 2015) the relocation of Algerian repatriats to France (Hunt, 1992), spatial dispersal policies (Edin et al., 2003; Gould et al., 2004; Damm, 2009), or border openings after the fall of the Berlin wall (Dustmann et al., 2016) have been exploited to get a better sense of the effect of immigration on labor market outcomes.

In the context of the effect of immigration on crime, there has been remarkably little research, studies by Butcher and Piehl (1998) for the US, Bell et al. (2013) for the UK, and Bianchi et al. (2012) for Italy being notable exceptions. These studies have found no effects of immigration on violent crime and, at best, moderate effects on property crimes. However, Piopiunik and Ruhose (2015) find a positive association between crime and immigration in their longitudinal analysis of Germany, the country we study in this article. Finally, voting behavior and attitudes towards immigrants have been widely

studied (Dustmann and Preston, 2007, among others). Mayda (2006) shows that individual skills are strong predictors of attitudes towards immigration. Card (2012) develops his concept of compositional amenities and shows that concerns about the social effects of immigration often outweigh concerns about its economic effects.

Our study serves two purposes. First, we contribute to the literature by exploiting a natural experiment that was created by the allocation mechanisms in Germany during the refugee crisis in 2014/2015. We show that within states, migrants were allocated to counties based on reasons unrelated to local labor market conditions or crime levels. In particular, we provide evidence that neither incomes nor the skill compositions of natives differ substantially between high and low migration counties. Housing vacancies are also not significant determinants of refugee allocations, although it remains conceivable that the availability of estates that can house a large amount of refugees all in one place, e.g. abandoned barracks, is a predictor. More importantly, counties that experience small refugee inflows and those with large inflows appear to follow identical time trends in terms of unemployment, crime and voting patterns. This allows us to obtain credibly causal effects on less stringent identification assumptions.

Second, our study provides a first evaluation of the short-run consequences of the refugee crisis in Germany, an event that features prominently in the public discourse. We exploit a plausibly exogenous source of variation in migrant inflows to determine the effect of these inflows on unemployment, crime, and voting behavior. We find little evidence for displacement of native workers by refugees. However, our findings suggest difficulties in integrating refugees into the German labor markets. These difficulties are likely to worsen as more and more migrants become eligible to legally enter the labor market. Our findings are consistent with earlier studies for Germany, such as Pischke and Velling (1997) and D'Amuri et al. (2010), and stand in contrast with Glitz's (2012) study who exploits the exogenous inflow of ethnic Germans from the Soviet Union. His research design is probably the most similar to ours, although substantial differences remain, not least because the inflows in the 1990s were smaller on a per-year basis and the time horizon Glitz (2012) was able to evaluate was longer. Our study also suggests that - with the obvious exception of violations to right-of-residence and asylum laws - there is no association between the number of refugees and the number of street crimes

in Germany. However, we do find a statistically significant relationship between bigger reception centers and drug crimes and fare-dodging, as well as the number of non-German suspects in relation with theses crimes. This might partly be driven by higher alertness of police in these counties. In general, crime only increased marginally more in counties which received larger refugee inflows. Finally, there is no indication that (micro-)exposure to refugees either increases or decreases propensities to vote for anti-immigrant parties or affects voter turnout.

The remainder of this paper is structured as follows. In the next section, we provide background information on the refugee crisis and how the German institutional setting dealt with the inflow of hundreds of thousands of migrants in 2014 and 2015. Section 3 introduces our data, in particular the newly collected administrative records that document the distribution of migrants across counties. Section 4 describes the empirical setup and the assumptions our identification strategy is built on. We present our results in Section 5, discuss them in Section 6 where we also provide a few robustness checks and conclude in Section 7.

2 Background

In 2011, the year the Syrian civil war erupted, only 50,000 asylum applications were filed in Germany (BAMF, 2016). From 2014 on, more and more people started their journeys towards Europe. Most of them took the so-called "Balkan route", crossing the Mediterranean, often on make-shift boats, from Turkey into Greece. From there they traveled onwards through countries of former Yugoslavia towards Western Europe. In theory, asylum applications in the European Union (EU) are governed by the Dublin Regulation which shifts the responsibility of administering an asylum request to the first EU member state a migrant sets foot on. In practice, few refugees had any intention of staying in Greece (or Hungary), but tried to travel on to, among other countries, Austria, Germany, or Sweden, as these countries promised better living conditions, more generous welfare benefits and better job perspectives. By late summer 2015, amid images of refugees being stuck in trains and camps in Hungary, the German government is essence

abandoned the Dublin Regulation and allowed all refugees who had passed through other EU countries to file for asylum in Germany.

At this point, the inflow changed from a steady increase to a large jump in daily arrival rates, with thousands of new immigrants seeking asylum at the German border every day. Figure 1 attests to this immigration shock. In 2015 alone 1,091,894 refugees were registered at the German border (BMI, 2016). The inflows were only curtailed when a deal was forged between the EU and Turkey in early 2016, in which Turkey committed to crack down on people smugglers in return for €6 billion in aid earmarked for humanitarian support of refugees who have fled to Turkey. The deal effectively closed the Balkan route. For example, Figure 1 shows that in April 2016 only 15,941 refugees were registered in Germany.

The aforementioned number of 1,091,894 refugees coming to Germany in 2015 insinuates that on the federal level exact data on the number of arrivals exist. Unfortunately this is only partly true. While every asylum seeker who is picked up by the German border police undergoes a quick check, the actual registration takes place in separate reception centers. Between quick check and registration, numerous ways to unilaterally exit the asylum procedure exist. For example, little is known about the number of refugees who continued their journeys to other countries and left with asylum claims pending. To the best of our knowledge, we are the first to collect detailed data on the allocation of registered asylum seekers to German counties, by obtaining administrative data of the states and counties. These data unfortunately include no information on refugee characteristics. To this end, the best information to date come from the Federal Office for Migration and Refugee's asylum (BAMF) statistics. However, these data are based only on asylum claims that have been fully processed. For example, in 2015 when about 1.1 million migrants entered the country, only 476,649 asylum applications were processed which included backlog from 2014 (BAMF, 2016). Based on this information about 69.2 percent of applicants were male, about 31 percent were younger than 18 years old and only 6.6 percent were older than 45. About 35.9 percent of asylum seekers were from Syria. About 20 percent were from Albania and Kosovo and only about 0.1 percent of applications from citizens of these two countries were approved. In fact both countries were officially declared "safe countries of origin" in 2015, thus substantially speeding up

asylum procedures and reducing the inflow from these countries. For example, Albania only accounted for 2 percent of processed asylum applications in April 2016.

The German authorities had a top-to-bottom system in place to deal with refugee inflows. Newly arrived refugees were supposed to be received by the federal police at their points of entry, often at train stations close to the Austrian border.[1] After a quick check by the federal police, most refugees were placed in short-term facilities for a couple of days, before being transferred to a federal state with free capacities.[2] These allocations were to follow a quota, the so called "Koenigssteiner Schluessel". This quota is determined by a state's tax revenues and population, thus ensuring that the costs related to housing and processing of asylum claims are evenly distributed. Each state runs so called reception centers (Erstaufnahmeeinrichtungen, EAEs). EAEs tend to have large-scale housing facilities. Only there, more detailed information was gathered from the prospective asylum claimers and entered into the EASY System. Applicants are obliged to stay in their assigned reception center for a period of up to six months during the processing of their application. Violations of these residential obligations lower the chances of being granted asylum. After this period, or - more often - if the BAMF decides that the application cannot be processed in a timely manner, migrants are redistributed within the same state to subordinate counties ("Landkreise").[3] Due to efficiency gains and a lack of available space, county authorities tend to provide communal accommodations rather than allowing asylum seekers to seek individual apartments.

An ideal natural experiment would feature an entirely random allocation of refugees to counties, with some counties receiving large inflows and other counties receiving small inflows regardless of their characteristics. The actual quasi-experiment provided by the refugee crisis at the very least resembles this ideal case and creates exogenous variation

[1]Even in this first step, not all refugees could be processed, the BAMF estimates that up to 290,000 persons have not been registered at all.

[2]The standard procedure provides that new arrivals are transferred to the closest reception center, where their personal information is entered into EASY, a federal database. The EASY system subsequently allocates new arrivals to one of Germany's 16 states for further processing of their asylum claims.

[3]Each state has the authority to distribute asylum seekers to subordinate counties according to its own legislation ("Rechtsverordnungen"). Usually refugees were supposed to be allocated to counties commensurate with their population. But all states include a clause in their legislation that allowes for deviations under extraordinary circumstances. Section 3 will show that invoking theses clauses and deviating from the scheduled distribution schemes quickly became the norm rather than the exception.

due to housing shortages and the sheer necessity to relocate refugees from the German border: refugees were usually transported from border regions in Bavaria to other states by trains and buses on a daily basis. Deviations of the actual distribution quotas - both the state-quotas and within-state quotas - were inevitable and mainly arose from housing capacity shortages and inseparable groups. Due to the overwhelming volume of inflows, state authorities usually simply allocated migrants to counties that had some kind of accommodation facilities to spare, for example because they happened to be home to recently abandoned military barracks, or sports halls that could be transformed into collective accommodations, or recently closed hotels, etc.. The availability of suitable housing might not be entirely independently distributed across counties but as we will show in Section 4, the resulting inflows were by and large uncorrelated with economic and social county characteristics. Moreover, allocation decisions were made by state authorities, and within states counties are subject to very similar labor market conditions and crime fighting strategies.

Several pull and push factors incentivize asylum seekers to stay in their designated county. For one, asylum seekers are provided with goods and social services at their accommodations or nearby reception centers. Second, refugees are legally obliged to reside in their assigned accommodations until a decision has been made on their asylum claim. Violations against this "residence obligation" negatively affect the probability of having one's asylum claim approved. The average processing time for asylum applications is about half a year and is highly dependent on an asylum seeker's country of origin and the types of documents he/she can provide.[4] However, an asylum procedure is not usually initiated immediately upon arrival. Instead an initial "interview" appointment has to be scheduled which usually involves waiting times of several months. In other words, asylum seekers are tied to a county for very substantial time. In the meantime, they are legally prohibited from working, and only once an application is fully approved can they freely enter the labor market. Ultimately, the scramble to somehow place refugees in what was often make-shift housing resulted in large differences in the number of refugees hosted

[4]According to the federal police only about 20-30 percent of refugees entering the country were in possession of a passport (GdP, 2015). In general, Syrian asylum seekers, whose applications have a high probability of being approved, and asylum seekers from the Balkans, whose application have little chance of being approved, are processed with priority.

by counties that in other dimensions followed strikingly similar time trends. It is exactly this source of exogenous variation we exploit in this study.

3 Data

For our analysis, we combine several data sources, the most important of which are administrative records by the 16 German states on the allocation of refugees to the 402 subordinate German counties. These records are usually maintained by the states' internal affairs ministries, or in some instances by a state-run agency that supervises the allocation of refugees to the counties. While the German freedom of information act ("Informationsfreiheitsgesetz") only applies to federal agencies, most states have similar laws in place and the competent authorities in all 16 states provided records on the assignment of refugees to counties in the years 2014 and 2015 for all 16 states.[5] By and large, all states abided to the same reporting standards, making those data comparable across states.

Aside from coordinating the transfer of migrants to counties and communities, states also run the above mentioned large-scale reception centers (EAEs). We obtained detailed information on the location and capacities of these EAEs directly from the competent authorities of 8 states. 4 other states pointed us to their website where the same information could be retrieved. For the three city states - Berlin, Hamburg und Bremen - which are equally state and county, there is no clear distinction between state-run EAEs and county-level accommodations.

Table 1 shows the number of migrants that were allocated to the counties by the states according to our data in 2014-15. It is notable that these numbers are more or less in line with the shares of refugees that were supposed to be received by states by virtue of the federal quota. For example, Germany's most populous state, Northrhine-Westphalia (NRW) was due to receive 21.21 percent of refugees entering the country, according to the federal key. In our data about 23.2 percent of refugees were allocated to

[5]One state provided data only for 2015. The 2014 data were imputed based on the absolute number of refugees allocated to this state and assuming an distribution across counties that is identical to that of 2015.

NRW counties. Note that the allocated percentage do not necessarily have to be identical to the federal quota since some of the federally allocated migrants might be housed in state-run EAEs rather than allocated to the counties. This is especially true for Bavaria through which most immigrants who took the Balkan route entered the country; similarly, Baden-Wuertemberg and Hesse have large (state-administered) EAE capacities and correspondingly somewhat lower county allocations.

As mentioned in Section 2, federal data on the number of registered asylum seekers are scarce and often incomplete.[6] In light of this, our data is the best estimate of county-allocations of refugees to date and probably draws a more accurate picture of refugee allocations than the federal data base could. Despite the issues with federal data in general and the EASY system in particular, it is comforting that the data provided by the states are roughly consistent with the federal allocation key.

Based on the administrative records provided by the states, we calculate the number of allocated refugees per 100,000 inhabitants for each county. Figure 2 illustrates that there is quite a bit of variation across counties, even within states. Crosses indicate the presence of an EAE in a county. In some instances, counties in which a particularly large state-run EAE has been set up were allocated fewer migrants. Other than that there is no obvious, discernible pattern in the allocation of refugees within states, although some states certainly achieve a more even allocation across counties than others. Yet, a fair amount of variation remains (the average refugee allocation is 1,088 per 100,000 inhabitants with a standard deviation of 378). This is vital for our study which will exploit county differences in refugee allocations to isolate the effect of additional refugee inflows on labor market, crime, and election outcomes.

Put differently, our identification strategy (more details are provided in Section 4), requires that refugee allocations are independent of any time trends in the residuals ("common time trend assumption"). In order to investigate whether this identifying assumption is met, we split our sample into high and low migration counties. High migration counties are defined as counties which host an EAE with a capacity of at least 200 beds or have been allocated more than 1,260 refugees per 100,000 inhabitants, which

[6]The EASY system has also been widely criticized for containing duplicates and migrants that continued their journey to other countries.

puts them roughly into the 25th percentile in terms of this measure. This rule achieves a 50:50 split into high and low migration counties.

Unemployment data are provided by the Federal Labor Office on a quarterly basis from 1/2005 to 1/2016. Figure 4 plots the unemployment rates separately for the general population and for non-German workers. Three things stand out. First, unemployment rates for non-Germans are substantially higher than for the "native" population. The non-German unemployment rate also warrants a closer look as newly arrived job seekers might be better substitutes for existing foreign workers, thus exacerbating an existing lack of integration into the labor market for this particular group. And indeed, there is a notable increase in foreign unemployment in the first quarter of 2016. However, at first glance, this increase seems only slightly more pronounced in counties with high refugee inflows than in those with low inflows. Second, no such up-tick is obvious for overall unemployment. This is a first indication that overall unemployment has not been much affected by refugee inflows. Figure 3b supports this notion by plotting changes in unemployment rates between the first quarter of 2013 and the first quarter of 2016 for all counties. A comparison with Figure 3a, indicates that changes in unemployment are for the most part uncorrelated with migrant inflows. Finally, Figure 4 shows that unemployment *levels* tend to be slightly higher in counties that receive a large migrant influx. But more importantly, there is no difference in unemployment *trends* in the pre-treatment period. Both low migration counties and high migration counties experience the same seasonality patterns and have experienced the same decline in unemployment throughout the 2000s and 2010s.

We also obtained data on criminal activity and criminal suspects which are released by the Federal Criminal Police Office on an annual basis. Figure 5a plots trends in reported crimes separately for high and low migration counties. The graph reveals a large increase in the number of criminal offenses per 100,000 inhabitants in 2014 and 2015 when the refugee crisis was in full swing. At first blush, this might suggest that the refugee crisis was accompanied by a crime epidemic. However, much of this increase can be explained by an increase in violations related to asylum and right-of-residence laws. By definition, any refugee who enters Germany on the land route will be in violation of the Dublin Regulation, although in practice few of these violations were actually recorded.

What is more, asylum seekers whose applications were rejected and who remain in the country illegally will inflate these numbers. Once we adjust the time series by discarding these types of offenses, the up-tick in crime disappears, in fact the crime rate seems to have not budged at all.[7]

More important for our identification strategy is that the number of committed crimes follows very similar pre-crisis time trends in low and high migration counties. This also holds true when we look at different categories of crime. For example, the number of street crimes (bag-snatching, bike thefts,...) declined to the same extent during pre-treatment period in counties that were to experience large and small migrant inflows in 2014/2015 (see Figure 5b). Likewise, the number of drug-related offenses appears to have remained flat in both types of counties. Figure 3c which shows the change in aggregate crime (adjusted for asylum and right-of-residence law transgressions) lends further support to the notion that differential migrant influxes appear to be unrelated with changes in crime rates.

The refugee crisis has also had profound impacts on the political landscape in Germany. Therefore, we collected data on vote shares and polls for Germany's largest anti-immigration party, "Alternative fuer Deutschland" (AfD). The AfD party was founded in early 2013. At the time, its main platform was opposition to the Euro and the Euro zone bailouts. Figure 6 shows bi-weekly AfD party polls. The first vertical line indicates the 2013 federal election in which the AfD party received 4.7percent of votes, thus failing to clear the constitutional 5percent threshold to receive any seats in the federal parliament. Over time, the AfD party's focus arguably turned from Euro-scepticism towards immigration. The second dashed vertical line is placed at 5 September 2015. On this day the German chancellery allowed the entry, by train, of hundreds of refugees who had been detained and were stuck in Hungary. This event is widely seen as the beginning of the refugee crisis with migrant inflows intensifying in the following weeks and months. It also seems to have been associated with an increase in approval for the AfD party which ever since has consolidated its position. In fact, national polls understate the electoral success

[7]It should be noted that we could only adjust the time series for 2014 and 2015 since transgressions of asylum and right-of-residence laws were not reported on a per-county-basis prior to 2014. However, in 2013 these offenses only accounted for 1.85percent of all offenses nationwide, so that the amount of (downward) bias that is induced by this adjustment should be negligible.

the AfD party has had. It received between 15.1 and 24.3 percent of votes cast in early 2016 state election. Polls are not taken at the county level, so that we cannot track and compare AfD party support by "treatment intensity", i.e. across high and low migration counties. Instead, we will evaluate whether - within states that held state-elections in 2016 - the electoral success of the AfD party has increased differentially in counties that experienced large migrant inflows relative to the party's performance in the 2013 federal election. Consequently, only a subset of counties (those in states that held state elections in 2016) can be evaluated. If Figure 3d is any indication, then inflows of refugees are no important predictors of the AfD party's electoral success which is a result that will be confirmed by our regression analysis in Section 5.

Finally, the 2011 Zensus provides us with a variety of county characteristics. Each county's population, per capita GDP (in €), a county's age structure, the share of the population with migration background, the share of the population with a college or vocational degree and the number of housing vacancies (per 1,000 county inhabitants) were sampled.[8] We will use these characteristics to explore to what extent the allocation of refugees to counties constitutes an exogeneous shock. Table 2 indicates that high migration and low migration counties differ only marginally along observable dimensions. For example, 74.2percent of the population in high migration counties have a college or vocational degree which is similar to the 73.0percent in low migration counties. The only notable difference is that per capita GDP in 2011 was higher in counties that were to experience large migrant inflows. This should not be surprising since the federal allocation quota arranges for larger contingents to be allocated to economically more powerful states. We will see in Section 4 that once state specific characteristics are accounted for, these differences by and large disappear.

4 Methodology

All five data sources - administrative state records on refugee allocations and EAE capacities, unemployment rates as provided by the Federal Labor Office, the Federal

[8]Only the population estimates are updated annually, all other county covariates are only available as of 2011, i.e. lagged and without time variation. This issue will receive more attention in Section 4.

Criminal Police Office's crime data, official federal and state election outcomes, and Zensus 2011 results are subsequently matched with one another at the county level. For each outcome, we have at least one observation per county prior to the refugee crisis in 2013 and one observation pertaining to either 2015 or 2016. As the number of refugees assigned to a certain county potentially depends on the share of asylum seekers the county received before, we include data for 2014 refugee distribution. That is, we pool the 2014 and 2015 figures, in order to create a comprehensive measure of refugee inflows.[9] This gives rise to a specification of the following form:

$$y_{ct} = \delta_c + \gamma D_{2015/16} + \pi_1 D_{2015/16} \cdot ref_c + \pi_2 D_{2015/16} \cdot EAE_c + \epsilon_{ct} \quad (1)$$

where y_{ct} is a measure of our three outcomes of interest - unemployment rate, crime rate, and AfD party vote share - in county c at time t. δ_c denotes a full set of county dummies, $D_{2015/16}$ is an indicator for the post-treatment period. Our coefficients of interest are π_1 and π_2, which are related to interactions of the post-treatment dummy, $D_{2015/16}$, and the number of refugees that were allocated to a county between 1 January 2014 and 31 December 2015, ref_c, and the EAE capacities, EAE_c , that were put into operation over the same time period. π_1 thus measures to what extent counties which experienced a larger influx of refugees have experienced larger increases in unemployment, crime, and voting behavior.

Our empirical setup differs from a classic difference-in-differences setup in two ways. First, all units of observations receive the treatment (i.e. inflows of migrants) but the intensity of this treatment differs across counties.[10] Second, we only observe outcomes at two points in time. Once in the pre-treatment period and once in post-treatment period respectively.[11] That is, unemployment rates are evaluated in the first quarter of 2013 and the first quarter of 2016; we evaluate changes in crime from 2013 to 2015[12]; and changes

[9] As a robustness check, we later also treat the 2015 and 2014 inflow separately and evaluate how changes in inflows between these two years are associated with changes in outcomes.

[10] In terms of this feature, our study resembles the prominent work of Acemoglu et al. (2004) who investigate the effect of differential mobilization rates across US states during World War II on female labor supply.

[11] In this respect, the empirical setup of our study resembles Card and Krueger's (1994) seminal study on the effect of the minimum wage increase in New Jersey.

[12] Note that 2016 county level crime data will only become available over the course of 2017.

in the AfD vote share from the federal election in September 2013 to the state elections in early 2016 for the counties that are located in states that held a state election. With just two observations per county, equation 1 is equivalent to a first-differencing specification of the following form:

$$\triangle y_c = \beta_0 + \pi_1 ref_c + \pi_2 EAE_c(+\theta X_c) + \eta_c \tag{2}$$

where $\triangle y_c$ measures the change in outcome y_c. Note that π_1 and π_2 in equation 2 by definition must be equal to the same coefficients in equation 1 and thus still measure the impact of differential migrant inflows on our outcomes of interest. This specification has the advantage of allowing us to explicitly include time-invariant county-level covariates: X_c denotes county characteristics such as GDP per capita, average age of the population, share of the population with a migration background and a college or vocational degree, and the number of housing vacancies (per 1,000 inhabitants), all of which are per Zensus 2011.

One major challenge to our interpretation of the relationship between refugee inflows on the one hand, and unemployment, crime, and voting behavior changes on the other hand, is that high and low migration counties might differ along dimensions that predict differential refugee allocations. For example, if refugees were primarily allocated to counties in economic decline, our model would pick up spurious, positive correlation between unemployment and refugee inflows. In an ideal empirical setup, on the other hand, refugees would be randomly assigned to counties, thus creating differential exogenous shocks. The institutional setup in Germany provided for neither a negatively selective nor random assignment of refugees to counties. After all, allocation quotas require economically stronger states to absorb larger inflows. Nonetheless, Table 3 shows that after controlling for state fixed effects, only one of our observable county characteristics is an individually significant (at the 5percent level) predictor of the number of refugees allocated to a county and the size of this effect is moderate at best. In other words, within-state refugee inflows into a county are mostly uncorrelated with observable county characteristics. It should be stressed that our empirical setup does not (even) require this very strong assumption of random refugee inflows to hold. Equation 2 will

yield an unbiased estimate of the differential effect of migrant inflows as long as the residuals in low migration and high migration counties are subject to the same time trends. Figures 4 and 5 support this common time trend assumption. Still, the fact that few of our observable characteristics are significant predictors of refugee inflows experienced by the counties lends additional support to this identifying assumption.

It is also notable that in Table 3 housing vacancies are no significant predictors of refugee allocations. However, anecdotal evidence suggests that the presence of a single large property that allows for the accommodation of many refugees in one facility, e.g. former army ("Bundeswehr") barracks, might be a strong predictor of immigrant inflows. Unfortunately, there seems to exist no conclusive list of abandoned barracks, so that we cannot entirely dismiss the notion that the presence of such a property leads to non-random allocations of refugees across counties.[13] Even if having hosted a military base in, say, the 1980s was associated with larger refugee inflows today, this would only threaten the validity of our estimates if barracks had been closed selectively and closures had differential effects on our outcomes of interest. In light of the fact that with the end of the cold war barracks all over the country became obsolete and were closed, such a narrative seems unlikely.

5 Results

5.1 Refugees and Unemployment

Our regression analysis estimates the *differential* effect of migrant inflows, i.e. whether counties with high migration inflow experience larger increases in unemployment, crime, and voter turnover. Our descriptive statistics in Table 2 suggest that this is hardly the case. In both low and high migration counties unemployment actually decreased slightly.

The results in Table 4 confirm this finding. If anything, local unemployment rates

[13]There is a surprisingly detailed list of several hundred abandoned Bundeswehr properties on Wikipedia. According to this list, virtually all West-German counties are home to a former army, navy, or air-force base. However, the Bundeswehr could not confirm the accuracy nor the completeness of said list. Nor is there any information on which facilities are suitable for accommodation.

and migrant inflows are negatively related although this relationship is neither statistically nor economically significant once covariate controls are included. Nor have the presence or the capacities of a reception center any influence on the overall unemployment rate. The same is true for the unemployment rate of youths aged 15 to 25 (see columns (3) and (4) of Table 4). The vast majority of working-age migrants are between 16 and 25 years old and they will often look for apprenticeships or entry level positions which may put them into competition with young native workers (BAMF, 2016). Even so, our estimates suggests that there is little in the way of a displacement effect.

Another group of potential substitutes are non-German workers and pre-crisis immigrants, many of whom may possess similar skill sets. And indeed, larger inflows of migrants are associated with increases in the unemployment rate for workers who are not German citizens. Column (8) of Table 4 suggests that a one standard deviation increase in migrant inflows is associated with a 1.2 percentage point increase in the unemployment rate for foreigners. Given the 2013 average unemployment rate for this group, this estimate translates into about a 7.6 percent increase. There are two plausible explanations for this striking increase in non-German unemployment. For one, refugees may have displaced some non-German workers and pushed them into unemployment. This may very well have happened through the shadow economy as refugees can only legally enter the workforce once their asylym claim has been approved.[14].

A second explanation is that recently arrived refugees themselves start to show up in the unemployment statistics. This would indicate difficulties of the German labor market to immediately absorb this influx of additional job seekers. There is some evidence supporting this causal chain. On the county level, no information on the country of origin of job seekers is available; yet such information is compiled on the federal level. Figure 7 plots these data. On the left-hand side y-axis we measure the overall number of non-German job seekers. Between the third quarter of 2015 - which is also the time when substantial numbers of refugees should have started to receive work permits - and the first quarter of 2016 about 150,000 additional non-German job seekers registered with the Federal Employment Agency. During the same time period the number of job seekers

[14]There is an alternative route for refugees to obtain a work permit. However, this route is subject to a complex approval process which among other things involves a priority check of whether there is no other job seeker from an EU country who is potentially being displaced.

from the eight main crisis countries (Syria, Iraq, Afghanistan, Iran, Pakistan, Nigeria, Eritrea, and Somalia) increased by roughly the same number, indicating that the absolute increase in non-German unemployment is mostly driven by recent refugees seeking work. Note that the data underlying Figure 7 use a different definition of unemployment and include workers who are part of government-sponsored programs, e.g. to enhance their skills. The county-level data underlying Table 4, on the other hand, would not count job seekers who are taking part in active labor market policy programs as unemployed. The simultaneous increase in non-German unemployment and unemployment of citizens from the main crisis countries is striking. It indicates that our regression estimate does not pick up displacement effects. Instead, our result might best be interpreted as evidence for difficulties of migrant workers to quickly integrate into the German labor market. These difficulties appear to be quite substantial. For example in all of 2015 only 137,136 people were granted asylum and thus received a work permit (2014 total was 31,025). In early 2016 processing speed picked up and 92,577 asylum claims were approved in the first three months of 2016. The magnitude of the increase in unemployment indicates that many of those who have obtained a work permit by way of an approved asylum claim struggled to find employment. This problem appears to be particularly grave considering that not everybody who was granted asylum intends to become part of the labor force. For example, the BAMF estimates that about two thirds of Syrian women are neither in employment nor looking for work (Worbs and Bund, 2016). Similarly, many minors who were granted asylum are more likely to attend school than show up in the unemployment statistics. Hence, the marked increase in non-native unemployment which parallels the increase in the number of immigrants who were granted asylum (and thus became eligible to work) indicates substantial difficulties of the German labor market to absorb this labor supply shock, at least in the short-run. Not surprisingly these difficulties tend to be more pronounced in counties that received larger refugee inflows.

5.2 Refugees and Crime

Table 5 shows the effects of refugee inflows on crime rates. Panel A looks at the aggregate crime rate (per 100,000) and is adjusted for the natural increase in offenses

related to immigration and asylum laws. Even after immigration offenses are excluded from the crime statistics, the number of refugees allocated to a county is significantly and positively associated with increases in crime (see columns (1) and (2) of Panel A in Table 5). A one-standard deviation increase in migrant inflow is associated with about 95 additional crimes per 100,000. Given a mean of 6,417 crimes per 100,000, this translates into roughly a 1.5 percent increase. Since 2013, the official crime statistics distinguish between German and non-German crime suspects. While refugees only make up a fraction of the non-German population, increases in the number of crime cases with non-German main suspects would support the hypothesis of immigration induced increases in crime. We indeed find a positive association between larger migrant inflows and the number of non-German suspects. Yet again, these are very moderate in size. Columns (5)'s and (6)'s coefficients suggest that a 1 standard deviation increase in refugee allocations increase the number of cases involving a non-German suspect by about 54 (mean is 625). Hence, these increases - while not negligible - show no sign of exploding crime rates.

Aggregate crime statistics also contain all types of offenses ranging from very serious crimes, such as assault, to smaller transgressions such as fare-dodging. We thus separately evaluate different types of crime. For example, street crimes account for a little less than a quarter of crimes in Germany and include all offenses that take place in the public sphere such as handbag-snatching, damages to motor vehicles, theft from kiosks and show windows, bike-nicking, breaking of vending machines, and (attempted) robberies of money vans. Our regression analysis detects no differential increases in these crimes in counties that host more refugees. Nor is there any indication that the number of non-German suspects for street crimes is associated with migrant inflows. Our results for drug-related crimes are displayed in Panel C of Table 5. We find large and statistically significant effects for EAE capacities. 200 extra beds per 100,000 inhabitants, which is roughly the average county capacity, are associated with an increase of about 4.4 drug offense in a county. The mean number of drug offenses (per 100,000) in our sample is 317.74, so this estimate suggests that the presence of an average-sized EAE is associated with an increase in drug-related crime of about 1.4 percent. Interestingly enough, our analysis of suspects in cases involving a drug offense suggests that the presence of a reception center is associated with significant increases in both the number of

German and non-German suspects. An increase in 200 reception center beds increases the number of German suspects by 2.90 (mean: 231.04) and the number of non-German suspects by 1.1 (mean: 47.00). In absolute terms, much of the increase in drug-related crimes is therefore driven by "native criminals", although in relative terms the increase in non-German suspects for drug-related crimes is more pronounced. Of course, we have no way of knowing how many of the non-German suspects are recent refugees.[15] In other words: while our result indicate that counties with larger EAE have seen larger increases in drug-related crimes, we cannot conclude with certainty that refugees were the offenders in those crimes. Our results do, however, provide suggestive evidence that EAEs might be potential "hotspots" for drug offenses, although it is also conceivable that the authorities have devoted more resources to policing these areas so that crimes are more likely to be recorded in the first place. Panel D evaluates fare-dodging offenses. Anecdotal evidence suggests that these have become more common, and indeed we find a positive correlation between EAE capacities and the number of offenses and the number of non-German suspects. Yet again, these are relatively small effects. An increase in the number of EAE spots increases the number of faredodging offenses by about 2 percent and the number of non-foreign suspects by about 8 percent.[16]

5.3 Refugees and Voting Behavior

An analysis of voting behavior is complicated by the fact that elections do not take place every year or even quarterly. The last federal election in Germany took place in September 2013, the next federal election will take place in 2017. Three elections for state parliaments took place in early 2016 in Baden-Wuertemberg, Rhineland Palatinate, and Saxony-Anhalt; municipal elections (at the county level) took place around the same time in Hesse. Our main outcome of interest is the vote share for the anti-immigrant AfD party. We also analyze election turnout and evaluate the support for the incumbent

[15]In contrast to the unemployment data, publicly available federal crime statistics do not report suspects by nationality which may have been informative in this respect.

[16]Note that we also evaluated other crime types and found similar results for the number of property damages, violent crimes in general and assaults in particular. These results are available from the authors upon request.

party which appoints a state's prime minister. The AfD party did not exist at the time of the last state elections in the aforementioned states. Therefore, we rely on the 2013 federal election outcomes as a proxy for the AfD party's baseline support prior to the refugee crisis. Furthermore, the Afd party changed its political focus between 2013 and 2016 from opposition to the Euro bailouts towards migration issues, so our results have to be interpreted with some caution.

Table 6 shows no statistically significant effect of refugee inflows or EAE capacities on the electoral success of the AfD party. Of course, this is not to say that the refugee crisis has not helped the AfD party in achieving larger electoral success. Figure 6 strongly suggests that gains in approval are driven by concerns about immigration. Our results, however, indicate that these gains were no more pronounced in counties that actually received larger inflows than in those with smaller inflows of migrants. In other words, direct (micro-) exposure to migrants neither increase nor decrease a county's constituents' propensity to cast their votes for the AfD party. Figure 3d is a case in point. The AfD party was particularly successful in the eastern state of Saxony-Anhalt. This success was, however, not accompanied by large refugee inflows to Saxony-Anhalt. Rather, both far-left and far-right parties tend to traditionally fare better in East-Germany than in the West. Our results hold up, regardless of whether the municipal elections in Hesse - which may be deemed less important than state elections and saw a turnout of just 48 percent - are included in the sample. Controls for county level characteristics also do not change the results.[17]

We also find no indication that more voters took to the ballots in counties with larger refugee inflows. In fact, turnout is by and large uncorrelated with refugee inflows. However, our results indicate that the incumbent party suffered heavier losses in counties with larger immigrant inflows than in those with small inflows. In fact, column (7) of Table 6 indicates that a one standard deviation increase in refugee inflows is associated with a loss of 4.5 percentage points in the share of votes cast for the incumbent party. Our results stand in contrast to a study by Steinmayr (2016) who found that Austrian

[17]Voting districts do not always align with county borders. We are grateful to the statistical offices of the states to aggregate the election results to the county level for us.

districts with large refugee presence were less likely to vote for anti-immigration parties.[18] Barone et al. (2016), on the other hand, find that larger immigrant inflows are associated with better election outcomes for center-right parties.[19] It should, however, be stressed that our results only rely on a small subset of all German states and counties. It will, therefore, be of interest to analyze future elections.

6 Discussion and Sensitivity

Our paper provides a first evaluation of the refugee inflow to Germany in 2014-2015. It is necessarily an analysis of short-run effects. As such, there is no guarantee that trends we have uncovered in this study will hold in the long-run. Even over the course of conducting this study, new events in Germany and abroad have occurred that might shape debates and policies. Nonetheless, our analysis of short-term effects provides interesting insights that might contribute to an evidence-based debate on the economic and social effects of large migrant inflows in general and the consequences of the recent wave of refugees in particular. In a nutshell, our analysis suggests: migrants did not displace natives; crime only marginally increased with larger refugee inflows; and differential exposure to refugees is largely uncorrelated with support for anti-immigration parties. At the same time, our results indicate that the labor supply shock induced by the refugee crisis has not yet been fully absorbed by the German labor market. The identifying assumption under which these results are most credible is that trends in employment, crime, and voting behavior would have been the same in high migration counties as in low migration counties in the absence of refugee inflows. We have provided evidence that suggests that this is a fair assumption to make. Placebo tests provide another piece of evidence for the validity of our identification strategy. For that purpose, we move the time window of analysis into a time-period that was unaffected by the refugee crisis. Specifically, we re-estimate equation 2 for the years 2011 and 2013 (rather than 2013 and 2015/16) and

[18] Of course, both the party platforms and the setup of the refugee allocation mechanism are different in Austria.

[19] Again, this comparison is slightly flawed since Barone et al. (2016) evaluate a pre-crisis time period, have much more detailed data on immigration (for over 8,000 districts), and evaluate voting shares for more established anti-immigration parties in Italy

attribute the refugee inflows that actually took place in 2014/15 to the year 2012/13.[20]

Our results for this analysis are displayed in Table 7. We cannot detect any effect of our placebo refugee inflows on the overall unemployment rate, youth unemployment, or unemployment of non-Germans. This is comforting for two reasons. First, it lends additional credibility to our zero effect finding for overall and youth unemployment rates. Second, our finding that larger inflows of refugees are associated with increases in non-German unemployment does not appear to be driven by the fact that counties with large inflows were on a different unemployment trajectory prior to the start of the refugee crisis.

Admittedly, our placebo results for crime are somewhat less convincing. It appears as if counties that were to absorb larger migrant inflows had been on a slight downward trajectory in terms of overall crime. Fortunately, there is little evidence for such a downward trajectory for drug offenses where the coefficients on our placebo refugee variable are negative but insignificant. Recall that for drug offenses, we found a positive association with EAE capacities, and here our placebo test is comforting in that it suggests that the crime rate trajectory was similar across counties which did and those that did not become EAE sites.[21] By and large, our placebo tests lend additional credibility to our results for unemployment and indicate that we might slightly underestimate the effect of refugee inflows on crime although the amount of bias is relatively small. There is no evidence for large undetected effects on crime or even a "crime epidemic" due to refugee inflows.

From a policy point of view, the results of our analysis of short-run labor market effects is a mixed bag. On the one hand, there is little indication for a displacement of native workers by immigrants. On the other hand, refugees do not appear to be readily absorbed into the labor market, at least in the short time period that we are able to observe. It is conceivable that the relative inflexibility of the German labor market (relative to the US or UK) might be an obstacle to a quick labor market integration of immigrant

[20] Obviously, we cannot conduct this exercise for our voting behavior outcome as the AfD party was only founded in February 2013.

[21] A placebo analysis separately for German and Non-German suspects is unfortunately not feasible; on the county level this distinction was made for the first time in 2013. Neither can we analyze fare-dodging behavior as this type offense was not reported on a county-level basis prior to 2013.

workers. Ager and Brückner (2013) show that this might result in large unemployment effects. Our results lend some support to calls for additional labor market flexibility (Bofinger et al., 2015). Another reason for the slow integration of migrants into the labor market might be skill mismatches. Woessmann (2015) estimates that about two thirds of recent arrivals have "not been sufficiently educated to participate in a modern society". This rather awe-inspiring assessment suggests that Figure 7 shows by no means the end of the story, i.e. further increases in foreign unemployment are to expected if more and more unskilled workers enter the labor force. At the very least our results suggest that the unemployment rates of crisis country nationals should be closely tracked, data on the qualifications of migrants need to be collected, and - especially if the aforementioned estimates about the skill level distribution turn out to be correct - training and re-qualification efforts will have to be stepped up.

There is also little indication for large increases in crime, at least within the time period that is covered by our data. Crime rates are generally flat in particular for street crimes, although we find a small uptick in drug related offenses and fare-dodging in counties that host receptions centers. Two other types of crimes that have received substantial public interest could, unfortunately, not be fully evaluated in this study. First, anecdotal evidence suggests that crimes against refugees, and arson attacks against accommodation facilities in particular, are on the rise. Crime statistics do not separately report arson attacks specifically aimed at refugee accommodations. The number of arson cases in Germany actually declined between 2013 and 2015 from 20,009 to 19,251 reported incidents.[22] County level data is only available for 2015 (and not 2013). We ran a cross-sectional analysis and did not find evidence that arsons are more frequent in counties that received a larger inflow of migrants or have larger EAE capacities.

In the same vein, the 2015/16 new year's eve events in Cologne during which many women were assaulted by men of Arab or North African appearance, have led to a widespread perception that sex crimes committed by refugees have become a major issue. Unfortunately, we can shed little light on this debate. The Cologne events will only show up in the 2016 crime data which will not become available any time soon. County level data of these types of offenses have only recently been collected so that, again, we

[22]This includes not just actual arson attacks but also the criminal act of creating fire hazards.

can merely conduct a cross-sectional analysis for 2015. Such an analysis fails to find any statistically significant association between the number of refugees that were allocated to a county and the number of sex crimes in said county.[23] As a final robustness check, we use the difference in refugees and EAE capacities from 2014 to 2015 as explanatory variables (see Table 8). This boils down to a comparison of county-level changes in outcomes with changes in refugee inflows between 2014 and 2015. The results are generally consistent with our previous findings. In particular, we still observe an increase in foreign unemployment of similar magnitude.

7 Conclusion

The inflow of more than a million refugees to Germany in 2014/15 continues to influence the German economy and society. It also represents a unique natural experiment that allows for an investigation of labor market, crime, and voting behavior effects of immigrant inflows. We analyze the short-term impacts of this largely unanticipated shock and make three related contributions.

First, our results are highly relevant for policy makers. To the best of our knowledge, this is the first study to evaluate the labor market effects of a key event that has shaped public discourse throughout the world. We show that a significant labor supply shock of low skilled prime-age workers has not had much of a displacement effect on native workers. At the same time, our analysis raises some concerns about the ability of the German labor market to absorb this supply shock. This paper is, of course, an analysis of short-term effects. At this early stage in the post-inflow period, our results suggest that policy makers need to devote more resources to labor market integration of migrants. Together with other measures designed to ease the entry of refugee job seekers into the job market, this should help to avoid further increases in non-native unemployment and the associated adverse economic and societal consequences. At the very least, the job seeking experience of eligible refugees needs to be monitored more closely. While we cannot entirely rule out a displacement of native workers in the long-run, there is little

[23]The results for both sex crimes and arson attacks are available from the authors upon request.

sign of this as of now.

With respect to crime rates, we find at best muted increases in criminal activity. Again, these are short-run effects and continued monitoring of the situation is warranted. In particular, the release of quarterly or even monthly (rather than annual) crime data might help in this respect. Moreover, we neither want to discount nor emphasize the degree to which attempted and actual terrorist attacks have been affected by refugee inflows and have taken a strain on police and counter-terrorism resources. But, given the data available for non-terrorism related crime and given the time period for which said data were available, there is little evidence for large increases in crime in the immediate aftermath of refugee inflows. Lastly, while the rise of the anti-immigration AfD party is undeniable, there is little indication that counties that experience larger migrant inflows largely vote for said party. However, we find some evidence for a negative association between support for the governing party and the number of refugees assigned to a county.

A second contribution of this paper is the collection of unique county-level data on migrant inflows. The data are made available in the appendix of this paper and should be tremendously useful to other researchers. For instance, an obvious avenue for future research is the analysis of labor supply shocks on native wages. The data collected for our study will also be helpful in learning more about immigrant sorting as eventually migrants are no longer required to reside in the counties that they were initially allocated to.

Finally, our study deploys a research design that is based on a credible natural experiment. As such it advances the literature on labor market impacts of immigration, sheds additional light on the link between immigration and crime, and provides insights on the effect of immigration on voting behavior. Of course, the natural experiment created by refugee inflows to Germany differs markedly from other natural experiments that have been evaluated in the past. The sheer size of the refugee inflows in such a short time period is unprecedented and has created unique problems in terms of the provision of adequate accommodation, schooling, and social services. Moreover, the presumed skill composition as well as language and cultural barriers might adversely affect both economic and social integration. That is in contrast to, say, the relocation of ethnic Germans after the fall of the Soviet Union who shared the language and culture of their host country (Glitz, 2012)

or the relocation of Cuban migrants to Miami in the wake of the Mariel boatlift (Card, 1990). Some of the migration in our natural experiment might also be of transient nature as a fair number of asylum seekers may return to their home countries eventually. Since the subject matter of this study are at times divisive issues, we want to stress that our results should be interpreted as short-term effects.

While our results offer useful indications for long-term effects, they are certainly not the last word on this important issue. Given the contentiousness of the debate, we encourage more research on this topic. The natural experiment presented by the refugee inflows provides a useful setting to evaluate their effects and design evidence-based policies. We hope that this paper provides a conclusive and convincing analysis of the short-term effects of the refugee crisis in Germany and can serve as a starting point for future analyses of what is likely to remain a major economic and social issue for years to come.

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Tables and Figures

Table 1: Refugee Allocations to Counties and EAE Capacities

		County Allocations		
	Federal Quota	total	percent	EAE capacities
Baden-Wuertemberg	12.8%	105,680	11.5%	26,400
Bavaria	15.5%	106,763	11.6%	22,377
Berlin	5.1%	67,228	7.3%	n/a
Brandenburg	3.1%	30,930	3.4%	5,092
Bremen	1.0%	12,507	1.4%	n/a
Hamburg	2.5%	28,937	3.1%	n/a
Hesse	7.4%	57,575	6.3%	22,047
Mecklenburg Western Pomerania	2.0%	22,614	2.5%	989
Lower Saxony	9.3%	84,475	9.2%	5,028
Northrhine-Westphalia (NRW)	21.2%	224,589	24.4%	16,245
Rhineland Palatinate	4.8%	34,999	3.8%	10,622
Saarland	1.2%	13,265	1,4%	1,300
Saxony	5.1%	41,423	4.5%	16,845
Saxony-Anhalt	2.8%	27,736	3.0%	6,259
Schleswig-Holstein	3.4%	36,500	4.0%	15,667
Thuringia	2.7%	24,657	2.7%	6,951
Total	100.0%	919,878	100.0%	148,414

Table relates federal quota ("Koenigssteiner Schluessel") of migrants who are supposed to be allocated to the states to the number of refugees forwarded by states to their subordinate counties and the capacities that exist to house refugees in state-run reception centers (EAEs). Berlin, Bremen, and Hamburg are city states and have no subordinate counties, hence no distinction between refugees that are housed by counties and those in state-run facilities is possible. In the data the EAE capacities are coded as zero for all three city states.

Table 2: Summary Statistics: Table of Means

	(1)	(2)	(3)	(4)	(5)	(6)
		2013 (Pre-Treatment)			2015/16 (Post-Treatment)	
	All	High Migration	Low Migration	All	High Migration	Low Migration
Outcomes						
Refugees per 100,000	0	0	0	1,088	1,196	979.3
EAE Capacity per 100,000	0	0	0	220.1	433.4	6.802
Unemploment Rate (Total)	6.922	7.754	6.091	6.180	6.880	5.481
Youth Unemployment Rate	6.140	6.860	5.420	5.506	6.106	4.905
Unemployment Rate German	5.481	6.206	4.756	3.489	3.984	2.995
Unemployment Rate Non-German	15.44	17.33	13.55	18.30	20.99	15.61
Crimes per 100,000 (unadjusted)	6,417	6,953	5,882	6,792	7,314	6,270
Crimes per 100,000 (adjusted)	6,417	6,953	5,882	6,217	6,777	5,656
German Suspects per 100,000	2,127	2,236	2,019	1,960	2,055	1,864
Non-German Suspects per 100,000	624.8	662.2	587.4	650.7	672.2	629.1
Percentage AfD	5.07	4.94	5.152	14.98	14.98	14.97
County Characteristics as of Zensus 2011						
Population	200,308	230,191	170,425	43.58	235,838	168,129
Average Age	43.58	43.76	43.41	16.74	43.76	43.41
Share w. Migration Background	16.74	16.07	17.40	30,993	16.07	17.40
GDP per Capita	30,993	31,215	30,772	0.736	31,215	30,772
College or Vocational Education	0.736	0.742	0.730	0.736	0.742	0.730
Housing Vacancies	4.709	4.918	4.500	4.709	4.918	4.500
Observations	402	201	201	402	201	201

Table of means. Column (1) shows the means in outcomes as of 2013, prior to the refugee crisis. Column (2) and (3) display the means for the same outcomes for counties that were to experience a large inflow of migrants and counties that were to experience a small inflow of migrations. High migration counties are counties with refugee inflows of at least 1,260 people per 100,000 in population or which opened a reception center with at least 200 beds. Low migration counties are counties that meet neither condition. Columns (4) through (6) display outcomes of interest in the post-treatment period. That is, the first quarter of 2016 for employment outcomes, the 2015 annual aggregate for crime outcomes, and the early 2016 election outcomes. Information on county characteristics are calculated from the Zensus 2011. They therefore do not vary over time with the exception of population estimates which are updated annually. Note that crimes rates could not be adjusted for the pre-treatment period as immigration-related offenses were not listed on a county basis in 2013.

Table 3: Potential Determinants of Refugee Inflows

		Regression					
	Mean	(1)	(2)	(3)	(4)	(5)	(6)
Housing Vacancies	4.709	8.6516					-4.0070
	(21.698)	(11.3353)					(15.2865)
GDP per Capita	30.993		-0.0000				0.0033*
	(13.265)		(0.0013)				(0.0018)
Average Age	43.58			23.6200*			22.5817
	(1.708)			(13.2445)			(17.7066)
Share Migration Background	16.74				-5.6940**		-8.9686**
	(9.498)				(2.6694)		(3.6465)
Percentage Degree	73.63					756.9438	171.5604
	(5.599)					(659.4232)	(744.1184)
Observations		402	402	402	402	402	402
R-squared		0.2648	0.2637	0.2697	0.2723	0.2662	0.2830
State-FE		Yes	Yes	Yes	Yes	Yes	Yes

Notes: $***/**/*$ indicate significance at the 1%/5%/10%-level. Heteroscedasticity robust standard errors in parentheses. Each column is a separate county-level regression of the number of refugees (per 100,000) allocated to a county on county characteristics (as per Zensus 2011). All estimates are adjusted for state fixed effects, each county receives the same weight. Housing vacancies are the number of empty living spaces per 1,000 inhabitants, GDP per Capita is measured in €1000, average age is the average age per county, % migration background is the percentage of county population with a migration background (includes ethnic Germans who emigrated from the former Sowjet Union after the fall of the iron curtain), % College/Degree is the share of the population with a college or vocational degree.

Table 4: Regression Results: Inflows of Refugees and Change in Unemployment

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Overall		Youth		German		Non-German	
Mean Unempl. Rate	6.92		6.14		5.48		15.44	
(SD)	(3.20)		(2.94)		(3.27)		(6.18)	
refugees	-0.0003**	-0.0000	-0.0004**	-0.0001	-0.0009***	-0.0006***	0.0040***	0.0031***
	(0.0001)	(0.0001)	(0.0002)	(0.0002)	(0.0001)	(0.0001)	(0.0001)	(0.0001)
EAEcap	-0.0002	-0.0001	-0.0001	-0.0001	-0.0000	0.0001	-0.0004	-0.0006
(0.0001)	(0.0002)	(0.0002)	(0.0001)	(0.0001)	(0.0004)	(0.0005)		
Observations	402	402	402	402	402	402	402	402
R-squared	0.0239	0.5110	0.0173	0.1098	0.0760	0.2147	0.0821	0.2415
Covariates	No	No	No	No	No	No	No	No

Notes: $***/**/*$ indicate significance at the 1%/5%/10%-level. Heteroscedasticity robust standard errors in parentheses.
Each column reports coefficients and standard errors from a county level OLS regression as shown in equation 2. The outcome variable is the unemployment rate for either all workers (columns (1) and (2)), workers aged 15 to 25 (columns (3) and (4)), workers who are (not) German citizens (columns (5) through (8)), and workers who are not German citizens (columns (7) and (8)). The two main explanatory are the number of refugees allocated to a county during the 2014/15 refugee crisis and the number reception center (EAE) beds in the county (both per 100,000). Covariates are all county-specific and include housing vacancies (per 1,000 inhabitants), per capita GDP (in €), average age, share of population with migration background, and share of population with a college or vocational degree, and the county population. All covariates except for population are as of the Zensus 2011.

Table 5: Regression Results: Inflows of Refugees and Change in Crime

	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: All Crimes	All Cases		German Suspects		Non-German Suspects	
refugees	0.2511***	0.2300**	0.0291	0.0259	0.1416***	0.1434**
	(0.0950)	(0.0973)	(0.0187)	(0.0183)	(0.0544)	(0.0556)
EAEcap	-0.1825	-0.1795	-0.0348**	-0.0230	-0.0901	-0.0895
	(0.1359)	(0.1352)	(0.0171)	(0.0173)	(0.0958)	(0.0961)
Panel B: Street Crime	All Cases		German Suspects		Non-German Suspects	
refugees	0.0233	0.0128	-0.0062	-0.0074	0.0005	-0.0002
	(0.0244)	(0.0225)	(0.0042)	(0.0045)	(0.0028)	(0.0028)
EAEcap	-0.0250	-0.0271	-0.0104**	-0.0093**	0.0030	0.0029
	(0.0211)	(0.0212)	(0.0046)	(0.0046)	(0.0028)	(0.0027)
Panel C: Drug Offenses	All Cases		German Suspects		Non-German Suspects	
refugees	0.0077	0.0073	0.0107	0.0107	-0.0056*	-0.0052*
	(0.0115)	(0.0111)	(0.0073)	(0.0071)	(0.0029)	(0.0028)
EAEcap	0.0222***	0.0184**	0.0145**	0.0120**	0.0055**	0.0049**
	(0.0082)	(0.0080)	(0.0058)	(0.0056)	(0.0024)	(0.0023)
Panel D: Fare Dodging	All Cases		German Suspects		Non-German Suspects	
refugees	-0.0031	0.0005	-0.0037	-0.0022	-0.0038	-0.0011
	(0.0117)	(0.0120)	(0.0044)	(0.0047)	(0.0066)	(0.0066)
EAEcap	0.0203**	0.0214***	0.0020	0.0030	0.0196**	0.0183**
	(0.0083)	(0.0082)	(0.0032)	(0.0033)	(0.0078)	(0.0076)
Convariates	No	Yes	No	Yes	No	Yes
Observations	402	402	402	402	402	402
R-squared	0.0448	0.0699	0.0193	0.0891	0.0512	0.0679

Notes: $***/**/*$ indicate significance at the 1%/5%/10%-level. Heteroscedasticity robust standard errors in parentheses.

Each column reports coefficients and standard errors from a county level OLS regression as shown in equation 2. In Panel A, the outcome variables are the number of crimes per population of 100,000 , the number of cases with German suspect(s) per population of 100,000, and the number of cases with Non-German citizen(s) as suspect(s) per population of 100,000. Offenses against immigration laws (e.g. unauthorized entry of German territory) are ignored. In Panel B, the outcome variables are the number of street crimes (bag-snatching, bike theft,...) with the same distinction between German and non-German suspects in columns (5) through (8). In Panels C and D the outcome variables are the number of drug-related offenses and fare-dodging offenses respectively. The two main explanatory are the number of refugees allocated to a county during the 2014/15 refugee crisis and the number reception center (EAE) beds in the county (both per 100,000). Covariates are all county-specific and include housing vacancies (per 1,000 inhabitants), per capita GDP (in €), average age, share of population with migration background, and share of population with a college or vocational degree, and the county population. All covariates except for population are as of the Zensus 2011.

R-squared statistics refer to estimates in Panel A.

Table 6: Regression Results: Inflows of Refugees and Voting behavior

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	AfD Vote Share			Election Turnout			Support for Incumbent Party		
refugees	0.002	-0.001	-0.002	0.004***	0.001	0.001	-0.012*	-0.003	-0.012**
	(0.002)	(0.002)	(0.001)	(0.001)	(0.001)	(0.001)	(0.006)	(0.007)	(0.005)
EAE-Kap	0.000	0.000	0.000	0.001	0.001	0.001**	-0.004	-0.002	-0.003*
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.000)	(0.003)	(0.002)	(0.002)
Convariates	No	Yes	No	No	Yes	No	No	Yes	Yes
Observations	119	119	94	120	120	94	120	120	94
R-squared	0.010	0.470	0.541	0.054	0.396	0.555	0.029	0.256	0.455
Hesse	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No

Notes: $***/**/*$ indicate significance at the 1%/5%/10%-level. Heteroscedasticity robust standard errors in parentheses. Each column reports coefficients and standard errors from a county level OLS regression. Columns (1) through (3) conduct a First-Differencing analysis as described by equation 2. That is, the difference between the AfD party's performance in 2016 regional elections and its vote share the 2013 federal elections is regressed on our two main explanatory variables (and covariates). Columns (4) through (9) repeat this for turnout and the share of the incumbent party. The 2016 elections were all state elections with the exception of the state of Hesse where votes were cast in municipal elections. The two main explanatory are the number of refugees allocated to a county during the 2014/15 refugee crisis and the number reception center (EAE) beds in the county (both per 100,000). Covariates are all county-specific and include housing vacancies (per 1,000 inhabitants), per capita GDP (in €), average age, share of population with migration background, and share of population with a college or vocational degree, and the county population. All covariates except for population are as of the Zensus 2011.

Table 7: Placebo Regressions: Inflows of Refugees and Change in Outcomes

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Unemployment				Crime		
	General	Youth	Non-German	German	All Crimes	Street Crimes	Drug Offenses
refugees	−0.0000	0.0001	0.0001	−0.0000	−0.2944***	−0.0694**	−0.0149
	(0.0001)	(0.0001)	(0.0003)	(0.0001)	(0.0809)	(0.0291)	(0.0116)
EAEcap	−0.0001	−0.0001	0.0001	−0.0001	0.1384*	−0.0109	0.0104
	(0.0001)	(0.0001)	(0.0002)	(0.0001)	(0.0794)	(0.0293)	(0.0102)
Covariates	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	402	402	402	402	402	402	402
R-squared	0.2267	0.0852	0.0425	0.2158	0.1119	0.0517	0.0224

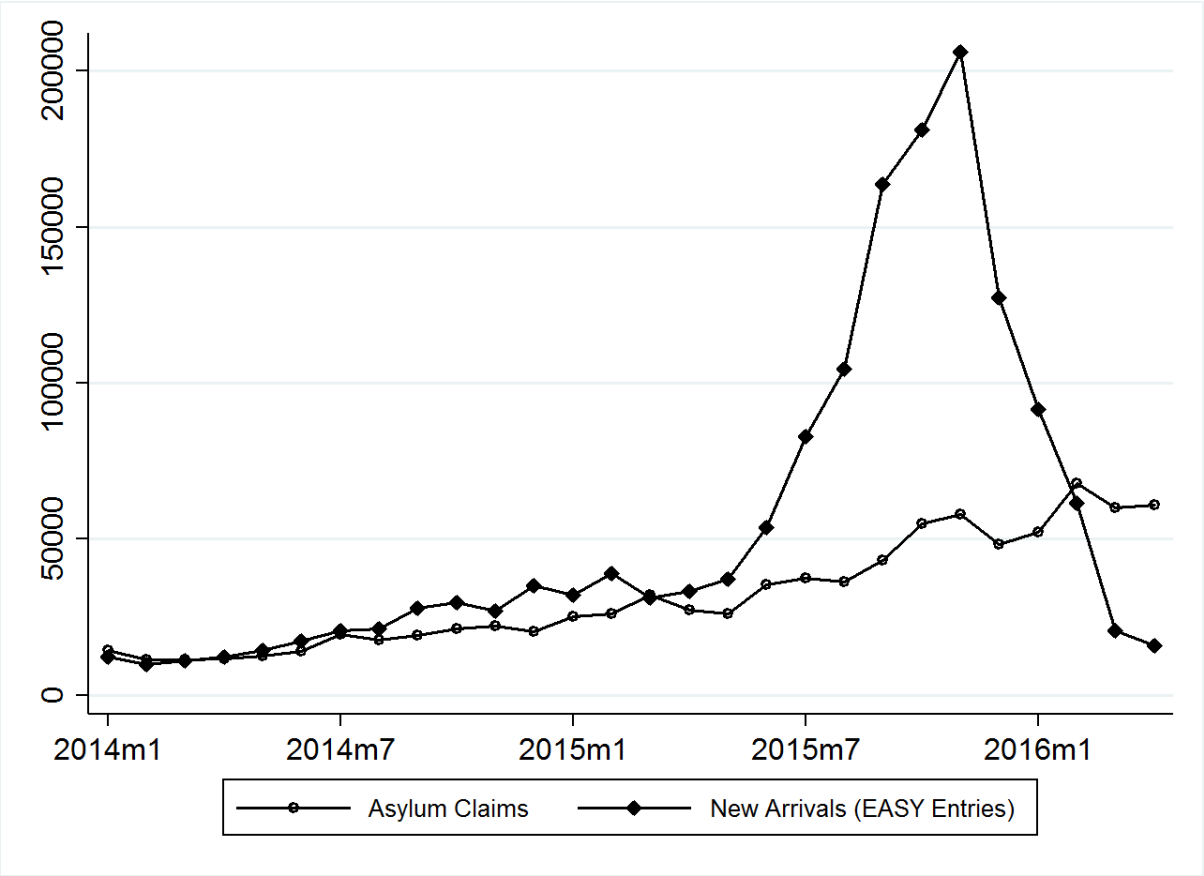
Notes: ∗ ∗ ∗/ ∗ ∗/∗ indicate significance at the 1%/5%/10%-level. Heteroscedasticity robust standard errors in parentheses. Each column reports coefficients and standard errors from a county level OLS regression as shown in equation 2, but based on data from 2013 and 2011 respectively. Refugee inflows and reception center (EAE) capacities were set to 2014/15 aggregates (both per 100,000). The outcome variables are the general unemployment rate, the unemployment rate for 15 to 25-year olds, the unemployment rate for workers who are not German citizens, the number of crimes, the number of street crimes, and the number of drug offenses (all three per 100,000 population). Covariates are all county-specific and include housing vacancies (per 1,000 inhabitants), per capita GDP (in €), average age, share of population with migration background, and share of population with a college or vocational degree, and the county population. All covariates except for population are as of the Zensus 2011.

Table 8: Regressions Results: Effect of 2015 Inflows Relative to 2014 Inflows

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	
	Unemployment (1/2014 vs 1/2016)				Crime (2014 vs 2015)			
	General	Youth	Non-German	German	All Crimes	Street Crimes	Drug Offenses	Fare Dodging
$\triangle refugees_{2015-2014}$	−0.0000	−0.0003*	0.0029***	−0.0007***	−0.1366	0.0387	0.0005	0.0163
	(0.0001)	(0.0001)	(0.0009)	(0.0002)	(0.9992)	(0.0274)	(0.0114)	(0.0165)
$\triangle EAEcap_{2015-2014}$	−0.0001	−0.0002	−0.0005	−0.0001	0.6861	−0.0270	0.0121	0.0159
	(0.0001)	(0.0001)	(0.0005)	(0.0001)	(0.4778)	(0.0275)	(0.0089)	(0.0140)
Observations	402	402	402	402	402	402	402	402
R-squared	0.4116	0.0737	0.2719	0.4316	0.0624	0.0293	0.0152	0.0224
County-FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Covariates	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

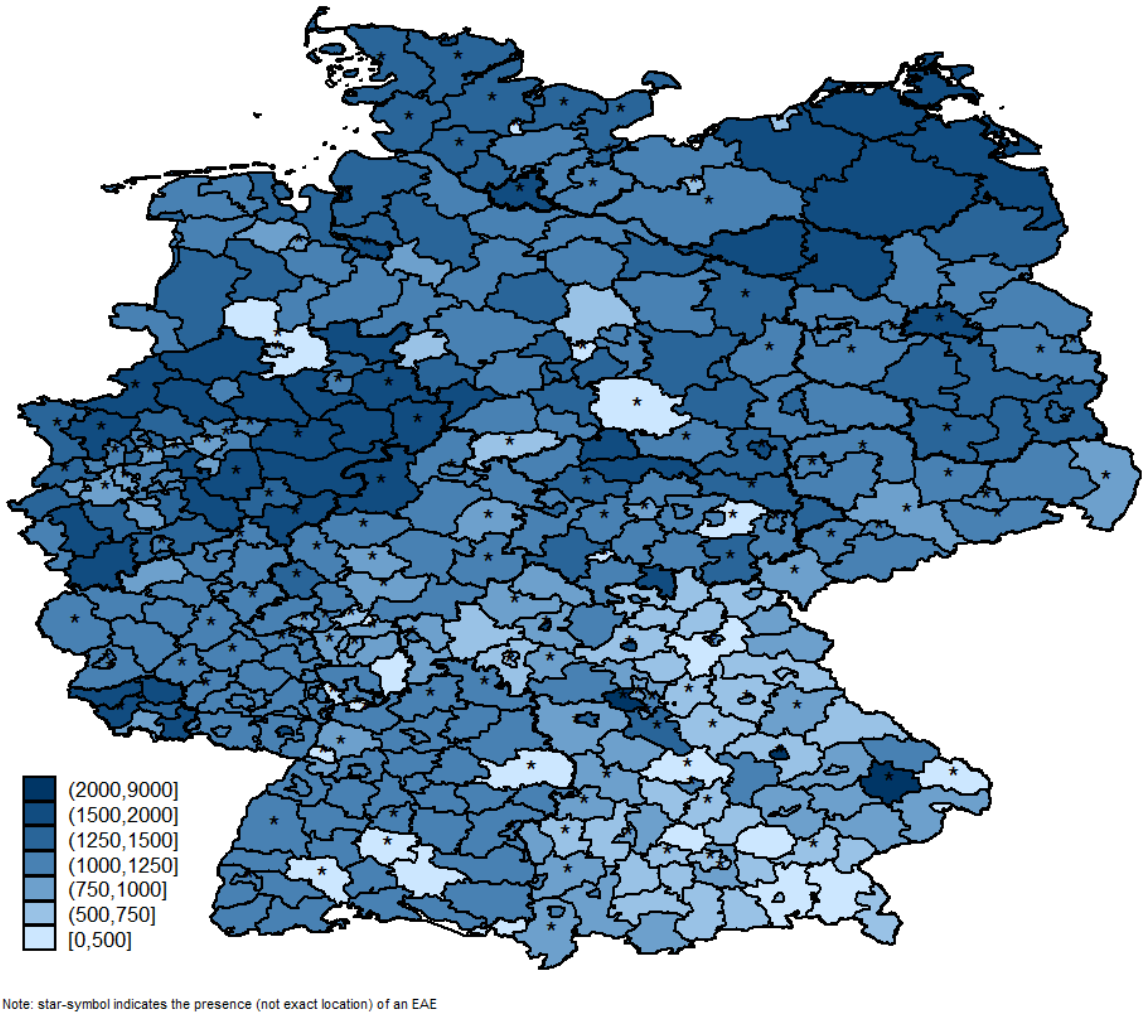
Notes: ∗∗∗/∗∗/∗ indicate significance at the 1%/5%/10%-level. Heteroscedasticity robust standard errors in parentheses.
Each column reports coefficients and standard errors from a county level OLS regression as shown in equation 2, but based on data from 2015/16 and 2014. In other words, we use the difference in 2015 and 2014 refugee inflows as the main explanatory variable. The outcome variables are the general unemployment rate, the unemployment rate for 15 to 25-year olds, the unemployment rate for workers who are not German citizens, the number of crimes, the number of street crimes, and the number of drug offenses (all three per 100,000 population). Covariates are all county-specific and include housing vacancies (per 1,000 inhabitants), per capita GDP (in €), average age, share of population with migration background, and share of population with a college or vocational degree, and the county population. All covariates except for population are as of the Zensus 2011.

Figure 1: Refugee Arrivals and Asylum Claims Filed



Source: Federal Ministry of the Interior and Federal Office for Migration and Refugees
Notes: This graph plots the number of asylum applications that were filed and the number of new arrivals to Germany as they were entered into the federal registration system, EASY, between January 2014 and April 2016. The total for 2015 is 1,091,984 EASY entries, for 2014 it is 238,676.

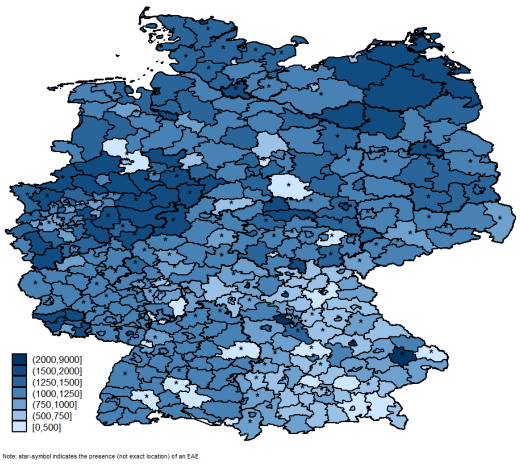
Figure 2: Refugee Allocations per County



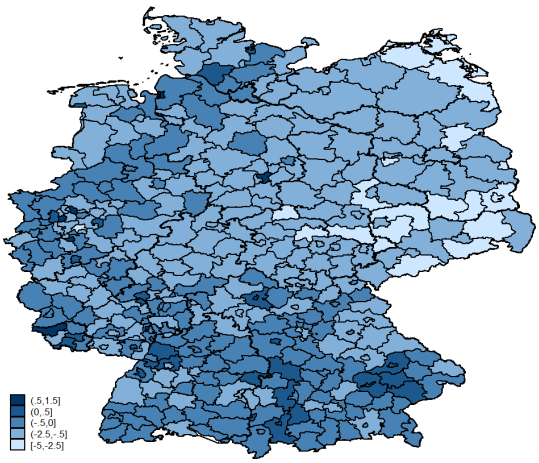
Source: State Ministries of the Interior or similar concerned state-level authorities
Notes: Maps show all 402 German counties, the influx of refugees into these counties per 100,000 and changes in the main outcomes of interests between 2013 and 2015/16. Stars indicate the presence of a registration center (EAE).

Figure 3: Refugees and Change in Outcomes by County

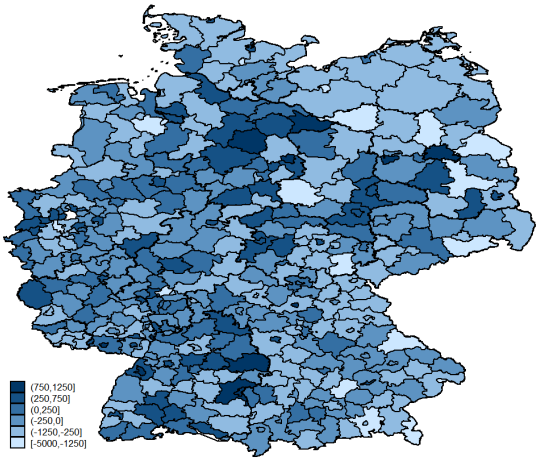
(a) Influx of Refugees



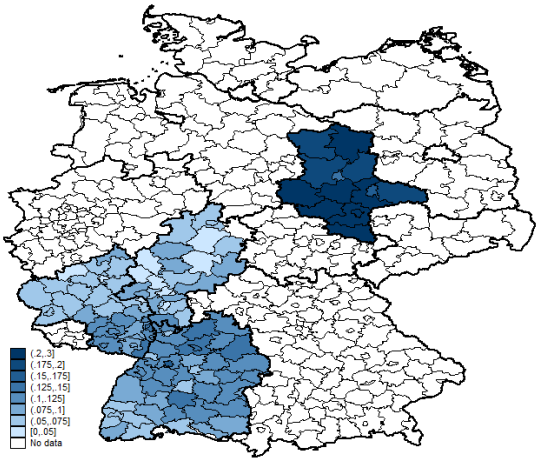
(b) Change in Unemployment Rate



(c) Change in Number of Crimes

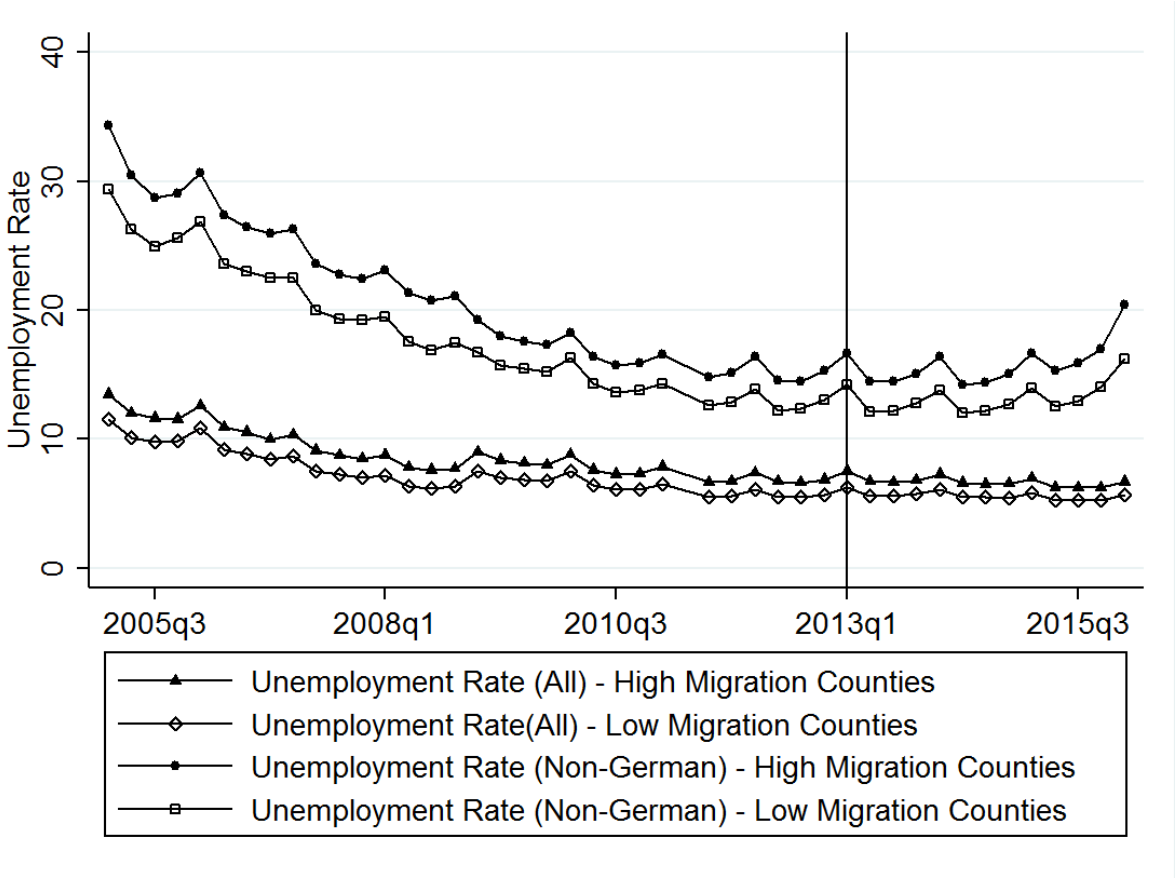


(d) Change in AfD Vote Share



Source: State Ministries of the Interior or similar concerned state-level authorities
Notes: Maps show all 402 German counties, the influx of refugees into these counties and changes in the main outcomes of interests between 2013 and 2015/16. Stars indicate the presence of a registration center (EAE). Note that the map on the top right is identical to Figure 2. Maps (a) and (c) are per 100,000 inhabitants.

Figure 4: Unemployment Rates Over Time

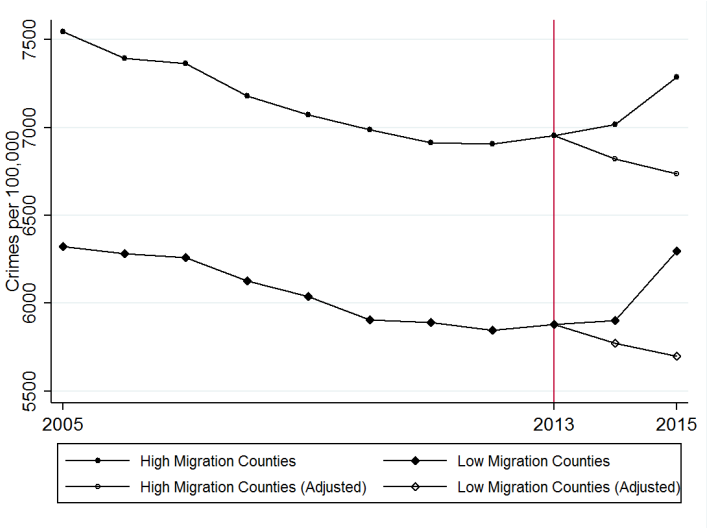


Source: Federal Employment Agency

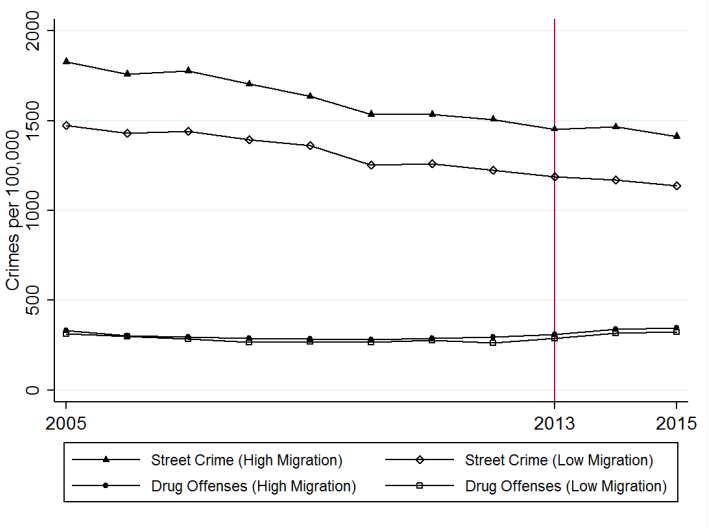
Notes: This figure shows quarterly unemployment rates (1/2005 - 1/2016) separately by low and high migration counties. High migration counties were allocated more than 1,305 refugees (per 100,000) or host a reception center (EAE) with at least 200 beds. The bottom two lines show the general unemployment rate, the top two lines show unemployment among the non-German population.

Figure 5: Crime Rates Over Time

(a) All Crimes

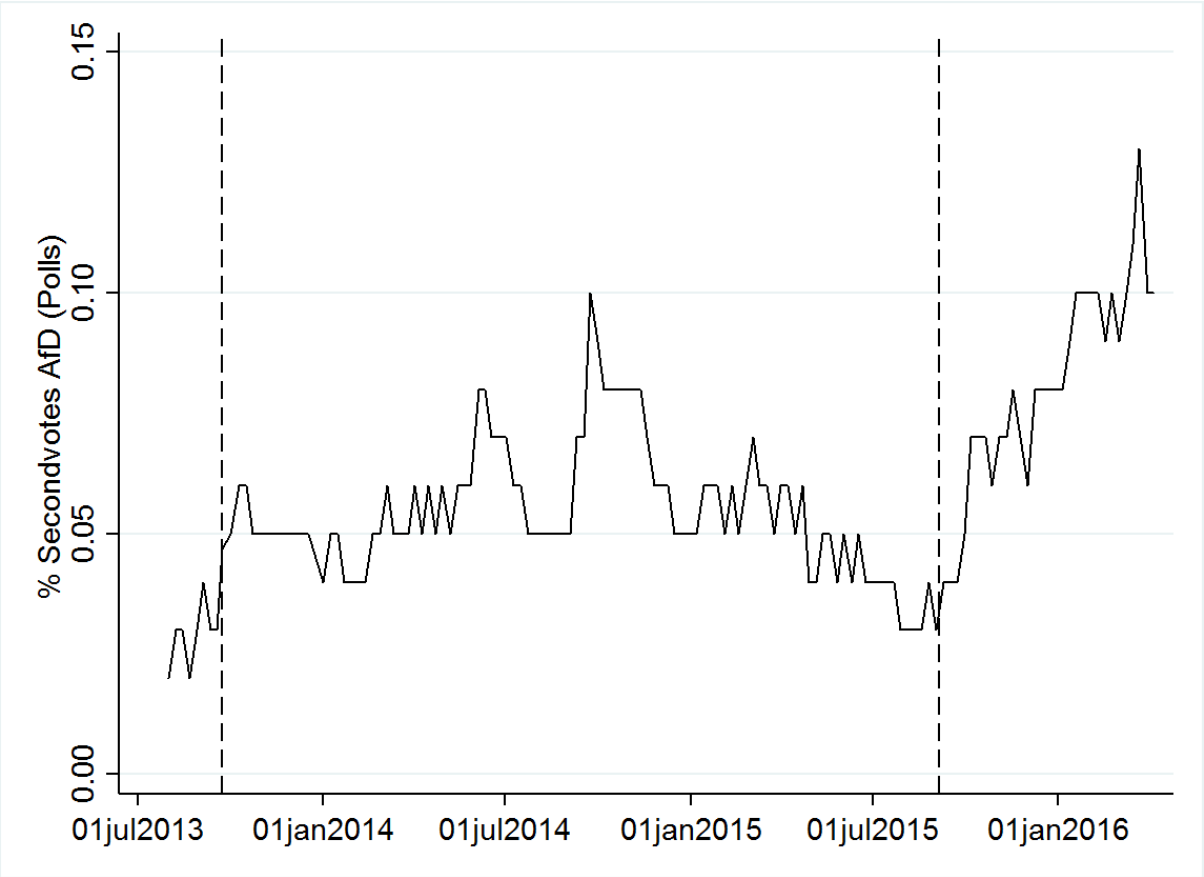


(b) Street Crimes and Drug Crimes



Source: Federal Criminal Police Office (BKA)
Notes: This figure shows annual crime rates (2005-2015) separately by low and high migration counties. High migration counties were allocated more than 1,305 refugees (per 100,000) or host a reception center (EAE) with at least 200 beds. The top two lines illustrate the number of street crimes (per 100,000), the bottom two lines show the number of drug related crimes (per 100,000).

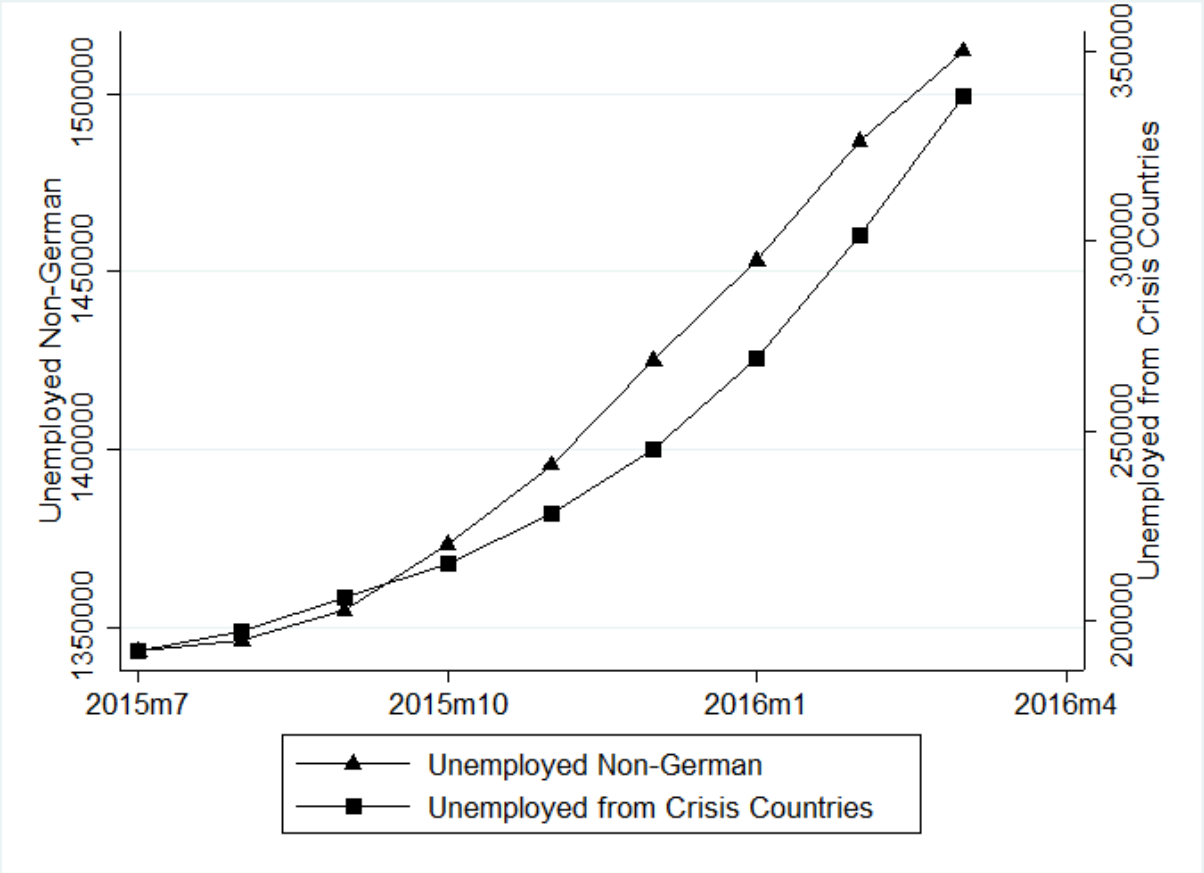
Figure 6: National AfD Party Polls



Source: Forsa

Notes: These are national polls for the AfD party over time. The left vertical line is placed at the date of the latest federal election (22 September 2013) and the value at this point reflects the actual percentage of votes cast for the AfD party. All other measures of AfD popularity are based on polls contacted by the polling institute Forsa and are based on surveys of about 1,000 participants. The dashed vertical line to the right is placed on 5 September 2015 which is widely seen as the beginning of the refugee crisis.

Figure 7: Number of Non-German Unemployed and Unemployed from Crisis Countries



Source: Federal Employment Agency

Notes: This graph plots the number of Non-German citizens who have registered for unemployment benefits with the Federal Employment Agency (left-handside y-axis). It also plots the number of citizens from the eight most common countires of origin for refugees (Syria, Iraq, Afghanistan, Iran, Pakistan, Nigeria, Eritrea, and Somalia) on the right-handside y-axis. Note that the data underlying this graph are based on a different definition of unemployment than the data in the previous graphs and tables. The data here include workers who are taking part in active labor market policy programs, such as requalifications and other government programs.

8 Appendix

Table A1: Regression Results: Inflows of Refugees and Change in Unemployment Q2 2016

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Overall		Youth		Non-German		German	
refugees	-0.0005^{***}	-0.0003^{**}	-0.0007^{***}	-0.0004^{**}	$0.0029^{**}*$	0.0023^{***}	-0.0013^{***}	-0.0009^{***}
	(0.0001)	(0.0001)	(0.0002)	(0.0002)	(0.0007)	(0.0006)	(0.0003)	(0.0002)
EAEkap	-0.0002^{**}	-0.0002^{*}	-0.0003^{**}	-0.0003^{**}	-0.0007^{*}	-0.0009^{**}	0.0001	0.0002
	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0004)	(0.0004)	(0.0001)	(0.0001)
Covariates	No	Yes	No	Yes	No	Yes	No	Yes
Observations	402	402	402	402	402	402	402	402
R-squared	0.0633	0.4637	0.0542	0.2065	0.0653	0.2421	0.0715	0.1840

Notes: $***/**/*$ indicate significance at the 1%/5%/10%-level. Heteroscedasticity robust standard errors in parentheses.
Each column reports coefficients and standard errors from a county level OLS regression as shown in equation 2. The outcome variable is the unemployment rate for either all workers (columns (1) and (2)), workers aged 15 to 25 (columns (3) and (4)), and workers who are not German citizens (columns (5) and (6)) and German citizens (columns (7) and (8)) respectively. The two main explanatory are the number of refugees allocated to a county during the 2014/15 refugee crisis and the number reception center (EAE) beds in the county (both per 100,000). Covariates are all county-specific and include housing vacancies (per 1,000 inhabitants), per capita GDP (in €), average age, share of population with migration background, and share of population with a college or vocational degree, and the county population. All covariates except for population are as of the Zensus 2011.