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7235
2018

Original Version: September 2018
This Version: November 2018

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CESifo

## Impressum:

CESifo Working Papers
ISSN 2364-1428 (electronic version)
Publisher and distributor: Munich Society for the Promotion of Economic Research - CESifo GmbH
The international platform of Ludwigs-Maximilians University's Center for Economic Studies and the ifo Institute
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Editors: Clemens Fuest, Oliver Falck, Jasmin Gröschl
www.cesifo-group.org/wp

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CESifo *Working Paper No. 7235*
*Category 4: Labour Markets*

# Justice Delayed is Assimilation Denied: Rightwing Terror, Fear and Social Assimilation of Turkish Immigrants in Germany

## Abstract

Using the German Socioeconomic Panel (SOEP) data, this paper offers the first evidence that the 2011 news revelations about crimes committed by *National Socialist Underground* (NSU) network in early the 2000s resulted in an increase in worries about xenophobic hostility among NSU's targeted groups. This serves as an indication of the minority's perceived maltreatment by German institutions while investigating the NSU crimes. The results further show that the revelations significantly reinforced a feeling of estrangement among Turks, who were now less likely to self-identify as Germans and more likely to see themselves as foreigners; they, therefore, tended to bond more strongly with the ethos of their country of origin. The results also demonstrate that Turks reported a substantial decrease in their health satisfaction and subjective wellbeing. In conclusion, the paper underlines the pertinence of judicial efficacy over rightwing crimes for assimilation and welfare of immigrants.

JEL-Codes: D630, F220, J150, Z100.

Keywords: rightwing crimes, immigration, delayed justice, social assimilation.

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Draft version: 31.10.2018
The draft has benefited from comments received at ifo CEMIR Workshop in Munich, European Society of Population Economics conference 2018 in Antwerp, German Socio-Economic Panel User Conference 2018 in Berlin, and European Association of Labor Economists conference 2018 in Lyon. I would like to thank Wolf-Heimo Grieben, Christoph Wunder and Martin Lange for their comments on the earlier draft and Christoph Wunder for the readily available coding algorithm of the propensity score matching estimator.

"The term "terrorism" means premeditated, politically motivated violence perpetrated against noncombatant targets by sub-national groups or clandestine agents, usually intended to influence an audience". - US Department of State definition (2003) pp. xii.

## 1. INTRODUCTION

As the developed world experiences more and more terrorist attacks perpetrated by homegrown Islamist terrorists, the question of assimilation of the Islamic immigrants in the West has come to the forefront of policy discussion. Although Islamic immigrants were already not as well-assimilated in the West as most other immigrant groups (Algan et al. 2012 for France, Constant et al. 2006 and Constant et al. 2012 for Germany, Georgiadis and Manning 2012 for the UK), an emerging strand of economics literature finds that recent terrorist events have led to even greater deterioration of their social outcomes (Gould and Klor 2016, Haddad 2007, Elsayed and de Grip 2017).[1] According to this literature, Islamist terror attacks induce a backlash against Islamic residents, raising their assimilation costs and reducing the rate of assimilation into the host environment. However, the literature so far neglected the impact of unprovoked right-wing violence against Islamic minorities on their social assimilation outcomes. To fill this gap in the literature, this paper considers an episode of 2011, during which the

[1] The other major strand of economics literature investigates the impact of Islamist terrorists' events on labor market outcomes of minorities (Åslund and Rooth 2005, Dávila and Mora 2005, Kaushal et al. 2007, Cornelissen and Jirjahn 2012, Deole and Wunder 2018).

National Socialist Underground (NSU) network, a right-wing extremist group, was exposed as having targeted and killed individuals of mostly Turkish ethnicity in Germany.[23]

In 2011, the German public was introduced to a previously unknown right-wing group NSU which authorities later implicated for a number of crimes committed in the early 2000s. The crimes included the murders of eight individuals of Turkish origin and two bombings in Cologne—one in an Iranian grocery store and the other in a Turkish neighborhood. The press coverage following these revelations highlighted the investigating authorities' inability to name the perpetrators sooner (as the last murder had occurred in 2007), their incessant suspicions of people close to the victims and of the Turkish mafia, and years of delayed justice (Brandt et al. 2011, BBC News 2017). The authorities were criticized for alleged institutional racism, their systematic and impermissible dismissal of the leads and for the following of wrong leads for thirteen years (Parallel report 2015, Foreign Policy 2017, Von der Behrens 2018).

The paper makes the following two contributions to the existing literature. First, this is the first paper demonstrating the pertinence of judicial delays with regards to rightwing animosity on immigrant's social fears and assimilation of the host identity. In particular, the findings indicate that revelations of delayed justice over past violent crimes can trigger fears of hostility and victimization among Turkish immigrants. Second, to the best of my knowledge, this is the first paper employing the regression-adjusted difference-in-differences matching strategy (MDiD) in

[2] The NSU was referred as a "right-wing extremist group" by the federal prosecutor in the arrest warrant dated 13th November 2011 (*see* Federal Prosecutor's office 2011).

[3] A notable exception includes a relatively recent contribution by Steinhardt (2018). The author studies the impact of a series of anti-immigrant attacks in the early 1990s in West Germany on the subjective well-being, return intentions, and German language skills of Turkish immigrants. In contrast, in this paper, the focus is on variables representing the targeted group's fears about future crimes targeted against them and on their assimilation outcomes (i.e. self-identification as Germans or a foreigner residing in Germany).

the context of the emerging literature studying the impact of terror events on the targeted group's social assimilation outcomes. The estimation strategy applied here is robust against selection on pertinent observable characteristics (various demographic, economic, and migration-related characteristics) and time-invariant unobservables (such as general ability, ability to manage emotions, and the reason for migration). With the implementation of this estimation strategy, I address the concern of finding an appropriate control group faced by other studies on the topic.

The paper investigates whether the 2011 revelations induced fears of hostility and victimhood among Turkish immigrants and affected their social assimilation and wellbeing.[4] First, I analyze whether Turks were likely to be more worried about new hostility directed at them post-2011 revelations.[5] Second, I ask whether the revelations reinforced the feeling of estrangement (the *away* feeling) among the Turks in Germany and forced them to reevaluate their place in the German society. For the analysis of social assimilation, I consider respondent's self-identification as a German and as a foreigner dwelling in Germany. In accordance with Angelini et al. (2015), the self-identification variables represent a direct measure of respondents' self-reported assimilation into the host culture and are strongly associated with individuals' subjective well-being.[6] This is an important consideration as the existing research demonstrates

[4] Following the theoretical model of ethnic identity proposed by Constant and Zimmermann (2008), social assimilation is defined as full adaptation of the culture and beliefs of the host country by migrants to achieve an ethnic identification that is similar to that of natives. A migrant is assimilated if she expresses increasing identification with the host country.

[5] Here onwards Turkish immigrants in Germany are sometimes referred to as *Turks*.

[6] Existing studies document that immigrants' assimilation of the identity of the host culture is an important determinant of their assimilation into the host environment and has wider implications for their economic behavior (Constant and Zimmermann 2008, Casey and Dustmann 2010, Georgiadis and Manning 2013) and in general, for society's general welfare (Bernhard et al. 2006, Goette et al. 2006, and Charness et al. 2007).

that the fear of hostility generated by violent events can have lasting effects on human behavior (Echebarria-Echabe and Fernández-Guede 2006, Haddad 2007, Berrebi and Klor 2008, Gould and Klor 2016, Geys and Qari 2017).[7] A more recent research discusses the link between Muslims subjected to hostility and Islamophobia on the one hand, and their radicalization and recruitment into Islamist terrorist groups on the other (Knapton 2014, Mitts 2017). It is particularly evident that fears caused by the backlash of Islamist terrorist events have a great effect on Muslim minorities' views about their assimilation into the host environment (Gould and Klor 2016, Haddad 2007, Elsayed and de Grip 2017).

The paper offers the first evidence that, among Turkish immigrants in Germany, the 2011 revelations induced fears about living as perceived foreigners in Germany. The results further suggest that the treatment effect was particularly intense among respondents with higher consumption of newspapers and respondents residing in the state of *Bavaria* where NSU trial was held. Additionally, the results show that Turkish immigrants reported no statistically significant divergence in their worries about general crime development in Germany. Put differently, the findings suggest that Turks were more fearful of hostility directed at them rather than general crime level in their surroundings post-2011 revelations.

The empirical investigation finds that the 2011 revelations negatively impacted Turkish immigrants' self-identification as German. The previous research on minority's social assimilation hints at the existence of a substantial gap between Turkish immigrants and other

[7] Additionally, Goel (2010) and Schueller (2016) show that the hostility generated in the aftermath of 9/11 attacks in the US reduced welfare of immigrants by following two changes in the subjective attitudes of the natives: 1) increased religious and racial intolerance, 2) and lowered their concerns about xenophobic hostility to immigrants, respectively.

immigrants in Germany (Constant et al. 2006 and Constant et al. 2012). Therefore, the finding suggesting a post-2011 decrease in Turkish immigrants' assimilation of German identity indicates a further widening of this gap. Additionally, the results show that, in the aftermath of the 2011 revelations, Turkish immigrants in Germany increased their bonding with their home country and were more likely to self-identify as foreigners, closer to the home country than to Germany. These findings overwhelmingly confirm the disruptive effects of judicial delays on large-scale violent right-wing events. Moreover, I study whether the 2011 revelations increased their stress levels and impacted their overall subjective wellbeing. The results confirm that Turks recorded a significant reduction in their health and life satisfaction in the aftermath of the 2011 revelations of the delayed justice over the NSU crimes targeted against them.

The results have important implication for the contemporaneous rise of anti-immigration violence, namely that judicial delays over crimes targeted against already less assimilated Islamic residents can fuel the self-fulfilling prophecy of their estrangement. The main findings are robust to several robustness checks.

## 2. BACKGROUND: NSU CRIMES AND THE COVER-UP

On November 4, 2011, German police looking for clues after a bank robbery in the city of Eisenach struck a link to a previously unknown German right-wing extremist group, the *National Socialist Underground (NSU)*. Although the two robbers committed suicide at once in their vehicle, police recovered a service pistol belonging to a policewoman who was suspiciously murdered four years before in the city of Heilbronn. Further investigations led the

authorities to an apartment in the city of Zwickau. But by the time police arrived, the apartment was set on fire, hinting authorities that there are more living individuals connected to the group. In the apartment, police recovered a silenced gun used in the previously unresolved murders of individuals of Turkish origin.[8] In the days that followed a disturbing DVD consisting of images of the murdered victims collated in rightwing propaganda videos was distributed anonymously to several media outlets in Germany (Foreign Policy 2017). The shocking revelations introduced German population to a previously unknown group who is implicated for murders and other crimes targeted at Turkish and middle-eastern minorities.[9] The NSU's activities are currently undergoing criminal investigation, and the *NSU trial* is covered extensively in the German press.

In response to these revelations, the investigators made a total of five arrests (Europol 2012, p. 28). One of those arrested was Beate Zschäpe, the third (and only surviving) perpetrator of the NSU crimes; she turned herself in on November 12. By November 13, 2011, police investigation had revealed that, in addition to committing 15 bank robberies, the NSU network was involved in the murders of ten individuals of mostly non-German ethnic origin—eight Turkish, one Greek and one German—between years 2000 and 2007 (Federal Prosecutor's Office 2011). The murders were committed in seven different cities across Germany—three in Nuremberg, two in Munich and one each in Dortmund, Hamburg, Rostock, Heilbronn, and Kassel. Although the perpetrators originated from East Germany, most of these murders were committed in West

[8] These murders were sometimes pejoratively referred as Doner-murders or Bosporus-murders resulting from the unfounded suspicions of the role of Turkish mafia in the murders.

[9] This group was previously unknown and that these murders are connected to rightwing crimes was indeed an exogenous news treatment, figure 1 plots the Google trends of keyword searches used by German internet users for the time period under consideration. The plot shows that NSU was not at all searched prior to the 2011 revelations. Also that the search keyword "Donermurders" was not discussed much either.

German cities. Figure 2 shows the timeline and the geographical span of NSU crimes. The network is also held responsible for two bombings, in 2001 and 2004, in ethnic parts of the city of Cologne (Oezay 2012). The investigators further discovered that the NSU network had prepared a list (potentially a *hitlist*) of 88 individuals; it included two prominent members of the Bundestag and representatives of Turkish and Islamic groups (Pidd and Harding 2011).

The investigations that followed discovered that many informants from the domestic intelligence service were involved with Neo-Nazi and anti-immigration political party Nationaldemokratische Partei Deutschlands (NPD) (Spiegel online 2011). A week after the 2011 revelations, the public came to realize that, on the orders of a high-ranked officer at the domestic intelligence agency, the files related to rightwing informants in Zwickau had been shredded. Although agencies maintained that these files were unimportant, the timing of the order raised suspicions (Foreign Policy 2017). These failures of the domestic intelligence service then led to the resignation of the head of the organization (Deutsche Welle 2012, BBC News 2017). On February 23, 2012, German Chancellor Angela Merkel publicly apologized to the families of the victims for authorities' failure to prevent the murders (Foreign Policy 2017).

Yet the press and public did not fail to notice that these crimes had remained unresolved for many years, even though the last murder (of a German policewoman in Heilbronn) had been committed in 2007; nor did they fail to notice that most of the resolutions stemmed from accidentally-acquired information. The extensive coverage in the media briefly highlighted many failures of established wisdom. It hinted at the cluelessness of those investigating the murders and shed light on their incessant suspicions of the Turkish mafia as well as of the families and friends of the murder victims (Brandt et al. 2011, BBC News 2017). It later came

out that, back in 2007; German authorities had invited an analysis from FBI with regards to these murders. According to the secret memo obtained by Foreign Policy (2017), FBI, in response, had hinted at the possibility that the murders are connected and were possibly being carried out by German natives with hatred towards minorities resembling ethnic Turks.[10] Nevertheless, the German authorities did not pursue any of the recommendations.

Besides few public apologies made by the officials, the fact that no member of the investigating authorities faced criminal charges in the *NSU trial* is the subject of huge controversy in Germany. The recently concluded *NSU trial* lasted between 6 May 2013 and 11 July 2018 and is considered to be one of the longest, costliest and the most controversial trials in the history of modern Germany. A letter sent by victims' lawyers and civil society members to the UN's committee on the elimination of racial discrimination (CERD) blamed investigative agencies for institutional racism, their harassment during the investigation and investigators' denial for their systematic and impermissible dismissal of the leads (Parallel report 2015, Foreign Policy 2017). To the best of my knowledge, the only research article published on NSU by Von der Behrens (2018) refers to the episode of 2011 NSU revelations as an "unprecedented example of the close connection between the secret services and the neo-Nazi movement as well as the structural racism within law enforcement agencies, which led to the consistent blaming of 'victim' communities and hence the following of wrong leads for thirteen years." These concerns confirm that the treatment under consideration is the impact of news revelations suggesting authorities' cover-up that delayed the justice over crimes against Turkish minorities.

[10] According to Foreign Policy (2017), FBI had made two following conclusions about the murders: 1) "the offender is specifically targeting Turkish appearing individuals" 2) and "the offender identifies 'targets' by frequenting areas of Germany that have Turkish populations and looking for people ... who resemble ethnic Turks."

Central to the public discourse is the concern that the revelations were internalized differently by the Turkish minorities and that they had an immediate yet deeper psychological impact on them (Spiegel Online January 13 2012, Spiegel Online July 13 2018). In words, it is likely that Turks viewed the failure of investigating authorities as a continuation of their historical maltreatment by German institutions. A poll conducted a month after the revelations by SEK/POL-Data4U underlines the possibility that the Turks viewed the failure of investigating authorities as an intentional judicial cover-up of the crimes targeted against them. The poll finds that German residents of Turkish origin had lost trust in the German state, i.e. around 55% of the respondents believed that the NSU was protected and even supported by the German State, whereas, 33% reported to be convinced of "extreme" state support to the NSU (SEK/POL-Data4U 2012). Besides this descriptive evidence, however, no formal investigation unearths the impact of these revelations on the Turks in Germany. This paper sets out to bridge this gap in the literature by emphasizing on the role of judicial delays on crimes against immigrants as an obstacle to their assimilation.

The theoretical underpinnings of the expected results are as suggested in the seminal literature investigating the effects of media representation of the event on public opinions (Heath 1984, Iyengar and Simon 1993). Essentially, the literature suggests that the media's coverage of the news, in terms of its quantity and quality, can frame readers' opinions (*see* Iyengar and Simon 1993). As noted above, in case of the NSU revelations, the content of the news coverage had quickly turned from "an incident involving past crimes" into "an evidence of a systematic injustice against the Turkish immigrants in Germany". The coverage not only constituted episodic information involving the stories of authorities' harassment of friends and families of

the victims but also, made a broader assertion of the historical maltreatment of Turkish minority residing in Germany. The facts that came into light attributed the causal responsibility of this injustice on German institutions without any delay. Henceforth, I formally study the effects of the 2011 revelations of the judicial delays and institutional maltreatment of the Turks residing in Germany by asking two following research questions: 1) did the evidence of noncooperation of investigating authorities impact Turks' worries about future hostility directed at them? 2) and did the impact of these revelations presented an obstacle to targeted groups' social assimilation into the German culture? Next section introduces the data variables used.

## 3. DATA

The data used for this study originates from the German Socio-Economic Panel (GSOEP, v32.1). The SOEP is an extensive individual-level panel dataset from Germany. It provides rich information on numerous demographic, economic and migration-related characteristics of individuals. The analysis is restricted to individuals with "migrant background", including first-generation (FGIs) and second-generation immigrants (SGIs) in Germany.[11] Because the immigrant share of total population in East German population, especially of Turkish immigrants, is very low, and also that NSU crimes were mostly committed in West Germany, I restrict the sample to observations from West Germany only.

[11] An important reason to restrict the sample to respondents with migrant background is that the survey questions related to assimilation outcomes (self-identification outcomes) are understandably asked only to FGIs and SGIs.

*Definitions of Treated and Control groups*[12]

An individual is treated (referred to as *Turks*) if he/she reports her country of origin as Turkey. For second-generation immigrants (SGI), information on respondents' parents is used. The SGI is treated if one of her parents reported his/her country of origin as Turkey. In essence, the treatment group *Turks* consists of immigrants who were born in Turkey or had at least one parent born in Turkey. The control group consists of all immigrants to Germany who did not originate from Turkey. To avoid comparing Turkish immigrants with immigrants from Middle-eastern and North African (MENA) countries, I restrict the control group to respondents from non-Turkish and non-MENA countries.[13][14]

The sample period considered for the study demands a careful consideration of the European migrant crisis which developed in 2015 and of the exacerbation of anti-immigration sentiments in Germany. As shown in Table 1, Germany saw a massive increase in the number of asylum applicants in 2014 and 2015 because of the devastating civil war in Syria. The inflow coincided with a steep rise in hate crimes and xenophobic attacks in Germany (see Table 1). In essence,

[12] Cornelissen and Jirjahn (2012) argue that defining appropriate treatment and control groups is crucial for identifying the effects. Therefore, in supplementary appendix A, I re-estimate the main findings of this paper using the following two additional criteria of defining the experimental groups: 1) respondent's nationality (Turkish nationals vs. non-Turkish nationals), and 2) religious identity (Muslims vs. non-Muslims). The results of this exercise overwhelmingly confirm the main findings of this paper.

[13] These omitted countries include Afghanistan, Algeria, Egypt, Iran, Iraq, Jordan, Kurdistan, Lebanon, Libya, Morocco, Palestine, Somalia, Syria, Tunisia, and Yemen. Observations are omitted if the respondents report that he/she (or one of her parents) originates from one of these countries. I re-estimate the main results of this paper with enlarged treated group including MENA immigrants in Table 9C to show that this omission is not crucial for the main results.

[14] One of the victims of the NSU crimes was of Greek origin, a country that is currently being assumed to be a part of the control group. I perform a simple exercise to address this concern. I re-estimate the results after dropping the immigrants from Greece from the sample and confirm that the results hold. The estimates can be made available upon request.

the rise in anti-immigration sentiment can affect both the treated as well as the control group individuals equally, therefore, to avoid the threat to identification posed by European migration crisis, I restrict the sample period to years until (including) 2014. Depending on the availability of the data on assimilation outcomes, the sample period is restricted to 2009-2014.[15][16]

*Outcome variables*

Table 2 presents the definitions and statistical summary of outcome variables used for the investigation. Respondent's subjective worries about hostility to foreigners (#1) are captured by the survey question asking: "Are you worried about hostility to foreigners". The response to this question ranges from 1 (No concerns at all) to 3 (very much concerned). The variable hereon referred to as *worries about xenophobic hostility* is the main outcome of interest as it helps me to identify the impact of 2011 revelations of delayed justice on Turkish respondents' worries about xenophobic hostility and victimhood. Another survey question captures the respondent's subjective worries about general crime development in Germany, referred to as *worries about crime development*. This outcome helps to distinguish whether the post-2011 increase in worries of Turkish immigrants in Germany was a response to the actual increase in violent crimes targeted against them or simply a change in their perception of the surrounding due to 2011 revelations of the delayed justice over NSU crimes. The survey questions asking

[15] The assimilation variables were first asked in 2010 survey wave and were not included in all waves (see Table 2).
[16] Another criteria used for sample period restriction is to keep DiD symmetric around the treatment date. This has been shown to make the DiD consistent as the selection bias is symmetric around the treatment date. For more information, see Chabe-Ferret (2015).

respondents to report their worries (both worries about xenophobic hostility and about crime development) were included in the SOEP questionnaire annually.

The self-identification outcomes (#3-5) are defined as shown in Table 2. The survey question asking respondents to self-report their identification as German asks how strongly German the respondent feels (referred to as *Feel German*). The responses range from 1 (Not at all) to 5 (Very much). Similarly defined question asks respondents how strongly *Foreign* the respondent feels in Germany (referred to as *Feel Foreign*). These questions were included inconsistently in the SOEP questionnaire. That is, *Feel German* was included in the years 2010, 2012, 2013, and 2014, whereas, *Feel Foreign* was asked only in the years 2010 and 2012. To make the results for *Feel German* comparable, I make use of another variable asking respondents their level of connectedness with their country of origin (here onwards referred to as *Connect*). Although similarly defined, this question was asked for the years 2010, 2012, 2013, and 2014. The final sample investigating assimilation outcomes is restricted to biennial survey waves in 2010, 2012, and 2014. As it becomes clear in the next section, the matching procedure for assimilation outcomes is performed separately as these outcomes are not included in the SOEP consistently (the only pre-treatment year the questions were included in the survey was in 2010) and contain far more missing observations than the outcomes denoting respondent's worries.[17] Finally, the paper considers outcomes to study the impact of 2011 revelations on health satisfaction and satisfaction with life of Turkish immigrants in Germany (outcome #6-7). Both of

[17] This restriction is not crucial for the main message of the paper. In the supplementary appendix D, I present the main results when conditioned for pre-treatment worries and pre-treatment assimilation outcomes together. This substantially reduces the sample size; however, main results are qualitatively unchanged.

these questions are annually included in the SOEP and consist of individual responses ranging from 0 (very dissatisfied) to 10 (very satisfied).

# 4. ESTIMATION STRATEGY AND MATCHING QUALITY

## 4.1 Estimation strategy

To investigate the causal impact of the news treatment of 2011 revelations of the delayed justice on targeted group's worries and social assimilation outcomes, this paper implements the regression-adjusted difference-in-differences matching strategy (MDiD), first suggested by Heckman et al. (1997). The basic idea of the estimator is to compare the treated observations, i.e. Turks, with nearly identical control observations, i.e. non-Turkish immigrants in Germany, and then study how their outcomes were impacted by the 2011 revelations. This paper focuses on estimating the average effect of the treatment on the treated (ATT).

To formally define the ATT, I refer to the estimation strategy briefly reviewed in Caliendo and Kopeinig (2008, p. 34). Let $T$ be the treatment status indicator taking the value of 1 if the observation was recorded after the 11th November 2011 and 0 otherwise.[18] The exactness of the date of the news revelations does not present a threat to the identification as SOEP questionnaire was completed before the month of November and the first post-treatment observation is in the year 2012. The variables $Y_0$ and $Y_1$ denote the potential outcomes on the

[18] The exact date when the authorities uncovered NSU crimes can vary between 4th November (when they accidentally stumbled upon the NSU network) and 13th November (when authorities filed the charges). More details emerged even later that year.

basis of the individual's treatment status. The treated group indicator D takes the value of 1 if the individual receives the treatment, i.e. the individual is a Turkish immigrant, and 0 otherwise.

Let's assume that there exists a set of observable characteristics W (i.e. conditioning variables) which is unaffected by the treatment but influences the treatment assignment (D) as well as potential outcomes of interest simultaneously (Y). When the number of observable covariates is large, it is generally suggestive to use balancing scores, such as propensity score matching (Caliendo and Kopeinig 2008, p. 36). The propensity score is defined as the probability of participating in the treatment given observed covariates W: p(W)=P(D=1|W). Given that the assumption of *unconfoundedness* holds and that there is a sufficient overlap between the groups, the causal effect of interest, i.e. the average treatment effect on the treated (ATT), is given by

$$E(E(Y_1|p(W), D = 1) - E(Y_0|p(W), D = 0)|D = 1) \qquad (1).$$

Equation (1) is the propensity score matching estimator for the ATT which Caliendo and Kopeinig (2008) define as the difference in means of potential outcomes of participants over the common support region, given their propensity score distribution.

The estimation of the ATT is performed by applying a two-step procedure. In the first step, I estimate the propensity scores using *probit* regressions on the treated dummy.[19] This step demands a careful consideration of the choice of conditioning variables that are not affected by the treatment or by respondent's anticipation of the treatment. To ensure this, I perform this

[19] I implement the 1:1 nearest-neighbor caliper matching without replacement with the caliper set at 0.005. The program used is *psmatch2* developed by Leuven and Sianesi (2003) on Stata 14.2. The results also hold when matching with replacement is implemented.

step on the sample restricted to the pre-treatment years (Caliendo and Kopeinig 2008, p. 38). To prevent the comparison between treated and control observations that are not comparable, I restrict the sample to the common support region. I detail the choice and plausibility of the conditioning variables in the next subsection.

Once the observably similar control group observation is matched with its comparable treated observation, in the second step, I apply the difference-in-differences regressions to estimate the impact of 2011 revelations on worries and social assimilation outcomes of Turkish immigrants in Germany. The following regression equation is estimated:

$$y_{it} = \alpha_0 + \alpha_1 \mathrm{Post2011}_t + \alpha_2 \mathrm{Treated}_i + \lambda\, \mathrm{Post2011}_t * \mathrm{Treated}_i + \beta' X_{it} + \gamma_i + \gamma_s + \gamma_t + u_{it}, \quad (2)$$

where $y_{it}$ is the outcome variable of the respondent i in year t. The dummy variable $\mathrm{Post2011}_t$ takes the value of 1 if the observation is recorded after the 2011 revelations in Germany and 0 otherwise. The dummy $\mathrm{Treated}_i$ takes the value 1 if the respondent belongs to the treated group (Turkish immigrant) and 0 otherwise. $X_{it}$ is a vector of individual-level characteristics and includes all the variables used for conditioning, i.e. W. Additionally, $X_{it}$ includes variables which are relevant for outcomes of interest, however, do not directly affect respondent's treatment status. These variables mainly include two state-level variables which are relevant controls for the study of worries and assimilation outcomes i.e. immigrant share of the total population and

the total number of rightwing violent crimes.[20] $\gamma_i$ are the individual specific fixed-effects. $\gamma_s$ and $\gamma_t$ are state and year dummies and $u_{it}$ is the error term.

Initially, I assume that the treatment effect is homogenous across respondent's immigration status and education level. However, with consideration to the findings of the existing research, I investigate whether the treatment effect is heterogeneous across respondent's following characteristics: immigration status (FGI vs. SGI), education (high educated vs. low educated), and religiosity (attends religious services or not).[21] Furthermore, I ask whether the treatment intensity varies across respondents' state of residence and the newspaper readership.

## 4.2 Conditioning variables and the matching quality

As noted above, the identification relies heavily on the careful choice of conditioning variables. Table 3 presents the list of the conditioning variables used for matching (total 34 variables). It details a number of variables covering an individual's demographic, economic and migration-related characteristics. Other conditioning variables not shown in Table 3 include dummies representing the respondent's state of residence and the pre-treatment survey years. I also use baseline outcome variables as conditioning variables, i.e. pre-treatment worries about xenophobic hostility, worries about crime development, health satisfaction and life satisfaction. The matching quality is generally assessed by comparing the means of the conditioning

[20] These variables provide useful controls for changing socio-economic factors in contemporary Germany as per discussed in section 2.

[21] Deole and Wunder (2018) report that the impact of 9/11 attacks was more pronounced on the hourly wages of FGIs and of low educated/skilled Muslims. The findings of Gould and Klor (2011) suggest that the 9/11 attacks induced a backlash against the Muslims living in the US which, in turn, increased the ethnic identity and demographic strength of the targeted community. However, in the context of this paper, the interaction of respondent's religiosity with the treatment under consideration is not so clear and is open to further investigation.

variables for the treated and control observations post-matching process. Table 3 shows that the matching process significantly improves the comparability of the sample means of the conditioning variables for the treated and control groups.

To statistically show that the post-matching difference between the means isn't too large, I have included the measure of standardized percentage bias (%SB) in the table. Following Rosenbaum and Rubin (1985), the %SB is defined as the difference of the sample averages in the treated and control groups as a percentage of the square root of the average of the sample variances in the treated and control groups. The %SBs are calculated twice—before and after the matching procedure—to show the improvement in the comparability between sample means achieved by matching. The table also reports % reduction in the standardized bias to highlight the comparability achieved due to matching. Caliendo and Kopeinig (2008) review that the after matching %SB of under 3% or 5% is often considered a sufficient indicator of a good matching quality. Table 3 shows that, for most of the conditioning variables, the achieved post-matching %SB is significantly lower than 5%.[22] Another indicator of matching quality is the post-matching reduction in mean and median %SB. The mean %SB for the selected variables is 2.6, a substantial reduction of 86% from the unmatched sample. The median %SB of 1.7 is also well within the acceptable level of 5%.

Now, I briefly mention the conditioning and the matching quality of the sample consisting of assimilation outcomes (#3-5). The variable balance is achieved without conditioning for state dummies, survey year dummies, and work experience. The means of the conditioning variables

[22] The %SB is larger than 5% for following variables: married, duration since migration medium and longer, and life satisfaction.

for the treated and the control are shown in Table E.1 in the supplementary appendix E. The matching quality for the assimilation outcomes (outcomes #3-6) is vastly affected due to their inconsistent inclusion in the survey and low sample size, as denoted by the substantial increases in the %SB. Next section discusses the main results and checks for the identifying assumptions.

## 5. RESULTS AND DISCUSSION

This section reports the main results performed using the estimation strategy presented in section 4.

### 5.1 It's not the crime, it's the cover-up: 2011 revelations and worries of Turks in Germany

Table 4 presents the main results of the respondent's worries. Column (1) presents the results for respondents' worries about xenophobic hostility and column (2) presents results for respondents' worries about crime development in Germany. The main result of the column (1) shows that, in the aftermath of 2011 revelations, Turkish immigrants in Germany reported a statistically significant increase in their worries about xenophobic hostility. Point estimate suggests that Turks reported 0.152 increase in worries about xenophobic hostility, which is about 21.5 percent of one within-individual standard deviation in worries about xenophobic hostility.[23][24]

[23] The matching procedure was implemented because the pre-treatment means of explanatory variables of treated and control groups are not comparable as shown in Tables 3 and 4. The treatment effect and the common trend

The results in column (2) find that Turkish immigrants also recorded an increase in worries about crime development in Germany post-2011 revelations, though not as strongly. In other words, the results show that Turkish immigrants in Germany were significantly more fearful of xenophobic hostility directed at them rather than general crime level in their surroundings post-2011 revelations.

## 5.2 Evolution of worries of Turks in Germany

As already shown in Table 1, xenophobic crimes were steadily increasing in the years coinciding with the 2011 news treatment. Moreover, the European migration crisis that developed around 2014 may also have a confounding role in explaining the results discussed above. Therefore, it is crucial to double-check the validity of the 2011 treatment by focusing on the time evolution of worries.

An important assumption made in the above analysis is that the worries about the xenophobic hostility of both the treatment and control groups would follow similar trends in the absence of 2011 revelations. This assumption is referred to as the common trend assumption (CTA), a key identifying assumption of the DiD estimation strategy. To test the CTA and to provide a conclusive proof that the increased worries about xenophobic hostility was indeed associated with 2011 revelations and was not the result of a contemporaneous increase in xenophobic

assumption (CTA), however, are not conditional on the matching procedure. In the supplementary appendix C, I present the lead and lag effects of the 2011 revelations for the unmatched sample. The results show that there are no statistically significant differences in worries about xenophobic hostility between the treated and the control group before the 2011 revelations. Additionally, the results show that worries about xenophobic hostility of Turkish immigrants in Germany increased in the post-treatment year of 2012.

[24] The baseline results do not depend on the choice of the estimation model. In supplementary appendix B, I present the estimates with fixed-effects model, random effects model, and the OLS. The results are qualitatively similar.

violence, I exploit the sample period under consideration. Using survey year dummies in place of the treatment indicator (post2011) in the baseline interaction with the treated dummy (Turks), I study the evolution in worries.

Figure 3A plots the evolution of worries towards xenophobic hostility. The following three observations can be made. First, the figure highlights the comparability of the control group, an indication of the matching quality, by demonstrating that the outcome trends between the treated (Turks) and control groups (non-Turks) follow a similar path prior to the 2011 news treatment of the delayed justice over NSU crimes (lead effects). This observation is in direct support of the CTA that in the absence of the treatment, the trends in worries would have been the same for treated and control group respondents.

Second, the figure provides direct evidence on the existence of the effect associated with the 2011 revelations of delayed justice over NSU crimes. That is, I observe that worries about xenophobic hostility increased for Turkish immigrants in Germany in 2012 (first post-treatment observation), whereas, for non-Turkish immigrants, worries continued with their pre-treatment trend. And finally, the figure shows that the increase in xenophobic hostility post-2011 did not dissipate as the years passed by (lag effects). The strength of the magnitude weakens slightly for the year 2013 but rises again in the year 2014.

Similarly, in figure 3B, I plot the evolution of worries towards crime development.[25] Unlike figure 3A, however, I do not observe any statistically significant divergence in worries towards general crime development in Germany between the treated (Turks) and control groups (non-

[25] It is difficult to establish whether the CTA holds for this outcome due to imprecise estimation. Therefore, in the supplementary appendix F, I perform matching separately for this outcome. Although the estimates are as imprecise as discussed here, the CTA holds better and I confirm that the results are fairly stable.

Turks) in the post-treatment period. This further supports the claim made in the previous subsection that the 2011 revelations of delayed justice impacted the targeted group's perception of the xenophobic hostility, while there was no equivalent increase in worries about crime environment in their surroundings.

## 5.3 Evaluation of the treatment intensity: Newspaper readership and the press coverage in Bavaria

After it was uncovered, the NSU episode was covered extensively in German newspapers. Unsurprisingly foreign media did not cover the episode with the similar gist. Given that immigrants, especially FGIs, can have access to both German as well as newspapers from their country of origin, it is of interest to see whether the treatment intensity varies across respondent's preferred source of news. Using a SOEP variable asking respondents' to report their sources of news, I study whether the respondents' access to information magnified the treatment effect. The response to survey question ranges from 1) do not read any newspaper, 2) read foreign newspapers, 3) read German newspapers, or 4) read both.[26]

Following the literature demonstrating that newspapers' presentation of crimes can generate fears of crime among readers (see Heath 1984), one can expect that the treatment effect was larger for respondents who read newspapers than the ones who do not. Additionally, given the extensive coverage of NSU news in German newspapers, it can be expected that the respondents who read German newspapers report larger magnitudes of the 2011 news

[26] It is important to study the role of other media platforms with which respondents acquire information, e.g. internet use and time spent watching TV. Unfortunately, the information on respondents' private use of internet was asked only in the year 2013, i.e. post-treatment year. Similarly, survey questions asking respondents about their TV watching habits are not included in the SOEP questionnaire since 1989. Therefore, it is not possible to study the role of other media platforms.

treatment. Finally, an important threat to identification arises from the fact that the NSU episode was discussed extensively in Turkish newspapers. In response, assimilation of Turkish immigrants in Germany became one of the discoursed topics in Turkish politics. Therefore, it is pertinent to test whether the effect of 2011 revelations is the result of its extensive coverage in the German press or it is the result of its politicization by Turkish politicians and coverage in the Turkish press.

Panel A of Table 5 presents the results. In column (1), I estimate the baseline regressions by restricting the sample to respondents who report to reading newspapers. The estimates are larger than the magnitudes obtained in Table 4, suggesting the role of news media in intensifying the treatment effect. In columns (2)-(4), I re-estimate the baseline results separately for respondents who report reading only foreign newspapers, respondents who read only German newspapers and respondents who read both newspapers, respectively. Although the results are estimated with lesser precision, the magnitudes enlarge from left to right, an evidence of intensification of the treatment as respondents' consumption of newspapers increases. The main result of column (2) confirms that the impact of the coverage of 2011 revelations by Turkish newspapers is very limited. Columns (3)-(4) report that respondents who read German newspapers and respondents who read German as well as foreign newspapers (higher news consumption) report increasingly larger magnitudes of the actual effect. This is in direct support of the hypothesis presented above.

The geographical span of NSU crimes (figure 2) also offers another treatment intensity check for the identification. As discussed in section 2, five out of total nine murders committed in the West German states were committed in the state of Bavaria alone. This makes the treatment

effect especially stronger for respondents from Bavaria. Additionally, the trial of the surviving NSU member Beate Zschape was held in Munich, Bavaria. Therefore, it can be expected that the NSU episode received extensive and frequent coverage in Bavaria than other states in Germany. In panel B of Table 5, I estimate the results separately for the respondents from the state of Bavaria. Estimates show that the Turks living in Bavaria reported a much larger increase in their worries towards xenophobic hostility than the average effect, hence confirming the hypothesis presented above.

## 5.4 Heterogeneous treatment effects

Now I exploit pertinent individual characteristics to study the heterogeneous effect of the 2011 revelations as motivated in subsection 4.1. I consider the following three characteristics: immigration status (FGI vs. SGI), education (high educated vs. low educated), and religiosity (religious vs. non-religious). In column (1) of Table 6, I test whether the respondent's immigration status may be an important consideration for the heterogeneity of the treatment effect by interacting the dummy variable for second-generation immigration status with the baseline interaction term. The results show that FGIs and SGIs did not differ statistically significantly in their response to the treatment.

Thereafter, in columns (2) and (3), I study whether respondent's education and religiosity are the sources of the heterogeneity of treatment effect under consideration. I construct a dummy variable *Highedu* which takes the value of 1 if the respondent has spent more than 12 years in education and 0 otherwise. To capture the respondent's religiosity, I use another SOEP variable asking respondents whether they performed religious services in the last 7 days. I interpret

survey response yes as an indicator of respondent's religiosity. Columns (2) and (3) report the results of the interactions. The results show that the treatment effect was homogenous across the respondent's education and religiosity.

### 5.5 2011 revelations and social assimilation of Turkish immigrants in Germany

Next, I focus on the impact of 2011 revelations on the assimilation and wellbeing of Turkish immigrants in Germany. Table 7 presents the results for assimilation outcomes. As noted above, due to the inconsistent inclusion of self-identification outcomes in the SOEP questionnaire and also because that they contain far more missing observations than the outcomes studied above, the results are relatively imprecisely estimated. The results find that Turkish immigrants were less likely to self-identify themselves as Germans in the aftermath of 2011 revelations. In terms of magnitude, the decrease in self-identification for Turks is substantial, about 40.5 percent of one within-individual standard deviation. During the same period, the results in columns (2) and (3) find that Turks substantially increased their self-identification as a foreigner living in Germany and also increased their connection with their country of origin. It is important to reconcile these findings with regards to the existing literature. That is, as the existing research overwhelmingly documents that Turkish immigrants are among the least assimilated immigrant groups in Germany (Constant et al. 2006, Constant et al. 2012), a further relative decrease in their social assimilation in the aftermath of 2011 denotes worsening of the state of their social assimilation with respect to other immigrant groups. In conclusion, these results conclusively highlight the dissimilating impact of 2011 revelations of the delayed justice on Turkish immigrants in Germany.

Finally, I ask whether revelations had a negative impact on respondents' health satisfaction and life satisfaction. Main results are reported in Table 8. The results report that the 2011 revelations negatively impacted health and life satisfaction of Turkish immigrants in Germany. In terms of magnitudes, the decrease in health and life satisfaction for Turks is about 10.5 and 6.2 percent of one within-individual standard deviation, respectively.[27] Although not comparatively large, these results highlight the relevance of the 2011 revelations for the wellbeing of Turkish Diaspora in Germany. Especially, the results suggesting a reduction of health satisfaction provides an evidence of increased stress levels and negative health consequence of the judicial delays over rightwing crimes for the targeted group. The results suggesting a reduction in life satisfaction of the Turks are relatively weaker in magnitude in comparison with what Steinhardt (2018) finds. However, this is not surprising as Steinhardt is considering the case of the rise in actual violent attacks in Germany in 1990s, whereas, in this paper, the treatment under consideration is the news revelations about crimes committed in the past.

## 5.6 Additional robustness checks

*Alternative/restrictive definitions of the treated*

Information on country of birth of SGI respondent's parents is not available for all respondents (12% SGIs in the matched sample). This is a crucial criticism of the experimental set-up because in the case when the country of origin is missing for both parents, SGI observations have been

[27] Steinhardt (2018) finds that the rise in xenophobic violence in 1990s reduced the subjective well-being of Turkish immigrants by approximately 0.36 points, which is about 5% of the mean and 19% of the standard deviation in my estimation sample.

assumed to belong to the control group. I test the robustness of the main results in the following two ways. First, I re-estimate the baseline regressions performed in Tables 4 and 7 after omitting SGI respondents for which country of origin information is missing for both parents. Second, I show estimates separately for the FGIs alone so that the magnitude of the treatment effect after ignoring the missing value problem is estimated. Results are shown in panels A and B of Table 9. The results support the main findings of the paper.

*Turkish and MENA immigrants as another treated group*

Next, I include the MENA immigrants in the experimental setup to construct an enlarged treated group of Turkey-MENA immigrants. This exercise captures whether the treatment effect was also felt by a Diaspora of Middle-eastern and North African immigrants given their similarities in appearance with Turkish immigrants. The variable T-MENA takes the value of 1 if the respondent originates from Turkey or MENA countries listed in section 3. Panel C of Table 9 shows the results. The results are virtually unchanged.

*Pseudo-outcomes: were economic outcomes impacted?*

The dominant strand of economics literature investigates the impact of Islamist terror events on the labor market outcomes of the Islamic immigrants (Åslund and Rooth 2005, Dávila and Mora 2005, Kaushal et al. 2007, Cornelissen and Jirjahn 2012, Deole and Wunder 2018). However, the 2011 revelations are not expected to exacerbate labor market discrimination

against Turkish immigrants in Germany as they were the victims of the NSU crimes and the perpetrators were non-Islamic white German natives. Moreover, the media coverage following 2011 revelations extensively underlined the anti-immigration and racist motives behind NSU crimes, and there is no indication of increased labor market discrimination against Turkish post-2011. Therefore, one should not expect significant effects of the treatment on the targeted group's economic outcomes.

I test the robustness of the mechanism, i.e. 2011 revelations had only impacted the targeted group's social outcomes, by considering its impact on respondents' economic outcomes (pseudo-outcomes). For this exercise, I consider the following two economic outcomes: respondents' probability to be unemployed and hourly wages. In essence, I investigate whether Turkish immigrants observed an increase in their probability to be unemployed and/or lower hourly wages due to increased labor market discrimination in the aftermath of 2011 revelations. The unemployment probability is a dummy variable denoting the respondent's labor force status as unemployed and 0 otherwise. To construct hourly wages, I make use of SOEP data on respondent's monthly earnings (monthly_income) and weekly hours worked (weekly_hours). I calculate the respondent's hourly wage by the following formula: hourly wages=(monthly_income*12)/(weekly_hours*52.179). The main results are presented in Table 10. The results do not suggest any significant effect of 2011 revelations of the delayed justice over NSU crimes on the economic outcomes of Turkish immigrants, demonstrating that these revelations impacted Turkish immigrants' social outcomes alone, and did not invite any increase in labor market discrimination against them.

## 6. CONCLUDING REMARKS

Many European countries have suffered violent Islamist terrorist attacks since the dawn of the 21st century. Given that the majority of the perpetrators of these attacks were homegrown individuals belonging to the Islamic religion, the question of the social assimilation of the Muslims living in the West has come to the forefront of policy discussions. In response, recent economics research produced a number of studies investigating the impact of the backlash induced by Islamist terror events on the attitudes of Muslim minorities towards assimilation in the host society. Uniquely, this paper contributes to the literature by focusing on the impact of unprovoked rightwing crimes targeted against Islamic immigrants. Particularly, I consider an episode of 2011 news revelations of the past crimes committed by the rightwing group NSU against Turkish immigrants in Germany.

Although the NSU crimes are widely believed to be xenophobic crimes, this paper provides the first formal evidence that the 2011 revelations impacted Turkish immigrants distinctly than other immigrants. Using German longitudinal data, the paper shows that Turkish immigrants in Germany reported an increase in their worries about xenophobic hostility in the aftermath of the 2011 revelations, while their worries about general crime development in Germany were not as affected. The results further show that the 2011 revelations caused deterioration in the social assimilation and well-being of the targeted minorities. In particular, the results show that Turkish immigrants in Germany were less likely to self-identify themselves as Germans and more likely to feel closer and better bonded to their home countries. The paper also finds an evidence of reduced health and life satisfaction. These results are in line with the concerns raised by newspapers that the NSU revelations were internalized differently by the Turkish

minorities and that they had an immediate yet deeper psychological impact on the Turks in Germany (Spiegel Online January 13 2012, Spiegel Online July 13 2018).

These results have pertinent implications for the European migration crisis. In the year 2016 alone, with the arrival of more than a million asylum seekers from war-torn countries, the German government spent 5.5 billion Euros on assisting migrants (Deutsche Welle 2017). Of these, 2 billion Euros were spent on a package designed to integrate refugees into the German culture and to teach them the language. However, their arrival coincided with a steep rise in xenophobic violence in Germany. The findings of this paper highlight the disruptive effects of fears triggered by right-wing anti-immigrant violence. In particular, the study finds that the fears of hostility and victimhood induced by these attacks raise assimilation costs and cause deterioration of assimilation outcomes. Although the study uses data collected for Germany, the results are highly relevant for any future research that investigates the impact of violence targeted against minority groups in other countries. At a time when right-wing political parties are gaining momentum in elections across established democracies, the success of the Pan-European assimilation policy depends on addressing these fears among minorities. Timely prevention and quick, just resolution of crimes against immigrants can indeed improve the efficiency and effectiveness of the money spent on integration and assimilation policies.

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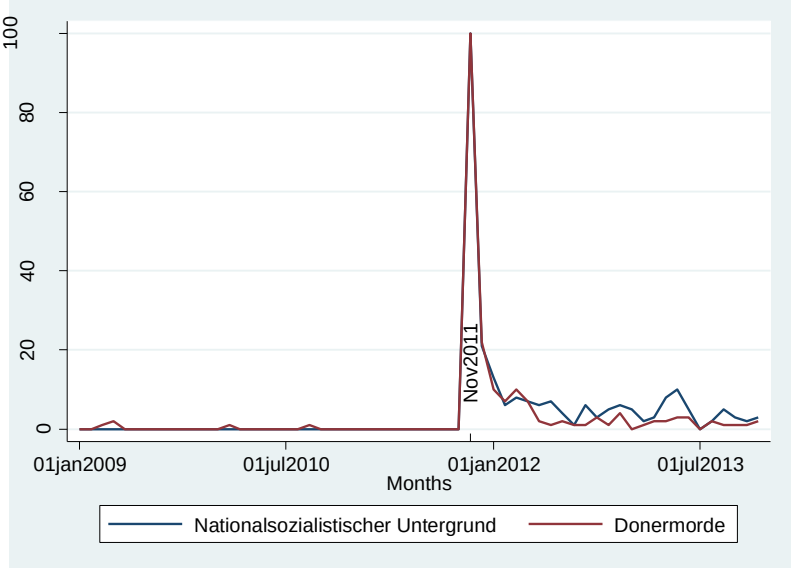
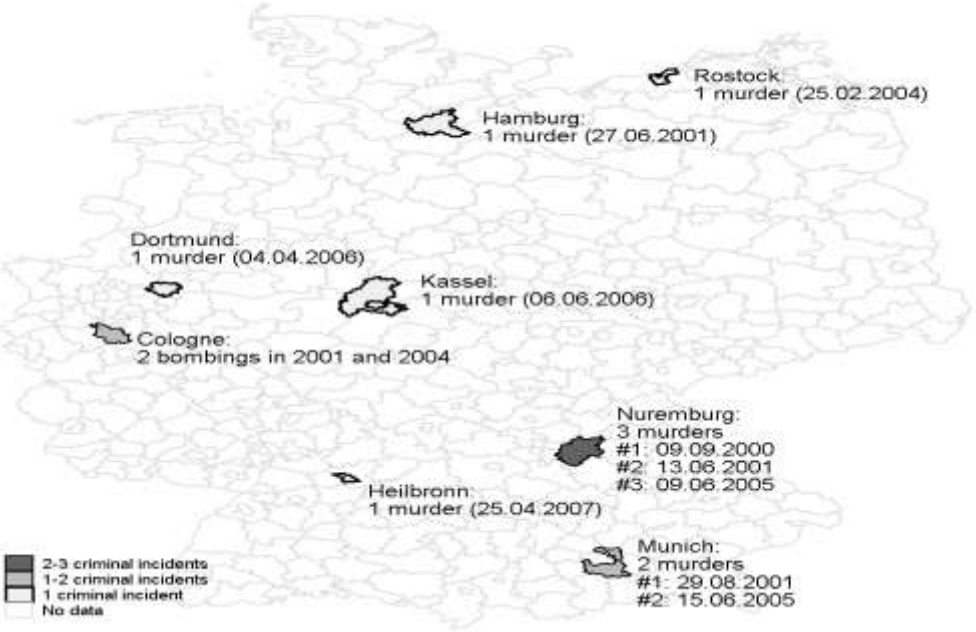
## FIGURE APPENDIX

**Figure 1: Google trends of keywords search**



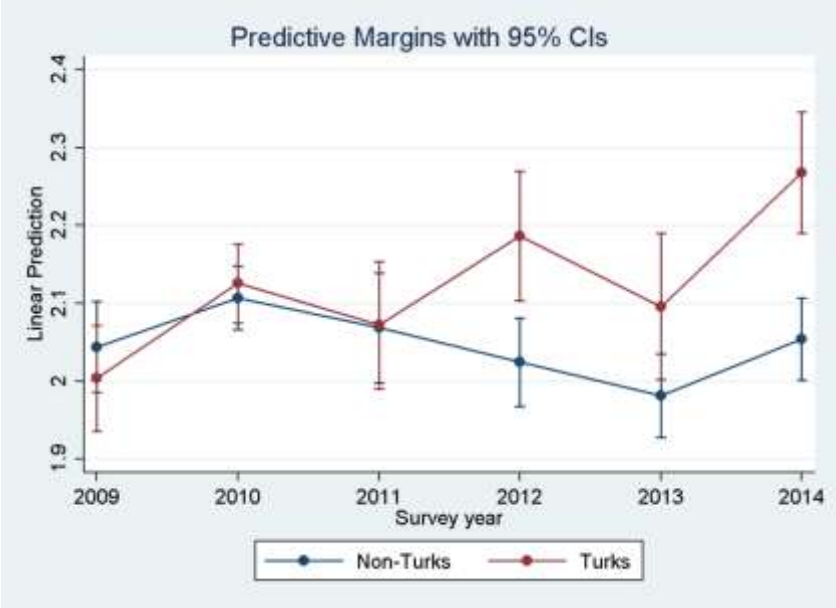

**Source:** Google trends, own calculations.
**Notes:** The figure plots the results of Google trends depicting the number of individual google searches involving keywords NSU and Donermorde.

## Figure 2: Geographical spread of NSU crimes in Germany



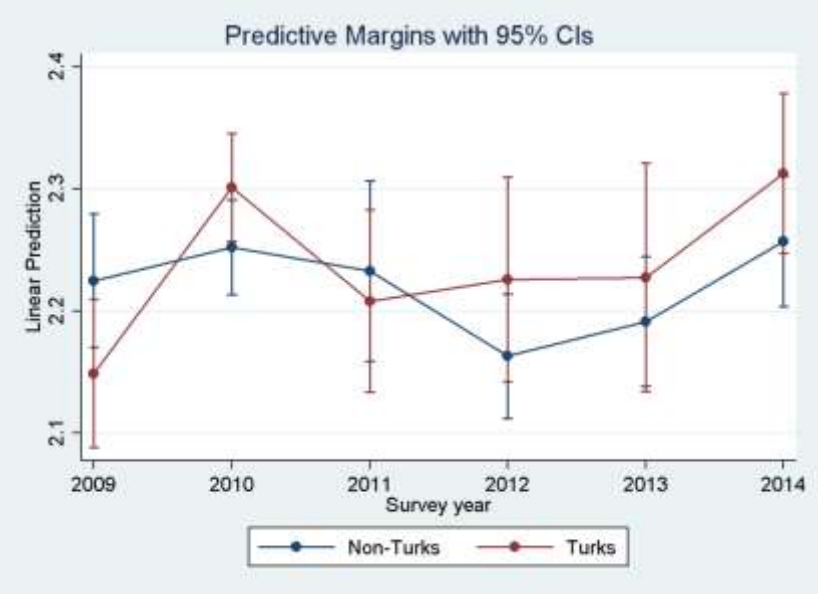

**Notes:** This figure shows the geographical location and the dates for crimes committed by the NSU network. Only violent crimes are shown and information on bank robberies is excluded.

**Figure 3A: Evolution of worries about xenophobic hostility in Germany**




**Source:** SOEP v32.1 2009-2014, unbalanced panel, own calculations.
**Notes:** The figure plots the predictive margins (with 95% CI) of the baseline regression shown in table 4. The treatment dummy (post2011) is replaced with survey year dummies to obtain the predictive margin for each year.

**Figure 3B: Evolution of worries about crime development in Germany**




**Source:** SOEP v32.1 2009-2014, unbalanced panel, own calculations.
**Notes:** The figure plots the predictive margins (with 95% CI) of the baseline regression shown in table 4. The treatment dummy (post2011) is replaced with survey year dummies to obtain the predictive margin for each year.

## TABLE APPENDIX

**Table 1: Summary of contemporary migration in Germany**

| Variables | Type\Year | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|---|---|---|
| **Asylum Applicants (in #)** | | 32,910 | 48,475 | 53,235 | 77,485 | 126,705 | 202,645 | 476,510 |
| | | **Criminal incidents (country aggregate)** | | | | | | |
| **Hate crimes** | All | 4583 | 3770 | 4040 | 4514 | 4747 | 5858 | 10373 |
| | Violent | 590 | 467 | 528 | 524 | 608 | 707 | 1151 |
| **Xenophobic incidents** | All | 2564 | 2166 | 2528 | 2922 | 3248 | 3945 | 8529 |
| | Violent | 383 | 308 | 373 | 415 | 494 | 554 | 975 |
| **Anti-Semitic incidents** | All | 1690 | 1268 | 1239 | 1374 | 1275 | 1596 | 1366 |
| | Violent | 41 | 37 | 29 | 41 | 51 | 45 | 36 |
| **Incidents of Racism** | All | 428 | 433 | 484 | 584 | 608 | 807 | 1214 |
| | Violent | 70 | 64 | 71 | 98 | 123 | 141 | 174 |
| | | **State-level variables** | | | | | | |
| **Immigrant share of total population (in %)** | | 7.76 | 7.83 | 6.81 | 7.13 | 7.53 | 8.11 | 9.34 |
| **Log (# of reported Rightwing violent crimes)** | | 3.77 | 3.53 | 3.51 | 3.55 | 3.45 | 3.50 | 4.07 |

**Notes:** The data on criminal incidents such as hate crimes, xenophobic incidents, Anti-Semitic incidents, racist incidents and rightwing violent crimes are a country level data and obtained from the website of Federal Ministry of Interior. Web link here: http://www.bmi.bund.de/SharedDocs/Downloads/DE/Nachrichten/Pressemitteilungen/2016/05/pmk-2015-hasskriminalitaet-2001-2015.html. The information on immigration share of total population is a state-level variable and obtained from https://www.destatis.de/DE/Startseite.html. The number of reported rightwing violent crimes is a state-level variable.

## Table 2: Definitions and summary of outcome variables (Period: 2009-2014)

| # | Definition of the outcome variable | Range of responses | Mean (sd) |
|---|---|---|---|
| | **a. Worries (all years)** | | |
| 1 | Worried About Hostility To Foreigners (Hostility) | 1 (No concerns at all) – 3 (Very concerned) | 1.903 (0.708) |
| 2 | Worried About Crime Development in Germany (Crime) | 1 (No concerns at all) - 3 (Very concerned) | 2.139 (0.700) |
| | **b. Self-identification (asked in survey years 2010, 2012, 2013, 2014)** | | |
| 3 | How strongly German the respondent feels (Feel German) | 1 (Not at all) – 5 (Completely) | 3.612 (1.120) |
| 4 | How strongly Foreign the respondent feels (Feel Foreign) | 1 (Not at all) – 5 (Completely) | 3.324 (1.320) |
| 5 | Connected with the country of origin (Connect) | 1 (Not at all) – 5 (Completely) | 3.179 (1.253) |
| | **c. Health and life satisfaction (all years)** | | |
| 6 | Health satisfaction (hsat) | 0 (Completely dissatisfied) – 10 (Completely satisfied) | 6.947 (2.241) |
| 7 | Overall Life satisfaction (Life Sat) | 0 (Completely dissatisfied) – 10 (Completely satisfied) | 7.308 (1.774) |

Note: This table provides definitions and summary statistics of dependent variables used in the study. Panel (a) lists the respondent's worries about hostility to foreigners and worries general crime development in Germany. Panel (b) lists the respondent's self-identification as a feeling of closeness to Germany, connectedness with the home country, and self-identification as feel closer to the home country. Panel (c) summarizes the respondent's health satisfaction and overall life satisfaction. The variables in panel (a) and (c) are annually collected. The self-identification questions were asked to individuals with "migrant background" only, i.e. German natives were not asked these questions, and were inconsistently included in the survey. For example, questions 3 and 4 were asked in 2010, 2012, 2013 and 2014, whereas, question 5 was asked only in the years 2010 and 2012, i.e. pre- and post-treatment.

## Table 3: Means of conditioning variables of treated, controlled and matched controls (pre-treatment)

| Variables | Matching Status | Means Treated | Means Control | %bias | % reduction in bias |
|---|---|---|---|---|---|
| **A. Demographic characteristics** | | | | | |
| Age | Unmatched | 42.639 | 46.837 | -28.1 | |
| | Matched | 42.582 | 42.458 | 0.8 | 97.0 |
| SGI | Unmatched | 14.756 | 45.084 | -70.2 | |
| | Matched | 16.444 | 18.222 | -4.1 | 94.1 |
| Rural | Unmatched | 87.537 | 78.966 | 23.1 | |
| | Matched | 86.778 | 86.111 | 1.8 | 92.2 |
| Female | Unmatched | 48.853 | 55.389 | -13.1 | |
| | Matched | 48.778 | 49.778 | -2.0 | 84.7 |
| Married | Unmatched | 80.758 | 64.598 | 36.9 | |
| | Matched | 79.556 | 77.111 | 5.6 | 84.9 |
| Divorced | Unmatched | 07.478 | 10.692 | -11.2 | |
| | Matched | 07.556 | 08.000 | -1.5 | 86.2 |
| Disabled | Unmatched | 1.9033 | 1.8971 | 2.1 | |
| | Matched | 1.9078 | 1.9067 | 0.4 | 82.1 |
| **B. Economic characteristics** | | | | | |
| Education | Unmatched | 10.000 | 11.81 | -74.1 | |
| | Matched | 10.163 | 10.227 | -2.6 | 96.5 |
| Work experience | Unmatched | 14.413 | 18.753 | -34.7 | |
| | Matched | 14.782 | 14.241 | 4.3 | 87.5 |
| Log HH income | Unmatched | 7.655 | 7.772 | -22.7 | |
| | Matched | 7.6621 | 7.6675 | -1.1 | 95.4 |
| Job type: Medium skilled | Unmatched | 12.762 | 20.984 | -22.1 | |
| | Matched | 13.889 | 12.667 | 3.3 | 85.1 |
| Job type: High skilled | Unmatched | 02.393 | 09.321 | -29.8 | |
| | Matched | 02.667 | 02.333 | 1.4 | 95.2 |
| Owns the house | Unmatched | 32.901 | 43.489 | -21.9 | |
| | Matched | 33.889 | 35.556 | -3.4 | 84.3 |
| **C. Migration-related characteristics** | | | | | |
| Oral German: very good | Unmatched | 47.557 | 37.134 | 21.2 | |
| | Matched | 46.889 | 46.444 | 0.9 | 95.7 |
| Written German: very good | Unmatched | 38.285 | 31.389 | 14.5 | |
| | Matched | 37.333 | 36.667 | 1.4 | 90.3 |
| HH relation: Head | Unmatched | 50.548 | 56.910 | -12.8 | |
| | Matched | 51.111 | 51.778 | -1.3 | 89.5 |
| Duration since migration: Medium | Unmatched | 19.840 | 24.199 | -10.5 | |
| | Matched | 22.000 | 18.667 | 8.1 | 23.5 |
| Duration since migration: Long | Unmatched | 78.365 | 73.520 | 11.3 | |
| | Matched | 76.000 | 80.000 | -9.4 | 17.4 |
| **D. Pre-treatment outcomes** | | | | | |
| Worries about xenophobic hostility | Unmatched | 2.1226 | 1.9361 | 26.2 | |
| | Matched | 2.0744 | 2.0822 | -1.1 | 95.8 |
| Worries about crime development | Unmatched | 2.2612 | 2.1656 | 13.9 | |
| | Matched | 2.2333 | 2.2411 | -1.1 | 91.9 |
| Health satisfaction | Unmatched | 6.5474 | 6.8214 | -11.9 | |
| | Matched | 6.6 | 6.6489 | -2.1 | 82.2 |
| Life satisfaction | Unmatched | 6.7567 | 7.1601 | -22.3 | |
| | Matched | 6.8211 | 6.9533 | -7.3 | 67.2 |
| **Individual-year observations (NT)** | | 900 | 900 | | |
| **Mean Bias** | Unmatched | | | 18.9 | |
| | Matched | | | 2.6 | |
| **Median Bias** | Unmatched | | | 13.5 | |
| | Matched | | | 1.7 | |

**Source:** SOEP v32.1 2009-2011, unbalanced panel, own calculations.

**Notes:** This table provides the means and % standardized bias of the conditioning variables used for matching procedure (before and after the matching). The first two columns present the means of the conditioning variables separately for Turkish and non-Turkish immigrants in Germany. The next two columns present the % standardized bias and % reduction in %SB achieved as a result of matching. Means of the dummy variables are displayed in % terms. Other conditioning variables not shown here include dummies representing survey years and states. The share of treated off common support is 0.0611.

## Table 4: 2011 news treatment and worries of Turkish immigrants in Germany

| | (1) Worries about xenophobic hostility | (2) Worries about crime development |
|---|---|---|
| Turks*Post2011 | 0.152*** | 0.0740* |
| | (0.0457) | (0.0434) |
| Individual-year observations (NT) | 3,458 | 3,455 |
| Number of individuals (N) | 1,287 | 1,287 |

**Source:** SOEP v32.1 2009-2014, unbalanced panel, own calculations.

**Notes:** This table presents the results for the analysis of the impact of 2011 revelations on respondents' worries about hostility to foreigners and about general crime development in Germany. The dummy variable Post2011 takes the value of 1 if the observation was recorded post 11th November 2011 and 0 otherwise. Control variables include all the conditioning variables shown in Table 3 and state-level variables such as the immigrant share of population and log of the number of rightwing violent crimes. A third-order polynomial is used for the control variable age, whereas, second-order polynomials are used for control variables education and experience. Robust standard errors (clustered at individual level) in parentheses: *** p<0.01, ** p<0.05, * p<0.1.

# Table 5: Treatment intensity

| | A. Newspaper preference | | | | B. Restricted Sample |
|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) |
| | Reads a Newspaper | Only Foreign | Only German | Both | Bavaria |
| Turks*Post2011 | 0.163*** | 0.0691 | 0.111 | 0.300*** | 0.573*** |
| | (0.0485) | (0.205) | (0.0827) | (0.114) | (0.156) |
| NT | 3,184 | 306 | 1,341 | 583 | 475 |
| N | 1,229 | 108 | 450 | 196 | 180 |

**Source:** SOEP v32.1 2009-2014, unbalanced panel, own calculations.

**Note:** The analysis presented in this table emphasizes the intensity of the treatment of 2011 revelations of the delayed justices on NSU crimes. Column (1) reports the results for all respondents who report reading a newspaper. In columns (2)-(4), separate estimates are shown for respondents who report reading foreign newspapers, German newspapers, and both newspapers, respectively. The baseline results are re-estimated in column (5) separately for Bavaria because half of the murders (5 out of 10) were committed in this state alone. Control variables include all the conditioning variables shown in Table 3 and state-level variables such as the immigrant share of population and log of the number of rightwing violent crimes. A third-order polynomial is used for the control variable age, whereas, second-order polynomials are used for control variables education and experience. Robust standard errors (clustered at individual level) in parentheses: *** p<0.01, ** p<0.05, * p<0.1.

## Table 6: Heterogeneous treatment effects on worries about xenophobic hostility

| | (1) Immigration status | (2) Respondent's Education | (3) Religiosity |
|---|---|---|---|
| Turks*Post2011 | 0.140*** | 0.162*** | 0.125** |
| | (0.0508) | (0.0482) | (0.0605) |
| Turks*Post2011*SGI | 0.0591 | | |
| | (0.127) | | |
| Turks*Post2011*Highedu | | -0.0899 | |
| | | (0.155) | |
| Turks*Post2011*Religious | | | 0.0490 |
| | | | (0.0949) |
| NT | 3,458 | 3,458 | 3,458 |
| N | 1,287 | 1,287 | 1,287 |

**Source:** SOEP v32.1 2009-2014, unbalanced panel, own calculations.
**Note:** The analysis presented in this table investigates the heterogeneous treatment effects of 2011 revelations of the delayed justice with respect to pertinent individual characteristics (immigration status, education, and religiosity). High educated (low educated) respondents are respondents with 12 years or more (less than 12 years) spent in education. A respondent is coded as religious if he/she reports having attended religious services in the last 7 days. Control variables include all the conditioning variables shown in Table 3 and state-level variables such as the immigrant share of population and log of the number of rightwing violent crimes. A third-order polynomial is used for the control variable age, whereas, second-order polynomials are used for control variables education and experience. Robust standard errors (clustered at individual level) in parentheses: *** p<0.01, ** p<0.05, * p<0.1.

## Table 7: 2011 news treatment and social assimilation in Germany

| | (1) Feel German | (2) Feel Foreign | (3) Connected to home country |
|---|---|---|---|
| Turks*Post2011 | -0.454*** | 0.415** | 0.207* |
| | (0.139) | (0.195) | (0.119) |
| NT | 774 | 561 | 779 |
| N | 374 | 374 | 374 |

**Source:** SOEP v32.1 2009-2014, unbalanced panel, own calculations.

**Notes:** This table presents the results of the analysis of the impact of 2011 revelations on respondents' self-identification variables. Control variables include all the conditioning variables shown in Table E.1 in the supplementary appendix E and state-level variables such as the immigrant share of population and log of the number of rightwing violent crimes. A third-order polynomial is used for the control variable age, whereas, second-order polynomials are used for control variables education and experience. Robust standard errors (clustered at individual level) in parentheses: *** p<0.01, ** p<0.05, * p<0.1.

## Table 8: 2011 news treatment and welfare of Turkish immigrants in Germany

| | (1) Life satisfaction | (2) Health Satisfaction |
|---|---|---|
| Turks*Post2011 | -0.110 | -0.235** |
| | (0.0956) | (0.109) |
| NT | 4,381 | 4,385 |
| N | 1,287 | 1,287 |

**Source:** SOEP v32.1 2009-2014, unbalanced panel, own calculations.

**Notes:** This table presents the results of the analysis of the impact of 2011 revelations on respondents' welfare outcomes. Two welfare outcomes considered here are the respondent's overall life satisfaction and health satisfaction. Control variables include all the conditioning variables shown in Table 3 and state-level variables such as the immigrant share of population and log of the number of rightwing violent crimes. A third-order polynomial is used for the control variable age, whereas, second-order polynomials are used for control variables education and experience. Robust standard errors (clustered at individual level) in parentheses: *** p<0.01, ** p<0.05, * p<0.1.

# Table 9: Additional robustness checks

| | (1) Worries about Xenophobic Hostility | (2) Feel German | (3) Feel Foreign | (4) Connected to home country |
|---|---|---|---|---|
| | **A. After omitting SGI observations with missing parental information** | | | |
| Turks*Post2011 | 0.131*** | -0.474*** | 0.453** | 0.199 |
| | (0.0480) | (0.135) | (0.186) | (0.122) |
| NT | 3,302 | 685 | 509 | 688 |
| N | 1,239 | 330 | 330 | 330 |
| | **B. Estimates separately for FGIs** | | | |
| Turks*Post2011 | 0.146*** | -0.467*** | 0.400** | 0.215* |
| | (0.0509) | (0.150) | (0.196) | (0.123) |
| NT | 2,837 | 673 | 511 | 678 |
| N | 1,022 | 325 | 325 | 325 |
| | **C. Enlarging treated group to include MENA immigrants** | | | |
| T-MENA*Post2011 | 0.151*** | -0.454*** | 0.415** | 0.207* |
| | (0.0463) | (0.139) | (0.195) | (0.119) |
| NT | 3,457 | 774 | 561 | 779 |
| N | 1,293 | 374 | 374 | 374 |

**Source:** SOEP v32.1 2009-2014, unbalanced panel, own calculations.

**Notes:** This table presents the results for additional robustness checks performed to verify the main results of this paper. Control variables include all the conditioning variables shown in Table 3 and state-level variables such as the immigrant share of population and log of the number of rightwing violent crimes. A third-order polynomial is used for the control variable age, whereas, second-order polynomials are used for control variables education and experience. Robust standard errors (clustered at individual level) in parentheses: *** p<0.01, ** p<0.05, * p<0.1.

## Table 10: Robustness of the mechanism (pseudo-outcomes)

| | (1) Unemployment probability | (2) Hourly wages |
|---|---|---|
| Turks*Post2011 | -0.00958 | 0.0250 |
| | (0.0146) | (0.0284) |
| NT | 4,989 | 2,477 |
| N | 1,537 | 830 |

**Source:** SOEP v32.1 2009-2014, unbalanced panel, own calculations.

**Notes:** This table presents the results of the robustness check of the mechanism considered in this paper. The following two economic outcomes are considered: unemployment probability (a dummy variable), and hourly wages. Matching is performed separately for these two outcomes as unemployed respondents do not report their hourly wages and job skills. Control variables included in matching procedure performed for both outcomes are remaining conditioning variables shown in Table 3, and state-level variables such as the immigrant share of population and log of the number of rightwing violent crimes. A third-order polynomial is used for the control variable age, whereas, second-order polynomials are used for control variables education and experience. Robust standard errors (clustered at individual level) in parentheses: *** p<0.01, ** p<0.05, * p<0.1.

**SUPPLEMENTARY APPENDIX**

## Appendix A: Alternative definitions of the experimental setup

Existing literature studying the impact of terror attacks on migrants' outcomes has used several definitions of the treated group. In addition to the information on respondent's country of origin, the literature uses the following definitions are used on the basis of availability of data: respondent's nationality (Cornelissen and Jirjahn 2012, Deole and Wunder 2018), and her religion (Cornelissen and Jirjahn 2012, Deole and Wunder 2018). Therefore, in addition to the baseline definition, I show results for these alternative definitions of the experimental setup.

### Definition 1: Muslims vs. non-Muslims (Model A)

The SOEP includes information on respondent's religious belonging. As the majority of Muslims in Germany originate from Turkey and the surrounding region, I exploit this time-invariant information to make use of another definition of the treated group "Muslim".[28] The dummy Muslim is constructed by using the survey question asking respondents to self-report their religious belonging. In response, individuals can report whether they belong to Catholic or Protestant or no-religion or to the Islamic faith. With this information, I generate a "Muslim" dummy variable indicating 1 if the individual self-reported to belong to the Islamic faith and zero otherwise. This survey question was not asked annually and hence, I make use of a number of SOEP survey waves, 2007, 2011, 2013 and 2015. However, it is possible that the treated indicator Muslim may have a measurement problem as individuals may not readily self-report their religious belonging. I avoid matching Muslims with immigrants originating from countries where the dominant religion is Islam by omitting the non-Muslim respondents who report originating from predominantly Islamic countries.[29] Thus, I restrict the control group to non-Muslim immigrants originating from non-Islamic countries (Model A). In Table A1 and A2, I report a comparison of means of important conditioning variables between treated and control groups. Table A3 reports the results and I confirm that they are qualitatively similar to the ones reported in the paper.

[28] The assumption that the respondent's religious belonging is a time-invariant characteristic can be tested for robustness. I confirm whether results are robust to this assumption by removing the respondents who irregularly report their religious belonging as Islamic across survey waves from the sample and re-estimate the main results of the paper. The results can be made available upon request.

[29] The countries where the dominant religion is Islam include MENA countries listed in the paper. In addition, following Central Asian, Asian, and African countries are included as pre-dominantly Islamic countries: Indonesia, Bangladesh, Kazakhstan, Albania, Tajikistan, Somalia, Pakistan, Uzbekistan, Bosnia/Herzegovina, Macedonia, Azerbaijan, Kosovo and Turkmenistan.

## Definition 2: Turkish nationals vs. non-Turkish nationals (Model B)

The SOEP also includes a question asking respondents information on their nationality. In response, respondents report their preferred nationality. I construct the treated group indicator *Turk_nat* if the respondent reports to be a Turkish national and zero otherwise. The control group is again restricted to immigrants who report to be nationals of non-MENA countries and also, are not German nationals (Model B). Tables A1 and A2 report the comparison of means of conditioning variables between treated and control groups and Table A3 reports the main results and I confirm that they are qualitatively similar to the ones reported in the paper.

**Table A.1: Means of conditioning variables of treated, controlled and matched controls (pre-treatment)**

| | | Model A Muslims vs. non-Muslims | | | Model B Turkish nationals vs non-Turkish nationals | | |
|---|---|---|---|---|---|---|---|
| | | Means | | | Means | | |
| **Variables** | | **Treated** | **Control** | **%bias** | **Treated** | **Control** | **%bias** |
| Age | | 41.648 | 40.876 | 5.1 | 42.928 | 42.977 | -0.3 |
| SGI | | 27.359 | 26.926 | 0.9 | 23.509 | 23.684 | -0.4 |
| Rural | | 89.351 | 91.602 | -6.3 | 88.596 | 90.000 | -4.1 |
| Female | | 48.745 | 48.831 | -0.2 | 49.123 | 49.474 | -0.7 |
| Married | | 74.719 | 71.775 | 6.5 | 79.649 | 78.596 | 2.5 |
| Divorced | | 08.398 | 08.312 | 0.3 | 06.316 | 05.789 | 2.0 |
| Disabled | | 1.9030 | 1.9100 | -2.3 | 1.9298 | 1.9281 | 0.7 |
| Education | | 10.394 | 10.480 | -3.5 | 9.9368 | 9.8956 | 1.8 |
| Work experience | | 13.650 | 13.155 | 4.0 | 14.800 | 14.426 | 3.0 |
| Ln HH income | | 7.6677 | 7.6485 | 3.6 | 7.6466 | 7.6162 | 5.7 |
| Job type: Medium skilled | | 15.931 | 15.671 | 0.7 | 14.386 | 13.509 | 2.6 |
| Job type: High skilled | | 03.203 | 04.156 | -3.9 | 01.404 | 01.404 | 0.0 |
| Owns the house | | 30.736 | 29.784 | 2.0 | 32.105 | 31.404 | 1.5 |
| Oral German: very good | | 56.537 | 58.874 | -4.8 | 51.754 | 48.246 | 7.0 |
| Written German: very good | | 46.753 | 48.918 | -4.5 | 41.053 | 38.772 | 4.6 |
| HH relation: Head | | 51.342 | 51.342 | 0.0 | 50.526 | 50.175 | 0.7 |
| Duration since migration: Medium | | 23.377 | 24.156 | -1.9 | 23.333 | 24.035 | -1.6 |
| Duration since migration: Long | | 74.545 | 74.113 | 1.0 | 73.860 | 72.982 | 1.9 |
| Worries about xenophobic hostility | | 2.0338 | 2.0095 | 3.4 | 2.0263 | 1.9982 | 3.9 |
| Worries about crime development | | 2.2398 | 2.1931 | 6.8 | 2.214 | 2.1825 | 4.6 |
| Health satisfaction | | 6.8104 | 6.8433 | -1.4 | 6.686 | 6.6316 | 2.4 |
| Life satisfaction | | 6.8519 | 6.8900 | -2.1 | 6.8175 | 6.8070 | 0.6 |
| NT | | 1144 | 1144 | | 570 | 570 | |
| Mean Bias | Unmatched | 20.2 | | | 17.9 | | |
| | Matched | 2.8 | | | 2.4 | | |
| Median Bias | Unmatched | 15.0 | | | 15.3 | | |
| | Matched | 2.6 | | | 1.9 | | |

**Source:** SOEP v32.1 2009-2011, unbalanced panel, own calculations.
**Notes:** This table provides the means and % standardized bias of the conditioning variables used for matching procedure (before and after the matching). The first three columns present the means and % standardized bias for Muslim and non-Muslim immigrants in Germany (Model A) and the remaining three columns show the means and % standardized bias for Turkish and non-Turkish nationals in Germany (Model B). Means of the dummy variables are displayed in % terms. Other conditioning variables not shown here include dummies representing survey years and states.

## Table A.2: Means of conditioning variables of treated, control, and matched controls (pre-treatment)

| | | Model A Muslims vs. non-Muslims Means | | | Model B Turkish vs. non-Turkish nationals Means | | |
|---|---|---|---|---|---|---|---|
| **Variables** | | **Treated** | **Control** | **%bias** | **Treated** | **Control** | **%bias** |
| Age | | 44.232 | 44.167 | 0.4 | 46.114 | 45.500 | 4.1 |
| SGI | | 24.464 | 23.176 | 3.2 | 18.939 | 19.697 | -1.9 |
| Rural | | 90.558 | 88.412 | 6.3 | 89.394 | 89.394 | 0.0 |
| Female | | 51.502 | 50.644 | 1.7 | 50.758 | 46.970 | 7.6 |
| Married | | 75.536 | 72.532 | 6.9 | 78.030 | 79.545 | -3.6 |
| Divorced | | 07.296 | 09.871 | -9.2 | 06.818 | 05.303 | 5.8 |
| Disabled | | 1.9142 | 1.9056 | 2.8 | 1.9015 | 1.9470 | -15.5 |
| Education | | 10.384 | 10.337 | 2.0 | 9.7273 | 9.9470 | -9.6 |
| Work experience | | | | | 16.510 | 17.088 | -4.4 |
| Ln HH income | | 7.6894 | 7.6724 | 3.2 | 7.6621 | 7.6537 | 1.6 |
| Job type: Medium skilled | | 17.167 | 18.026 | -2.2 | 12.879 | 12.121 | 2.1 |
| Job type: High skilled | | 03.863 | 04.721 | -3.8 | 00.758 | 0.0000 | 3.9 |
| Owns the house | | 37.768 | 35.622 | 4.4 | 32.576 | 31.061 | 3.2 |
| Oral German: very good | | 69.957 | 70.815 | -1.8 | 61.364 | 61.364 | 0.0 |
| Written German: very good | | 55.794 | 56.223 | -0.9 | 46.212 | 45.455 | 1.5 |
| HH relation: Head | | 49.356 | 56.223 | -13.8 | 49.242 | 53.030 | -7.6 |
| Duration since migration: Medium | | 17.597 | 19.313 | -4.3 | 20.455 | 20.455 | 0.0 |
| Duration since migration: Long | | 80.687 | 79.828 | 2.1 | 78.788 | 78.788 | 0.0 |
| Feel German | | 2.867 | 2.8283 | 3.3 | 2.6061 | 2.6439 | -3.4 |
| Feel Foreign | | 3.5622 | 3.5408 | 1.8 | 3.7652 | 3.8182 | -4.9 |
| Connect | | 3.5408 | 3.5837 | -4.1 | 3.803 | 3.8636 | -6.2 |
| NT | | 223 | 223 | | 132 | 132 | |
| Mean Bias | Unmatched | 26.1 | | | 24.7 | | |
| | Matched | 3.8 | | | 4.4 | | |
| Median Bias | Unmatched | 19.4 | | | 20.4 | | |
| | Matched | 3.1 | | | 3.9 | | |

**Source:** SOEP v32.1 2009-2011, unbalanced panel, own calculations.
**Notes:** This table provides the means and % standardized bias of the conditioning variables used for matching procedure (before and after the matching). The first three columns present the means and % standardized bias for Muslim and non-Muslim immigrants in Germany (Model A) and the remaining three columns show the means and % standardized bias for Turkish and non-Turkish nationals in Germany (Model B). Means of the dummy variables are displayed in % terms. Other conditioning variables for not shown here are denoted in the brackets as follows: Model A (third-order polynomial of age) and Model B (second-order polynomials of age and education).

## Table A.3: Main results

| | (1) Worries about Xenophobic Hostility | (2) Feel German | (3) Feel Foreign | (4) Connected to home country |
|---|---|---|---|---|
| | **Model A: Muslims vs. non-Muslims** | | | |
| Muslim*Post2011 | 0.107*** | -0.333*** | -0.0588 | 0.171* |
| | (0.0413) | (0.113) | (0.176) | (0.102) |
| NT | 4,387 | 956 | 651 | 959 |
| N | 1,495 | 446 | 446 | 446 |
| | **Model B: Turkish nationals vs. non-Turkish nationals** | | | |
| Turk_nat*Post2011 | 0.139*** | -0.439*** | 0.286 | 0.265** |
| | (0 .064) | (0.146) | (0.204) | (0.133) |
| NT | 2,053 | 536 | 381 | 539 |
| N | 768 | 264 | 264 | 264 |

**Source:** SOEP v32.1 2009-2014, unbalanced panel, own calculations.

**Notes:** This table presents the baseline results for two alternative definitions of the experimental groups. Control variables include all the conditioning variables shown in the above tables and state-level variables such as the immigrant share of population and log of the number of rightwing violent crimes. A third-order polynomial is used for the control variable age, whereas, second-order polynomials are used for control variables education and experience. Robust standard errors (clustered at individual level) in parentheses: *** p<0.01, ** p<0.05, * p<0.1.

## Appendix B: Lead and lag effects of the matched sample

**Table B.1: Lead and lag effects of the treatment**

| | (1) FE | (2) RE | (3) OLS |
|---|---|---|---|
| Turks*survey year 2010 | 0.0170 | 0.0198 | 0.0302 |
| | (0.0774) | (0.0680) | (0.0729) |
| Turks*survey year 2011 | -0.00500 | 0.0161 | 0.0255 |
| | (0.0856) | (0.0800) | (0.0877) |
| Turks*survey year 2012 | 0.175** | 0.186** | 0.201** |
| | (0.0775) | (0.0729) | (0.0791) |
| Turks*survey year 2013 | 0.103 | 0.121 | 0.144* |
| | (0.0802) | (0.0761) | (0.0850) |
| Turks*survey year 2014 | 0.177** | 0.181** | 0.202** |
| | (0.0831) | (0.0757) | (0.0811) |
| NT | 3,458 | 3,458 | 3,458 |
| N | 1,287 | 1,287 | 1,287 |

**Source:** SOEP v32.1 2009-2014, unbalanced panel, own calculations.

**Notes:** This table presents the lead and lag effects of the baseline model presented in Table 4 with different estimation methods. Robust standard errors (clustered at individual level) in parentheses: *** p<0.01, ** p<0.05, * p<0.1.

## Appendix C: Estimates using the unmatched sample

It is possible that, albeit it was necessary, the main results reported in the paper are prone to the decision of implementing the matching strategy. In this subsection, I investigate whether we find a qualitatively similar increase in worries about xenophobic hostility among Turks in Germany on an unmatched sample.

**Table C.1: Unmatched sample (lead and lag effects)**

| | (1) All sample | (2) After dropping immigrants from Islamic Countries from the control group | (3) After dropping Muslims from the control group |
|---|---|---|---|
| Turks*survey year 2010 | 0.0305 | 0.0348 | 0.0311 |
| | (0.0539) | (0.0540) | (0.0541) |
| Turks*survey year 2011 | 0.0487 | 0.0608 | 0.0593 |
| | (0.0584) | (0.0586) | (0.0587) |
| Turks*survey year 2012 | 0.0884 | 0.102* | 0.105* |
| | (0.0601) | (0.0603) | (0.0604) |
| Turks*survey year 2013 | 0.0294 | 0.0340 | 0.0337 |
| | (0.0588) | (0.0591) | (0.0593) |
| Turks*survey year 2014 | -0.0136 | 0.00385 | 0.00206 |
| | (0.0591) | (0.0595) | (0.0597) |
| NT | 24,712 | 21,852 | 21,129 |
| N | 9,839 | 8,438 | 8,183 |

**Source:** SOEP v32.1 2009-2014, unbalanced panel, own calculations.

**Notes:** In this table, I re-estimate the main results on the unmatched sample. Column (1) presents the results with sample restrictions identical to baseline specification. In column (2), I estimate the results after dropping individuals from all Islamic countries from the control group. In column (3), I further drop Muslim respondents from the control group and re-estimate the results. Robust standard errors (clustered at individual level) in parentheses: *** p<0.01, ** p<0.05, * p<0.1.

## Appendix D: Conditioning on all outcomes together

The survey questions asking information on respondents' worries, i.e. worries about xenophobic hostility as well as crime development, were included annually in the SOEP questionnaire. However, survey questions asking information on respondents' self-identification, i.e. Feel German, Feel Foreign and Connection to the home country, were included biennially in the SOEP questionnaire. Therefore, in the paper, I had presented the matching strategy separately for outcomes indicating respondents' worries and their self-identification. Here, I present results for the matching strategy performed on all the outcomes together. The summary of means of conditioning variables can be made available on request. In conclusion, even after conditioning on all outcomes together, I find qualitatively similar results to the ones reported in the paper.

**Table D.1: Means of conditioning variables of treated, controls and matched controls (pre-treatment)**

| | Means | | |
|---|---|---|---|
| **Variables** | **Treated Turks** | **Control Non-Turks** | **%bias** |
| Age | 44.360 | 45.012 | -4.4 |
| SGI | 11.628 | 13.953 | -6.7 |
| Rural | 85.465 | 84.884 | 1.6 |
| Female | 50.581 | 45.349 | 10.5 |
| Married | 77.326 | 76.163 | 2.7 |
| Divorced | 07.558 | 06.977 | 2.1 |
| Disabled | 1.9128 | 1.8895 | 7.5 |
| Education | 10.064 | 10.131 | -2.9 |
| Work experience | 16.622 | 16.410 | 1.6 |
| Ln HH income | 7.7067 | 7.7034 | 0.6 |
| Job type: Medium skilled | 16.279 | 15.698 | 1.5 |
| Job type: High skilled | 02.326 | 03.488 | -5.6 |
| Owns the house | 37.791 | 37.209 | 1.2 |
| Oral German: very good | 65.698 | 59.302 | 13.4 |
| Written German: very good | 50.581 | 48.256 | 4.7 |
| HH relation: Head | 50.000 | 48.837 | 2.3 |
| Duration since migration: Medium | 20.349 | 20.930 | -1.4 |
| Duration since migration: Long | 78.488 | 78.488 | 0.0 |
| Worries about xenophobic hostility | 2.0116 | 2.0349 | -3.4 |
| Worries about crime development | 2.2965 | 2.2674 | 4.4 |
| Feel German | 2.7442 | 2.6628 | 7.0 |
| Feel Foreign | 3.5233 | 3.6105 | -7.2 |
| Connected to home country | 3.5581 | 3.6453 | -8.3 |
| **NT** | 172 | 172 | |
| **Mean Bias** | 4.5 | | |
| **Median Bias** | 4.4 | | |

**Source:** SOEP v32.1 2009-2011, unbalanced panel, own calculations.
**Notes:** This table provides the means and % standardized bias of the conditioning variables used for matching procedure. Means of the dummy variables are displayed in % terms. Other conditioning variables not shown here is the third-order polynomial used for the control variable age.

## Table D.2: Lead and lag effects when conditioning on all outcomes together

| | Model 1 | | | |
|---|---|---|---|---|
| | (1) | (2) | (3) | (4) |
| VARIABLES | Worries about Xenophobic Hostility | Feel German | Feel Foreign | Connected to home country |
| Turks*survey year 2010 | 0.00367 | | | |
| | (0.0858) | | | |
| Turks*survey year 2011 | 0.0518 | | | |
| | (0.0972) | | | |
| Turks*survey year 2012 | 0.189* | -0.576*** | 0.520** | 0.185 |
| | (0.105) | (0.163) | (0.206) | (0.137) |
| Turks*survey year 2013 | -0.0303 | | | |
| | (0.103) | | | |
| Turks*survey year 2014 | 0.294** | -0.336** | | 0.343*** |
| | (0.116) | (0.156) | | (0.131) |
| NT | 1,440 | 707 | 512 | 711 |
| N | 344 | 344 | 344 | 344 |

**Source:** SOEP v32.1 2009-2014, unbalanced panel, own calculations.

**Notes:** This table presents the lead and lag effects of the baseline model when conditioning on all outcomes together. Control variables include all the conditioning variables shown in Table 3 and state-level variables such as the immigrant share of population and log of the number of rightwing violent crimes. A third-order polynomial is used for the control variable age, whereas, second order polynomials are used for control variables education and experience. Robust standard errors (clustered at individual level) in parentheses: *** p<0.01, ** p<0.05, * p<0.1.

## Appendix E: Conditioning for assimilation outcomes

### Table E.1: Means of conditioning variables of treated, controls and matched controls (pre-treatment)

| Variables | Matching Status | Means Treated Turks | Means Control Non-Turks | %bias | % red. in bias |
|---|---|---|---|---|---|
| **A. Demographic characteristics** | | | | | |
| Age | Unmatched | 45.294 | 48.833 | -24.1 | |
| | Matched | 45.706 | 45.321 | 2.6 | 89.1 |
| SGI | Unmatched | 08.163 | 20,837 | -36.6 | |
| | Matched | 10.695 | 15,508 | -13.9 | 62.0 |
| Rural | Unmatched | 86.122 | 82,473 | 10.0 | |
| | Matched | 86.096 | 86,631 | -1.5 | 85.3 |
| Female | Unmatched | 46.939 | 54.722 | -15.6 | |
| | Matched | 48.663 | 50.267 | -3.2 | 79.4 |
| Married | Unmatched | 81.224 | 71.081 | 23.9 | |
| | Matched | 78.610 | 75.401 | 7.6 | 68.4 |
| Divorced | Unmatched | 07.347 | 09.542 | -7.9 | |
| | Matched | 07.487 | 07.487 | 0.0 | 100.0 |
| Disabled | Unmatched | 1.898 | 1.887 | 3.5 | |
| | Matched | 1.8984 | 1.893 | 1.7 | 51.0 |
| **B. Economic characteristics** | | | | | |
| Education | Unmatched | 9.6653 | 11.647 | -87.3 | |
| | Matched | 9.9626 | 10.053 | -4.0 | 95.4 |
| Log HH income | Unmatched | 7.6734 | 7.7915 | -23.0 | |
| | Matched | 7.6818 | 7.6824 | -0.1 | 99.4 |
| Job type: Medium skilled | Unmatched | 14.286 | 21.714 | -19.4 | |
| | Matched | 15.508 | 13.904 | 4.2 | 78.4 |
| Job type: High skilled | Unmatched | 01.633 | 07.400 | -28.0 | |
| | Matched | 02.139 | 00.535 | 7.8 | 72.2 |
| Owns the house | Unmatched | 35.51 | 41.772 | -12.9 | |
| | Matched | 36.898 | 36.898 | 0.0 | 100.0 |
| **C. Migration-related characteristics** | | | | | |
| Oral German: very good | Unmatched | 59.184 | 69.620 | -21.9 | |
| | Matched | 63.636 | 64.171 | -1.1 | 94.9 |
| Written German: very good | Unmatched | 44.898 | 57.644 | -25.7 | |
| | Matched | 47.594 | 49.198 | -3.2 | 87.4 |
| HH relation: Head | Unmatched | 49.388 | 54.820 | -10.9 | |
| | Matched | 50.802 | 47.059 | 7.5 | 31.1 |
| Duration since migration: Medium | Unmatched | 18.367 | 25.414 | -17.1 | |
| | Matched | 19.251 | 17.112 | 5.2 | 69.6 |
| Duration since migration: Long | Unmatched | 80.816 | 71.665 | 21.6 | |
| | Matched | 79.679 | 82.888 | -7.6 | 64.9 |
| **D. Pre-treatment outcomes** | | | | | |
| Feel German | Unmatched | 2.5592 | 3.3982 | -72.2 | |
| | Matched | 2.6952 | 2.6043 | 7.8 | 89.2 |
| Feel Foreign | Unmatched | 3.6163 | 3.4138 | 16.6 | |
| | Matched | 3.5561 | 3.5241 | 2.6 | 84.2 |
| Connect | Unmatched | 3.7061 | 3.3836 | 30.6 | |
| | Matched | 3.6417 | 3.6471 | -0.5 | 98.3 |
| **NT** | | 187 | 187 | | |
| **Mean Bias** | Unmatched | 25.6 | | | |
| | Matched | 3.8 | | | |
| **Median Bias** | Unmatched | 22.5 | | | |
| | Matched | 2.9 | | | |

**Source:** SOEP v32.1 2009-2011, unbalanced panel, own calculations.
**Notes:** This table provides the means and % standardized bias of the conditioning variables used for matching procedure (before and after the matching). The first two columns present the means for Turkish and non-Turkish immigrants in Germany. Third and fourth columns present % standardized bias and post-matching

reduction in the standardize bias. Means of the dummy variables are displayed in % terms. Other conditioning variables not shown here include a third-order polynomial of the control variable age.

## Appendix F: Conditioning separately for worries about crime development in Germany

**Table F.1: Means of conditioning variables of treated, controls and matched controls (pre-treatment)**

| | Means | | |
|---|---|---|---|
| **Variables** | **Treated Turks** | **Control Non-Turks** | **%bias** |
| Age | 42.616 | 42.261 | 2.4 |
| SGI | 16.350 | 17.300 | -2.2 |
| Rural | 86.287 | 88.080 | -4.8 |
| Female | 48.734 | 50.949 | -4.4 |
| Married | 79.536 | 77.532 | 4.6 |
| Education | 10.151 | 10.140 | 0.5 |
| Work experience | 14.732 | 14.161 | 4.6 |
| Ln HH income | 7.6575 | 7.6426 | 2.9 |
| Job type: Medium skilled | 13.819 | 13.186 | 1.7 |
| Job type: High skilled | 02.532 | 02.110 | 1.8 |
| Oral German: very good | 47.785 | 46.730 | 2.1 |
| Written German: very good | 38.397 | 37.658 | 1.6 |
| HH relation: Head | 51.160 | 50.738 | 0.8 |
| Owns the house | 33.966 | 33.017 | 2.0 |
| Divorced | 07.700 | 08.122 | -1.5 |
| Disabled | 1.9019 | 1.9093 | -2.5 |
| Duration since migration: Medium | 21.730 | 20.886 | 2.0 |
| Duration since migration: Long | 76.266 | 77.004 | -1.7 |
| Pre-treatment worries about crime development | 2.2395 | 2.2584 | -2.8 |
| **NT** | 948 | 948 | |
| **Mean Bias** | 2.4 | | |
| **Median Bias** | 2.0 | | |

**Source:** SOEP v32.1 2009-2011, unbalanced panel, own calculations.
**Notes:** This table provides the means and % standardized bias of the conditioning variables used for matching procedure. Means of the dummy variables are displayed in % terms. Other conditioning variables not shown here is the third-order polynomial used for the control variable age and second-order polynomials for education and experience. Other conditioning variables not shown here include dummies representing survey years and states.

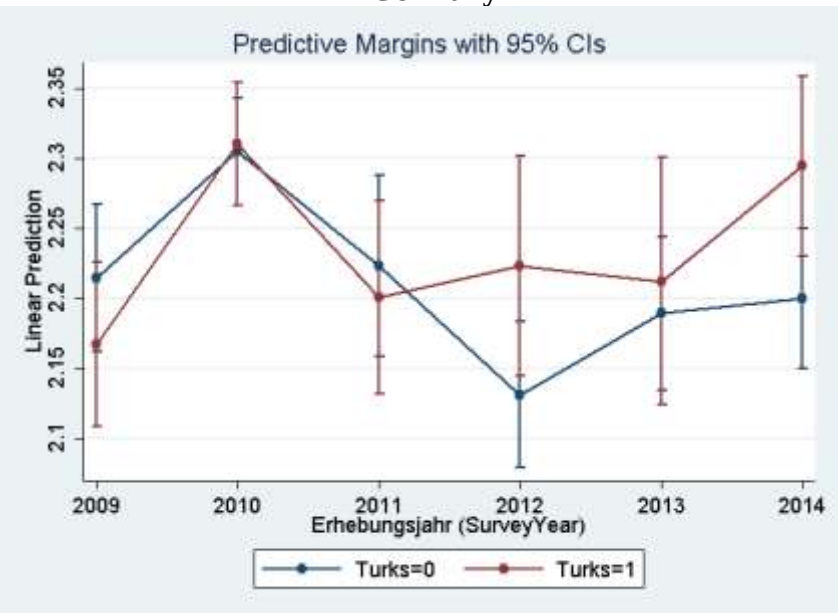
## Table F.2: Worries about crime development in Germany

| | (1) |
|---|---|
| | Worries about Crime development |
| Turks*post2011 | 0.0994** |
| | (0.0423) |
| NT | 3,645 |
| N | 1,344 |

**Source:** SOEP v32.1 2009-2014, unbalanced panel, own calculations.

**Notes:** This table presents the baseline results when conditioning on pre-treatment worries about crime development. Control variables include all the conditioning variables shown in Table F.1 and state-level variables such as the immigrant share of population and log of the number of rightwing violent crimes. A third-order polynomial is used for the control variable age, whereas, second order polynomials are used for control variables education and experience. Robust standard errors (clustered at individual level) in parentheses: *** p<0.01, ** p<0.05, * p<0.1.

## Figure F: Evolution of worries of worries about crime development in Germany




**Source:** SOEP v32.1 2009-2014, unbalanced panel, own calculations.
**Notes:** The figure plots the predictive margins (with 95% CI) respondent's worries about crime development in Germany. The treatment dummy (post2011) is replaced with survey year dummies to obtain the predictive margin for each year.