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

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

## Abstract

In 2011, German police accidentally stumbled upon a previously unknown right-wing extremist group called the National Socialist Underground (NSU). Further investigations implicated the group in previously unexplained murders of mostly ethnically Turkish individuals and in other crimes targeting Islamic immigrants in Germany. Using German Socioeconomic Panel (SOEP) data, this paper offers the first evidence that the 2011 revelations of the NSU crimes resulted in an increase in perceived fears of 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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“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).<sup>1</sup> 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 outcomes.<sup>2</sup> To fill this gap in the literature, this paper considers an episode of 2011, during which the National

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<sup>1</sup> The other major strand of economics literature investigates the impact of terrorist events on further deterioration of 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).

<sup>2</sup> More relevant for this paper, Goel (2010) shows that, in the aftermath of 9/11 attacks in the US, Muslim-Arab immigrants in Australia reported religious and racial intolerance and perceptions of discrimination. Using German data, Schueller (2016) finds that native German residents developed a more negative attitude towards immigration and lowered their concerns about xenophobic hostility to immigrants in the Germany post-9/11 attacks. However, like other articles mentioned above, these articles investigate the impact of an Islamist terror attack, i.e. 9/11 attacks, on the countries outside the US.

Socialist Underground (NSU) network, a right-wing extremist group, was exposed as having targeted and killed individuals of mostly Turkish ethnicity in Germany.<sup>3</sup> The paper investigates whether these revelations induced fears of hostility and victimhood among the targeted group and affected their social assimilation and wellbeing.<sup>4</sup>

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).

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. 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

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<sup>3</sup> The NSU was referred as a "right-wing extremist group" by the federal prosecutor in the arrest warrant dated 13<sup>th</sup> November 2011 (see Federal Prosecutor's office 2011).

<sup>4</sup> 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.

likely that Turks viewed the failure of investigating authorities as a continuation of their historical maltreatment by German institutions. In the aftermath of these revelations, their reinforced justification might have manifested in a number of ways. First, Turks may be worried about new hostility directed at them post-2011 revelations of the judicial cover-up of the crimes targeted against them. For example, a poll conducted a month after the revelations by SEK/POL-Data4U underlines this possibility. It shows 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). Second, the 2011 revelations are likely to generate a feeling of estrangement among the Turks and may force them to reevaluate their place in the German society. Despite the descriptive evidence, however, to the best of my knowledge, no formal empirical investigation studies the impact of 2011 revelations on the social outcomes of Turkish minorities in Germany. This paper fills the gap in the literature and underlines the role of the news treatment of judicial delays over right-wing crimes for the target group’s social fears and assimilation.

The paper offers the first evidence that, among Turkish immigrants in Germany, the 2011 revelations induced fears about living as perceived foreigners in Germany.<sup>56</sup> The data used here originates from the German Socio-economic Panel (SOEP). The variable that records respondents’ fears of xenophobic hostility asks respondents to report their worries about hostility to foreigners. The news treatment effect is shown to be particularly intense among

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<sup>5</sup> The definitions of the treated and control groups are as presented in section 4. The analysis considers the following two treated groups: 1) Turks (first-generation and second-generation immigrants from Turkey), 2) Muslims (first-generation and second-generation immigrants who self-report their religious belonging as Islamic).

<sup>6</sup> Here onwards Turkish immigrants in Germany are sometimes referred to as *Turks*.

respondents with higher consumption of newspapers and respondents residing in the state of *Bavaria* where NSU trial is currently being held. Additionally, the results show that Turkish immigrants reported no statistically significant divergence in their worries about general crime development in Germany, i.e. no evidence of an increase in violence targeted against them during the same period.

Existing research demonstrates that the fear of hostility generated by violent events can have lasting effects on human behavior. For example, research shows that the fear activated by terror events induces racial prejudice and political conservatism in the minds of targeted groups (Echebarria-Echabe & Fernández-Guede 2006) and generates support for right-wing political parties (Berrebi and Klor 2008).<sup>7</sup> The 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).<sup>8</sup> This paper further contributes to the literature by studying the impact of 2011 revelations of delayed justice on Turkish immigrants' assimilation into German culture.

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<sup>7</sup> Geys and Qari (2017) find a short-lived effect of 2010 Stockholm bombings on Swedish respondents' social trust attitudes, i.e. generalized trust and neighborhood trust.

<sup>8</sup> Gould and Klor (2016) find that Muslim immigrants living in states with the sharpest post-9/11 increase in hate crimes made more cohesive and traditional choices and exhibited less-assimilated outcomes by manifesting greater chances of marrying within their own ethnic group; higher fertility; lower female labor force participation; and lower English proficiency. Haddad (2007) finds that the post-9/11 backlash ceased the process of Americanization of the American Muslims and accelerated their re-Islamization. Elsayed and de Grip (2017) find that the outrage triggered in the aftermath of the murder of the Dutch filmmaker, Theo van Gogh, by the radical Islamist terrorist resulted in negative attitudes towards integration into the Dutch society among Muslims in the Netherlands.



In particular, the paper asks whether the 2011 revelations reinforced the feeling of estrangement (the *away* feeling) among the Turkish minority in Germany and thus affected their social assimilation into the host culture. For the analysis of social assimilation, I consider respondent's self-identification (on a 5-point scale) 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.<sup>9</sup>

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 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

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<sup>9</sup> Ample amount of other 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 the strengthening of the social fabric. For example, many studies discuss the relevance of individual identity for his/her behavior towards others in the society, and hence, for society's general welfare (Bernhard et al. 2006, Goette et al. 2006, and Charness et al. 2007). A number of other studies have demonstrated the link between individual's identity and their economic behavior (Constant and Zimmermann 2008, Casey and Dustmann 2010, Georgiadis and Manning 2013).

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 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, even in the absence of any evidence of a new backlash generated against Turkish minorities in the post-2011 Germany, 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 the context of the emerging literature studying the impact of terror events on the targeted group's social 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 results have important implications for the contemporaneous rise of anti-immigration violence and 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. For example, I show that the results hold even after distinct definitions of the experimental groups are used. Additionally, the robustness of the

mechanism is tested with special consideration to pseudo-outcomes. The policy implications of these findings are discussed in the final section.

## 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.<sup>10</sup> 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.<sup>11</sup>

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<sup>10</sup> These murders were sometimes pejoratively referred as Doner-murders or Bosphorus-murders resulting from the unfounded suspicions of the role of Turkish mafia in the murders.

<sup>11</sup> 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.

The NSU's activities are currently undergoing criminal investigation, and the famous *NSU trial* enjoys extensive coverage 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 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 (New York Times 2012, 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.<sup>12</sup> Nevertheless, German authorities did not pursue any of the recommendations. 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

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<sup>12</sup> 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."

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 present the hypothesis that I study in the paper that the treatment is not necessarily the revelations of the previously unresolved crimes and the identity of the perpetrators, but it is the impact of revelations of authorities’ cover-up that delayed the justice over crimes against Turkish minorities.

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, 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.

### 3. ESTIMATION STRATEGY

To investigate the causal impact of the news treatment of 2011 revelations of the delayed justice on targeted group’s perceived 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. Turkish immigrants in Germany, with nearly identical control observations, i.e. non-Muslim and non-Turkish immigrants in Germany, and then study how their outcomes (here perceived worries and social assimilation variables) 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 11<sup>th</sup> November 2011 and 0 otherwise.<sup>13</sup> The continuous variables  $Y_0$  and  $Y_1$  denote the potential outcomes on the 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. The causal effect of interest, i.e. the average treatment effect on the treated (ATT), is thus given by

$$E(Y_1|D = 1) - E(Y_0|D = 1) \quad (1).$$

In words, equation (1) is the difference between the expected outcomes for the treated with and without the 2011 revelations. Given that the ATT specifically focuses on the outcomes of the treated only, it helps me to estimate the actual impact of the 2011 revelations on the targeted group of the NSU crimes. However, ATT estimation faces a pertinent problem. That is, one can observe only one of the potential outcomes (i.e.  $E(Y_1|D = 1)$ ) and the counterfactual

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<sup>13</sup> The exact date when the authorities uncovered NSU crimes can vary between 4<sup>th</sup> November (when they accidentally stumbled upon the NSU network) and 13<sup>th</sup> November (when authorities filed the charges). More details emerged even later that year. However, the exactness of the date of revelations does not present a threat to the identification as SOEP questionnaire was completed before the month of November in the year 2011. The first post-treatment observation is in the year 2012.

expected outcome for the treated individual ( $E(Y_0|D = 1)$ ) is unobservable. In words, one cannot observe post-2011 outcomes for the Turks if the 2011 revelations had not occurred. Thus, I construct  $E(Y_0|D = 1)$  using statistical methods as briefly described below.

First, 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 ( $Y$ ). An issue may arise that there may exist unobserved characteristics that simultaneously influence the treatment assignment ( $D$ ) as well as potential outcome in the case of no treatment ( $Y_0$ ). To address this issue, the assumption of *strong ignorability* is generally called, following Caliendo and Kopeinig (2008). More formally, this assumption involves two conditions written as follows:

$$Y_0 \perp D | W \quad (2)$$

$$P(D = 1|W) < 1 \quad (3)$$

where  $\perp$  denotes independence.

Equation (2), referred to as (weak) *unconfoundedness*, assumes that  $Y_0$  is independent of the treatment assignment  $D$ , given a set of observable covariates  $W$  unaffected by the treatment (Caliendo and Kopeinig 2008). In words, there exists no unobserved covariate that influences the treatment assignment as well as outcomes of interest simultaneously. This enables me to estimate the unobserved  $Y_0$  using the observed outcome of control units (i.e. of non-Turks). Equation (3), referred to as a (weak) common support condition or overlap condition, assumes that individuals with same observed characteristics  $W$  have a positive probability of being both the treated as well as controls.



It is worth noting that the *strong ignorability* assumption heavily relies on the quality and the amount of information contained in the set of conditioning variables  $W$ . I detail the choice and plausibility of the conditioning variables in the next section. When the number of observable covariates is large, it is 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  $W$ :  $p(W)=P(D=1|W)$ . The use of propensity score reduces the high-dimensionality problem posed by a large number of conditioning variables to a single dimension. The equation (2) hence becomes

$$Y_0 \perp D | p(W) \quad (2').$$

Given that the assumption of unconfoundedness holds and that there is a sufficient overlap between the groups, the new equation of the ATT is given by

$$E(E(Y_1|p(W), D = 1) - E(Y_0|p(W), D = 0)|D = 1) \quad (4).$$

Equation (4) 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.<sup>14</sup> As noted above, this step demands a careful consideration of the choice of conditioning variables  $W$  that

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<sup>14</sup> 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.

are not affected by the treatment or by respondent's anticipation of the treatment. To ensure this, I perform this step on the sample restricted to the pre-treatment period (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. 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 perceived worries and social assimilation outcomes of Turkish immigrants in Germany. The following regression equation is estimated:

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

(4)

where  $y_{it}$  is the outcome variable of the respondent  $i$  in year  $t$ . The dummy variable  $\text{Post2011}_t$  takes the value of 1 if the observation is recorded after the 2011 revelations in Germany and 0 otherwise. The dummy  $\text{Treated}_i$  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 perceived worries and assimilation outcomes i.e. immigrant share of total

population and the total number of rightwing violent crimes.<sup>15</sup>  $\gamma_i$  are the individual specific fixed-effects.  $\gamma_s$  and  $\gamma_t$  are state and year dummies and  $u_{it}$  is the error term.

In the first step of the analysis, 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). Furthermore, I ask whether the treatment intensity varies across respondents' state of residence and the newspaper readership.

#### 4. 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.<sup>16</sup> 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

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<sup>15</sup> These variables provide useful controls for changing socio-economic factors in contemporary Germany as per discussed in section 2.

<sup>16</sup> 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 asked only to FGIs and SGIs.

restrict the sample to observations from West Germany only. Depending on the availability of the data on assimilation outcomes, the sample period is restricted to 2009-2014.<sup>1718</sup>

### *Definitions of Treated and Control groups*

A first-generation immigrant (FGI) is a Turkish immigrant if he/she reports her country of origin as Turkey. For second-generation immigrants (SGI), the respondent is exposed to the treatment if one of the parents were born in 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 (Model 1).<sup>19</sup>

The SOEP also 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-

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<sup>17</sup> The assimilation variables were not included in all survey waves as shown in Table 2.

<sup>18</sup> 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).

<sup>19</sup> 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 originates from one of these countries. In essence, I exclude respondents who do not report to be related to Turkey (directly by birth or via parents' birth) and report to originate in 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.

invariant information to make use of another definition of the treated group “Muslim”.<sup>20</sup> 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.<sup>21</sup> Thus, I restrict the control group to non-Muslim immigrants originating from non-*Islamic* countries (Model 2).

### *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

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<sup>20</sup> The assumption that the respondent’s religious belonging is a time-invariant characteristic can be tested for robustness. In section 5, I remove 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.

<sup>21</sup> The countries where the dominant religion is Islam include MENA countries listed previously. 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.

referred to as *perceived 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 *perceived 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 respondents to report their perceived worries (both perceived xenophobic hostility as well as perceived 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. 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 these questions are annually included in the SOEP and consist of individual responses ranging from 0 (very dissatisfied) to 10 (very satisfied).

### *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 all the conditioning variables used for matching (total 36 variables). It covers a number of variables covering an individual's demographic, economic and migration-related characteristics. I also use baseline outcome variables as conditioning variables, i.e. pre-treatment perceived xenophobic hostility, perceived crime development, health satisfaction and life satisfaction. The matching quality is generally assessed by comparing the means of the conditioning 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. 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%.<sup>22</sup> Another indicator of matching quality is the post-matching reduction in mean and median %SB of the models under consideration. The mean %SB for the selected variables in Model 1 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%. A similar reduction is attained for Model 2.

Now, I briefly mention the conditioning and the matching quality of the sample consisting of assimilation outcomes (#3-5). The matching procedure for these outcomes is performed separately as the two samples are not comparable.<sup>23</sup> That is, assimilation outcomes are asked biennially (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. The variable balance is achieved without conditioning for state dummies, survey year dummies, and work experience. The means of the conditioning variables for the treated and the control are shown in table A1 in the online appendix (available upon request). The matching quality for the assimilation outcomes (outcomes #3-6) is vastly affected due to their inconsistent inclusion in the survey, as denoted by the substantial increases in the %SB.

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<sup>22</sup> The %SB is larger than 5% for following variables of Model 1: married, duration since migration medium and longer, and life satisfaction. For Model 2, these variables are: age, married, job type (medium skilled) and owner of the house.

<sup>23</sup> This restriction is not crucial for the main message of the paper. Table A2 in the online appendix presents 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.



## 5. RESULTS AND DISCUSSION

This section reports the main results performed using the estimation strategy presented in section 3.

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

Table 4 presents the main results for respondent's perceived worries. Column (1) presents the results for Turkish immigrants in Germany (Model 1). Column (2) presents the results for Muslim immigrants in Germany (Model 2). The main result of the column (1) of panel 4A shows that, in the aftermath of 2011 revelations, Turkish immigrants in Germany reported a statistically significant increase in their perceived xenophobic hostility. Point estimate suggests that Turks reported 0.152 increase in perceived xenophobic hostility, which is about 21.5 percent of one within-individual standard deviation in perceived xenophobic hostility. Similarly, column (2) reports that Muslim immigrants recorded an equivalent increase in perceived xenophobic hostility in Germany after the 2011 revelations.<sup>24 25</sup>

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<sup>24</sup> The matching procedure was implemented because the pre-treatment means of explanatory variables of treated and control groups are not comparable as shown in Table 3. The treatment effect and the common trend assumption (CTA), however, are not conditional on the matching procedure. Table A3 in the online appendix shows 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 perceived xenophobic hostility of Turkish immigrants in Germany statistically significantly increased in the post-treatment year of 2012.

<sup>25</sup> The baseline results do not depend on the choice of the estimation model. Table A4 in the online appendix presents the lead and lag effects of the treatment with fixed-effects model, random effects model, and the OLS. The results are qualitatively similar.

The results in panel 4B find that Turkish immigrants also recorded an increase in perceived crime development Germany post-2011 revelations, though not as strongly. In other words, the results show that Turkish and Muslims immigrants in Germany were significantly more fearful of xenophobic hostility directed at them rather than general crime level in their surroundings post-2011 revelations.

### **Evolution of perceived worries of Turks in Germany**

As 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 perceived worries.

An important assumption made in the above analysis is that the perceived worries of 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 assumption of the DiD estimation strategy. To test the common trend assumption and to provide a conclusive proof that the increased perceived xenophobic hostility was indeed associated with 2011 revelations and was not the result of a contemporaneous increase in xenophobic violence, I exploit the sample period under consideration. Using survey year dummies in place of the treatment indicator (post2011) in the interaction with the treated dummy (Turks), I study the evolution in perceived worries.

Figure 3A plots the evolution of worries towards xenophobic hostility for both models. 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. A similar increase is observed for Muslim immigrants in Germany (model 2). 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 for both models. Unlike figure 3A, however, I do not observe any statistically significant divergence in worries towards general crime development in Germany between the treated (Turks/Muslims) and control groups (non-Turks/non-Muslims) 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 necessary increase in worries about actual crime targeted against them.

## **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, 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.<sup>26</sup>

Following the literature demonstrating that newspapers' presentation of crimes on 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 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. It is

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<sup>26</sup> 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.

pertinent to discuss 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.

Table 5A presents the main results. In columns (1) and (5), I estimate the baseline regressions by restricting the sample to respondents who report to reading newspapers (against respondents who do not to read any newspapers). The estimates are larger than the magnitudes obtained in table 4, suggesting the role of news media in intensifying the treatment effect. Columns (2)-(4) 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. Main results of columns (2) and (6) show that the impact of the coverage of 2011 revelations by Turkish newspapers is very limited. Columns (3)-(4) and (7)-(8) report that respondents who read German newspapers and respondents who read German as well as foreign newspapers (larger 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 is currently being held in Munich, Bavaria. Therefore, it follows

that the NSU episode receives extensive and frequent coverage than other states in Germany. In table 5B, I estimate the results separately for Bavaria. Estimates show that the Turks living in Bavaria reported a much larger increase in their worries towards xenophobic hostility than the average effect.

### **Heterogeneous treatment effects**

Now I exploit pertinent individual characteristics to study the heterogeneous effect of the 2011 revelations. I consider the following three characteristics: immigration status (FGI vs. SGI), education (high educated vs. low educated), and religiosity (religious vs. non-religious). It is possible that the respondent's immigration status may be an important consideration for the heterogeneity of the treatment effect. Especially, first-generation immigrants, with lesser assimilated outcomes than second-generation immigrants, can be more exposed to 2011 news treatment. In table 6, I test this 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, I study whether highly educated and religious respondents were less (or high) likely to respond strongly to the treatment than their low educated and non-religious counterparts. To test this 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 respondent's religiosity, I use another SOEP variable asking respondents whether they performed religious services in last 7 days. I interpret survey response yes as an indicator of respondent's religiosity. Columns

(2) and (3) report the results of the interaction. The results show that the treatment effect was uniform across the respondent's education and religiosity.

### **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, these 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 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.

### **Additional robustness checks**

#### *Alternative/restrictive definitions of the treated (Model 1)*

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 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 (Model 1)*

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 Diasporas 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 and MENA countries listed in section 4. Panel C of Table 9 shows the results. The results are virtually unchanged.

#### *“Irregular” Muslim observations (Model 2)*

Religious information (Muslim) is assumed to be a time-invariant characteristic of the respondent, i.e. the dummy Muslim takes the value of 1 if the respondent reports belonging to an Islamic religion in any of the survey waves. Nevertheless, a number of respondents irregularly report their religion across survey waves, i.e. Muslim in one survey wave and Christians/other religions/non-religious in another. Therefore, I remove respondents who irregularly report their religion as Islamic from the sample and re-estimate the baseline regression for model 2 as shown in panel D of table 9. Main results of the paper hold.

#### *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 2017). 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 respondent's hourly wage by the following formula:  $\text{hourly\_wages} = (\text{monthly\_income} * 12) / (\text{weekly\_hours} * 52)$ . 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. In response, economists have produced a vast amount of research to investigate the attacks' socio-economic impact on natives and on minorities. Uniquely, this paper studies the impact of the 2011 revelations of the judicial delays over the investigation of unprovoked crimes committed by NSU against Turkish immigrants in Germany on their social outcomes.

The NSU murdered eight individuals of Turkish origin and carried out two bombings in the German city of Cologne (one in an Iranian grocery store and the other in a Turkish neighborhood). These crimes are widely regarded as attacks against immigrants in general. However, using German longitudinal data, this paper finds that Turkish immigrants in Germany particularly reported an increase in their perceived worries about hostility to foreigners in the aftermath of the 2011 revelations, while their worries about general crime development in Germany were not as affected. In conclusion, the findings indicate that, although the evidence on the post-2011 increase in worries about general crimes is weak, 2011 revelations have triggered fears of hostility and victimization among Turkish immigrants.

The results also report that the impact of the treatment was intense for respondents with higher newspaper consumption, and for respondents who live in the German state of Bavaria where the most murders were committed and currently the NSU trial is being held. The effect is found to be uniform across individual's immigration status, education, and religiosity.

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. There is also evidence of reduced health and life satisfaction among Turkish immigrants in Germany after the 2011 revelations. In summary, the study demonstrates the pertinence of delayed justice over right-wing animosity for the targeted group's social assimilation and their welfare in the host environment.

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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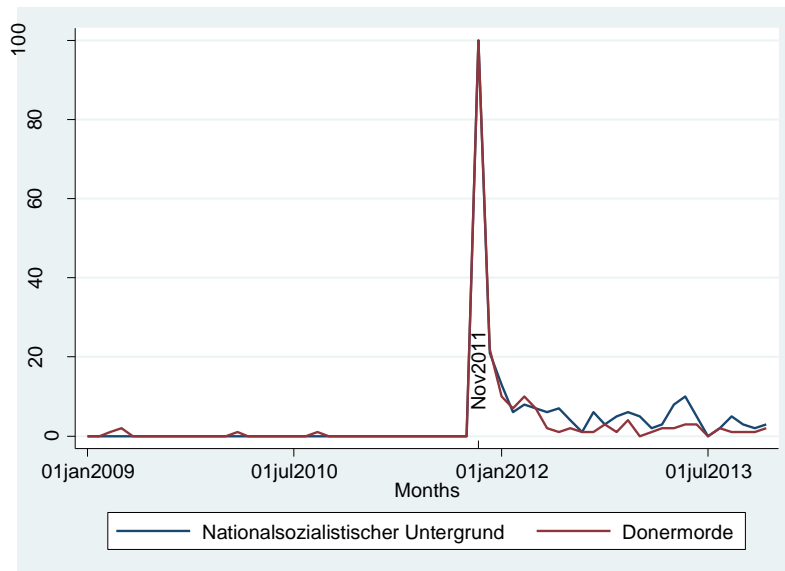
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## APPENDIX

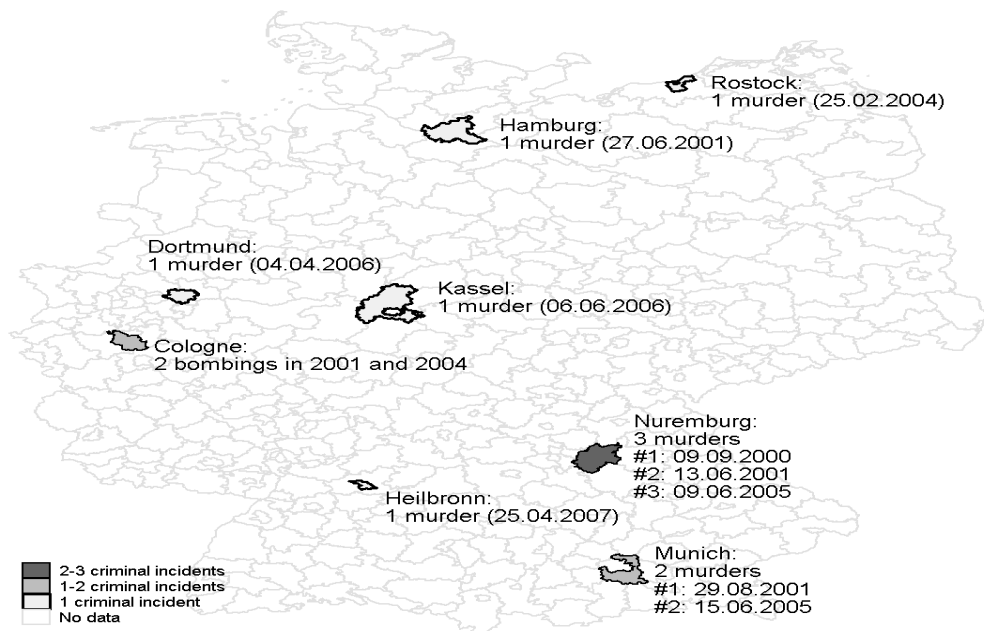
**Figure 1: Google trends of keywords search**



**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 within 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.

**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
<b>Criminal incidents (country aggregate)</b>								
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
<b>State-level variables</b>								
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)
<b>a. Perceived worries (all years)</b>			
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>b. Self-identification (asked in survey years 2010, 2012, 2013, 2014)</b>			
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)
<b>c. Health and life satisfaction (all years)</b>			
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	Model 1 Turks vs. non-Turks (FGIs + SGIs)			Model 2 Muslims vs. non-Muslims (FGIs + SGIs)		
		Means		%bias	Means		%bias
		Treated	Control		Treated	Control	
A. Demographic characteristics							
Age	Unmatched	42.639	46.837	-28.1	41.419	48.368	-46.3
	Matched	42.582	42.458	0.8	41.877	40.989	5.9
SGI	Unmatched	14.756	45.084	-70.2	25.520	48.128	-48.2
	Matched	16.444	18.222	-4.1	27.185	27.972	-1.7
Rural	Unmatched	87.537	78.966	23.1	90.362	79.248	31.3
	Matched	86.778	86.111	1.8	89.510	90.472	-2.7
Female	Unmatched	48.853	55.389	-13.1	48.419	55.444	-14.1
	Matched	48.778	49.778	-2.0	49.388	49.126	0.5
Married	Unmatched	80.758	64.598	36.9	76.947	63.465	29.8
	Matched	79.556	77.111	5.6	75.000	71.503	7.7
Divorced	Unmatched	07.478	10.692	-11.2	07.710	11.406	-12.6
	Matched	07.556	08.000	-1.5	08.217	09.353	-3.9
Disabled	Unmatched	1.9033	1.8971	2.1	1.8998	1.8908	2.9
	Matched	1.9078	1.9067	0.4	1.9003	1.9021	-0.6
B. Economic characteristics							
Education	Unmatched	10	11.81	-74.1	10.215	11.932	-68.8
	Matched	10.163	10.227	-2.6	10.389	10.436	-1.9
Work experience	Unmatched	14.413	18.753	-34.7	13.148	19.907	-54.4
	Matched	14.782	14.241	4.3	13.621	13.406	1.7
Log HH Income	Unmatched	7.655	7.772	-22.7	7.6578	7.7902	-24.6
	Matched	7.6621	7.6675	-1.1	7.6695	7.6524	3.2
Job type: Medium skilled	Unmatched	12.762	20.984	-22.1	14.803	20.953	-16.1
	Matched	13.889	12.667	3.3	15.734	13.636	5.5
Job type: High skilled	Unmatched	02.393	09.321	-29.8	03.084	10.167	-28.8
	Matched	02.667	02.333	1.4	03.409	03.322	0.4
Owner of the house	Unmatched	32.901	43.489	-21.9	29.838	45.089	-31.9
	Matched	33.889	35.556	-3.4	32.080	29.458	5.5
C. Migration-related characteristics							
Oral German: very good	Unmatched	47.557	37.134	21.2	58.134	35.671	46.2
	Matched	46.889	46.444	0.9	55.769	58.042	-4.7
Written German: very good	Unmatched	38.285	31.389	14.5	48.497	29.752	39.1
	Matched	37.333	36.667	1.4	46.329	47.815	-3.1
HH Relation: Head	Unmatched	50.548	56.910	-12.8	50.810	57.776	-14.0
	Matched	51.111	51.778	-1.3	50.699	52.185	-3.0
Duration since migration: Medium	Unmatched	19.840	24.199	-10.5	22.051	19.153	7.2
	Matched	22.000	18.667	8.1	23.427	24.65	-3.0
Duration since migration: Longer	Unmatched	78.365	73.52	11.3	75.944	78.586	-6.3
	Matched	76.000	80.00	-9.4	74.476	73.601	2.1
D. Pre-treatment outcomes							
Perceived xenophobic hostility	Unmatched	2.1226	1.9361	26.2	2.0717	1.9353	19.3
	Matched	2.0744	2.0822	-1.1	2.0437	2.0463	-0.4
Perceived crime development	Unmatched	2.2612	2.1656	13.9	2.2614	2.1518	16.0
	Matched	2.2333	2.2411	-1.1	2.2439	2.271	-4.0

Health Satisfaction	Unmatched	6.5474	6.8214	-11.9	6.751	6.773	-1.0
	Matched	6.6	6.6489	-2.1	6.8252	6.882	-2.5
Life Satisfaction	Unmatched	6.7567	7.1601	-22.3	6.8057	7.1645	-20.0
	Matched	6.8211	6.9533	-7.3	6.8872	6.8435	2.4
<hr/>							
Mean Bias	Unmatched	18.9			20.2		
	Matched	2.6			2.8		
Median Bias	Unmatched	13.5			15.0		
	Matched	1.7			2.6		

**Source:** SOEP v32.1 2009-2014, 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 Turkish and non-Turkish immigrants in Germany (Model 1) and the remaining three columns show the means and % standardized bias for Muslim and non-Muslim immigrants in Germany (Model 2). Means of the dummy variables are displayed in % terms. Other conditioning variables not shown here include dummies representing survey years and states. The pre-treatment number of observations that are on common support are as follows: Model 1 (Turks=900, non-Turks==900), and Model 2 (Muslims=1144, non-Muslims==1144). The share of treated off common support are as follows: Model 1 (0.0611), Model 2 (0.079).

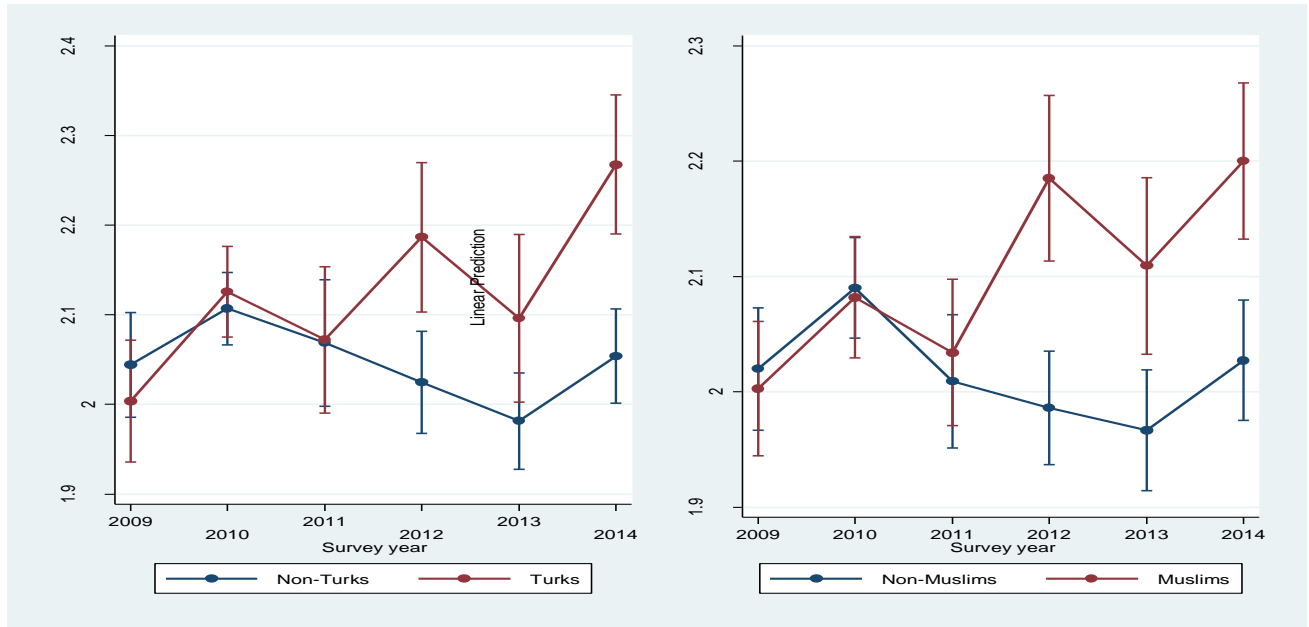
**Table 4: 2011 news treatment and perceived worries of Turkish and Muslim immigrants in Germany**

VARIABLES	(1)	(2)
	Model 1	Model 2
<b>A. Perceived xenophobic hostility</b>		
Turks*Post2011	0.152*** (0.0457)	
Muslim*Post2011		0.107*** (0.0413)
T	3,458	4,387
N	1,287	1,495
<b>B. Perceived crime development</b>		
Turks*Post2011	0.0740* (0.0434)	
Muslim*Post2011		0.0684* (0.0389)
T	3,455	4,389
N	1,287	1,495

**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' perceived worries about hostility to foreigners (panel A) and about general crime development in Germany (panel B). The dummy variable Post2011 takes the value of 1 if the observation was recorded post 11<sup>th</sup> 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.

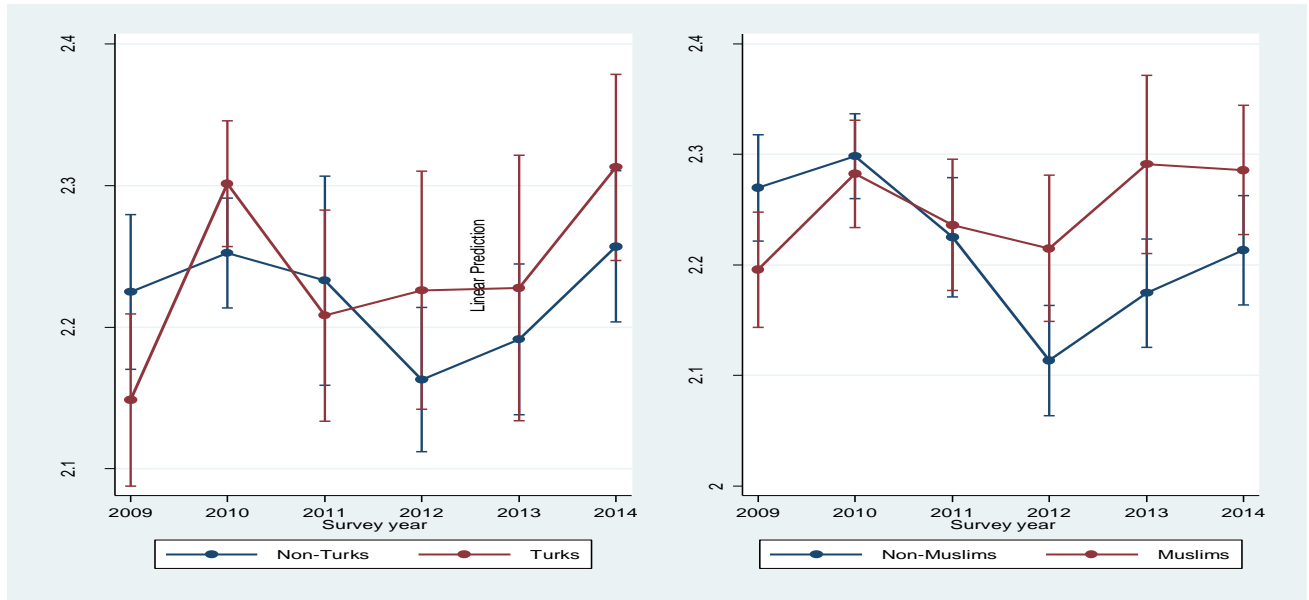
**Figure 3A: Evolution of worries of perceived xenophobic hostility in Germany**



**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. The left plot shows the evolution of worries of perceived xenophobic hostility for Turks and Non-Turks (Model 1) and the right plot for Muslims and Non-Muslims (Model 2).

**Figure 3B: Evolution of worries of perceived 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. The left plot shows the evolution of perceived worries about crime development in Germany for Turks and Non-Turks (Model 1) and the right plot for Muslims and Non-Muslims (Model 2).

**Table 5A: Treatment intensity (News source: Newspaper)**

VARIABLES	Model 1				Model 2			
	(1) Reads s Newspaper	(2) Only Foreign	(3) Only German	(4) Both	(5) Reads a newspaper	(6) Only Foreign	(7) Only German	(8) Both
Turks*Post2011	0.163*** (0.0485)	0.0691 (0.205)	0.111 (0.0827)	0.300*** (0.114)				
Muslim*Post2011					0.105** (0.0436)	0.0921 (0.226)	0.162** (0.0696)	0.218 (0.142)
T	3,184	306	1,341	583	4,005	370	1,811	730
N	1,229	108	450	196	1,414	125	565	249

**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 immigrant respondents who report reading foreign newspapers, German newspapers, and both newspapers. 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 5B: Treatment intensity (estimates for Bavaria)**

VARIABLES	(1) Model 1	(2) Model 2
Turks*Post2011	0.573*** (0.156)	
Muslim*Post2011		0.394*** (0.139)
T	475	536
N	180	186

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

**Notes:** The analysis presented in this table emphasizes the intensity of the treatment of 2011 revelations of the delayed justice over NSU crimes. I re-estimate the baseline results separately for Bavaria in which 5 murders were reported. 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 perceived xenophobic hostility**

	(1)	(2)	(3)	(4)	(5)	(6)
		Model 1			Model 2	
Turks*Post2011*SGI	0.0591 (0.127)					
Turks*Post2011*Highedu		-0.0899 (0.155)				
Turks*Post2011*Religious			0.0490 (0.0949)			
Muslim*Post2011*SGI				-0.112 (0.0904)		
Muslim*Post2011*Highedu					-0.0635 (0.110)	
Muslim*Post2011*Religious						0.0243 (0.0863)
T	3,458	3,458	3,458	4,387	4,387	4,387
N	1,287	1,287	1,287	1,495	1,495	1,495

**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 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 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 the social assimilation in Germany**

	(1)	(2)	(3)	(4)	(5)	(6)
		Model 1			Model 2	
VARIABLES	Feel German	Feel Foreign	Connected to home country	Feel German	Feel Foreign	Connected to home country
Turks*Post2011	-0.454*** (0.139)	0.415** (0.195)	0.207* (0.119)			
Muslim*Post2011				-0.333*** (0.113)	-0.0588 (0.176)	0.171* (0.102)
T	774	561	779	956	651	959
N	374	374	374	446	446	446

**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 A1 in the online appendix 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 and Muslims in Germany**

VARIABLES	(1)	(2)	(3)	(4)
	Model 1		Model 2	
	Life satisfaction	Health Satisfaction	Life Satisfaction	Health Satisfaction
Turks*Post2011	-0.110 (0.0956)	-0.235** (0.109)		
Muslim*Post2011			-0.238*** (0.0846)	-0.230** (0.0970)
T	4,381	4,385	5,209	5,219
N	1,287	1,287	1,495	1,495

**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**

<b>VARIABLES</b>	<b>(1) Perceived Xenophobic Hostility</b>	<b>(2) Feel German</b>	<b>(3) Feel Foreign</b>	<b>(4) Connecte d to home country</b>
<b>A. After omitting SGI observations with missing parental info (Model 1)</b>				
Turks*Post2011	0.131*** (0.0480)	-0.474*** (0.135)	0.453** (0.186)	0.199 (0.122)
T	3,302	685	509	688
N	1,239	330	330	330
<b>B. Estimates separately for FGIs (Model 1)</b>				
Turks*Post2011	0.146*** (0.0509)	-0.467*** (0.150)	0.400** (0.196)	0.215* (0.123)
T	2,837	673	511	678
N	1,022	325	325	325
<b>C. Enlarging treated group to include MENA immigrants (Model 1)</b>				
T-MENA*Post2011	0.151*** (0.0463)	-0.454*** (0.139)	0.415** (0.195)	0.207* (0.119)
T	3,457	774	561	779
N	1,293	374	374	374
<b>D. After omitting irregular Muslims (Model 2)</b>				
Muslim*Post2011	0.123** (0.0492)	-0.396*** (0.134)	0.174 (0.201)	0.367*** (0.129)
T	3,135	746	513	749
N	1,039	362	362	362

**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)**

<b>VARIABLES</b>	<b>(1) Model 1</b>	<b>(2) Model 2</b>
<b>A. Unemployment probability</b>		
Turks*Post2011	-0.00958 (0.0146)	
Muslim*Post2011		0.00911 (0.0141)
T	4,989	6,049
N	1,537	1,782
<b>B. Hourly wages</b>		
Turks*Post2011	0.0250 (0.0284)	
Muslim*Post2011		0.0315 (0.0262)
T	2,477	2,946
N	830	955

**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 number of rightwing violent crimes. 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.