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**Working Paper**

## The 2015 refugee crisis in Germany: Concerns about immigration and populism

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966-2018

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Concerns about Immigration and  
Populism**

Alessandro Sola

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# The 2015 Refugee Crisis in Germany: Concerns about Immigration and Populism\*

Alessandro Sola<sup>†</sup>

February 2018

## Abstract

This paper investigates the effect of the refugee crisis, and the related government's asylum policy, on concerns about immigration of the German population. Exploiting exogenous variation in survey interview timing of the German Socio-Economic Panel (SOEP), I employ a difference-in-differences strategy to estimate the short-term causal effect of the refugee crisis on concerns about immigration. The estimated effect is substantial, representing an increase in concerns of around 22%, compared to the pre-refugee crisis baseline level. Interestingly, I find that this increase was twice as large for East Germans, compared to West Germans. In a second section, I show concerns about immigration are positively correlated with political support for the relatively new, right-wing populist party *Alternative für Deutschland* (AfD). However, using the variability in concerns generated by the refugee crisis, I find no evidence of a causal effect of concerns on political preferences in the short term.

*JEL Classification:* F22, J61, D72, H12.

*Keywords:* concerns about immigration, refugee crisis, Germany, AfD, populism, political preferences.

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# 1 Introduction

The refugee crisis sparked heated political debates throughout Germany, exposing polarised attitudes toward immigration. In 2015 alone, around 890,000 people entered the country (BAMF, 2016). This unprecedented arrival of asylum seekers and migrants uncovered divergent views on how to handle the crisis and on its potential impact on German society. For some people, the seemingly unstoppable influx represented a threat and a cause for major concern. At the same time, the *Alternative für Deutschland* (“Alternative for Germany”, AfD), a relatively new, right-wing populist party, sustained a rising anti-immigration and anti-refugee rhetoric, tapping into people’s anxieties. In the federal election of 2017, the AfD achieved a remarkable electoral success becoming the third largest party in the German parliament.

Did the refugee crisis substantially increase German concerns about immigration? And if so, was this increase homogenous across the whole German population? More importantly, are these concerns associated with the recent success of right-wing populism in Germany? This paper attempts to answer these questions, also providing other interesting findings.

In this paper, I utilise data from the German Socio-Economic Panel (SOEP), a nationally representative longitudinal survey, interviewing annually around 30,000 individuals. Interviews are conducted randomly throughout the year and the dataset provides a wide range of information at the individual level. Exploiting exogenous variation in survey interview timing of the SOEP, I employ a difference-in-differences strategy to estimate the short-term causal effect of the refugee crisis, and the related government’s asylum policy, on concerns about immigration. The treatment group is composed of all individuals interviewed during the peak of the refugee crisis, from 1 June until the end of the year, in 2015. The causal effect is identified by comparing the difference in outcomes of the treatment group in 2015 and 2014, with the same difference for the control group. The empirical strategy hinges on the crucial identifying assumption that, in the absence of the refugee crisis, the outcomes of the treatment and control group would have followed parallel trends. I provide evidence of the credibility of this assumption by showing that the estimated coefficients of placebo treatment interactions are close to zero and statistically insignificant in the years prior to the treatment.

I estimate that the refugee crisis, and the related permissive government’s asylum policy, increased the share of individuals who are very concerned about immigration to Germany by 6 percentage points. This represents a substantial effect and constitutes an increase of around 22% relative to the pre-refugee crisis, baseline level of concerns.

Consistent with the literature on anti-immigration preferences, I find that the level of education is strongly negatively correlated with concerns about immigration. I show these results are robust to alternative specifications and that the refugee crisis increased concerns about hostility towards foreigners and minorities. Interestingly, I test the heterogeneity of the treatment effect, finding that the refugee crisis increased concerns about immigration of East Germans more than double that those of West Germans.

In the last part of the paper, I investigate the link between concerns about immigration to Germany and support for the AfD, a right-wing populist party with a strong anti-immigration stance. In individual fixed effects regressions, I find that concerns about immigration are positively correlated with support for the AfD, and not with support for all the other parties. Using the variation in concerns generated by the refugee crisis, I employ an instrumental variable strategy to provide tentative evidence of the effect of concerns on support for the AfD. I do not find any evidence of a causal effect of concerns on political preferences. However, these results present some limitations. More specifically, it is probable that individuals do not fully disclose their real preference, especially when it comes to a right-wing populist party expressing radical and xenophobic positions. Moreover, my analysis focuses on the short-term and it is possible that the AfD mobilised large shares of the electorate closer to the election day.

The first part of the paper contributes to the vast literature on public opinion and attitudes toward immigration. Most studies in economics and political science have focused on the determinants and consequences of anti-immigration preferences, analysing individual views on immigration or immigrants through survey measures. Hainmueller and Hopkins (2014) provide a comprehensive review of this literature, marking a distinction between the political economy strand, mostly focused on individual self-interest explanations, and the sociopsychological tradition, which stresses the role of group-related attitudes and symbols.<sup>1</sup> Among the former strand, Scheve and Slaughter (2001) find that less-skilled workers are significantly more likely to hold restrictive preferences over immigration to the United States. They measure labour market skills by the average occupation wages and the years of education completed, and these findings are consistent with the view that individuals hold immigration-related opinions based on their interests as labour force participants. This interpretation is further confirmed by cross-country data, as high-skilled individuals are less likely to be opposed to immigration in countries where the skill composition of natives relative to immigrants is high (Mayda, 2006; O'Rourke and Sinnott, 2006).

Instead, Hainmueller and Hiscox (2007) provide an alternative interpretation of the

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<sup>1</sup>For other reviews of the literature, see Ceobanu and Escandell (2010) and Hatton (2016a).

role of education, finding that its effect on attitudes is related to differences in individual values and beliefs. They argue that more educated individuals have less restrictive preferences over immigration because they are more tolerant, open to cultural diversity, and are more likely to believe immigration is good for the host economy. The importance of cultural factors is also estimated with a latent-factor model for 21 European countries by Card *et al.* (2012). They find that concerns about compositional amenities are 2 to 5 times more important than concerns about wages and taxes in explaining variability of anti-immigration preferences. Individuals seem to value being surrounded by people who share the same ethnicity, language, norms and traditions, but the level of education weakens this preference.

However, recent experimental evidence by Haaland and Roth (2017) suggests that labour market concerns play a quantitatively significant role in determining attitudes toward immigration. Exploiting exogenous variation in people's beliefs about the impact of immigration on the labour market, they find a persistent change in attitudes and a related shift in political behaviour. Moreover, another strand of the literature has emphasised the role played by the media on anti-immigration preferences, depending on whether immigration is portrayed in a positive or negative manner (Facchini *et al.*, 2009; Boomgaarden and Vliegenthart, 2009; De Poli *et al.*, 2017).

From a methodological standpoint, the closest paper to mine is Schüller (2016), who finds that the 9/11 attacks substantially increased concerns about immigration, and decreased concerns about hostility toward foreigners in Germany.<sup>2</sup> Moreover, a recent paper by Hatton (2017) stresses the need to account for the salience of immigration, defined as the importance which is attached by individuals to immigration, relative to other policy issues. I complement this strand of the literature by uncovering the correlations between measures of preference, salience and concerns about immigration of the German population. I provide evidence suggesting that my measure of concerns from the SOEP, although associated to both, is more correlated to a measure of preferences than to a measure of salience, as represented by European Social Survey and Eurobarometer data respectively.

The second part of the paper is related to two strands of the literature. First, a series of studies have analysed the possible causes of the recent success of populism in the Western world, ranging from the economic crisis and globalization shocks, to a decrease of trust in institutions and a cultural backlash (Algan *et al.*, 2017; Rodrik,

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<sup>2</sup>For other papers employing similar difference-in-differences strategies with SOEP data, see Goebel *et al.* (2013), Caliendo and Wrohlich (2010) and Doerrenberg and Sieglöcher (2014).

2017; Dustmann *et al.*, 2017b; Inglehart and Norris, 2016).<sup>3</sup> Moreover, Guiso *et al.* (2017) find that economic insecurity plays a direct effect on populist voting and a causal effect on attitudes toward immigration. They argue that anti-immigration preferences are not an autonomous determinant of populist voting, but rather a channel through which economic insecurity affects political preferences. I argue that, for the case of Germany, people’s concerns about immigration may be an independent driver of support for populist parties. In fact, Germany is the country that received the most refugees in Europe and was not affected by the economic crisis as much as others.

Second, a recent body of research has analysed the link between immigration and voting for centre-right or far right parties (Halla *et al.*, 2017; Barone *et al.*, 2016; Dustmann *et al.*, 2016). Among these, Otto and Steinhardt (2014) provide evidence of the causal relationship between immigration and the success of far-right parties at the city district level in Hamburg. In my paper, directly investigating the change in public opinion, I attempt to uncover a possible channel through which a consistent influx of refugees might affect political preferences. More research, covering more recent years, is needed to investigate whether the increase in concerns about immigration generated by the refugee crisis shifted political support towards the AfD.

The rest of the paper is organised as follows. Section 2 provides background information about the refugee crisis, the government’s asylum policy and their effect on concerns about immigration. Section 3 describes the data and relates the dependent variable of concerns to other measures commonly used in the literature. Section 4 explains the empirical strategy employed for identification. Section 5 presents the empirical results, performs robustness checks, and analyses the heterogeneity of the treatment effect. Section 6 links concerns about immigration to support for the AfD. Finally, Section 7 concludes.

## 2 Background

### 2.1 The 2015 Refugee Crisis

An unprecedented influx of asylum seekers and migrants made their way to Europe in 2015, marking the largest refugee crisis since the Second World War. Over 1.2 million first-time asylum applications were lodged in the EU member states in 2015, with Germany being the first destination country.<sup>4</sup> Such vast movements of people were mostly

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<sup>3</sup>For a review on populism, see Gidron and Bonikowski (2013).

<sup>4</sup>First-time asylum applications count people who lodged an application for asylum for the first time in an EU member state. However, it is possible that a person applies again in another member state.



a consequence of the series of revolutions and civil wars in North Africa and the Middle East, commonly known as the “Arab Spring”.

The crisis reached its peak in Germany in the second half of 2015. In Figure 1, blue bars represent the number of arrivals of people who intended to apply for asylum in 2014–2017, registered through the EASY system, an IT application for the initial registration and distribution of asylum seekers to German states.<sup>5</sup> Orange bars represent the number of first-time asylum applications received in Germany (Eurostat data). Starting from June 2015, the number of registrations in the EASY system was increasing at a higher pace than the number of asylum applications. The German public administration could not cope with the rising influx of asylum seekers, most of which could lodge an application several months after their arrival in the country (Singleton *et al.*, 2016). In the same figure, the dashed red line reports the salience of immigration as a policy issue for the German population (Eurobarometer data).<sup>6</sup> This variable closely follows the flow of arrivals of asylum seekers, reaching its peak in late 2015.

At the end of August 2015, according to article 17 of the Dublin III Regulation, Germany decided to examine asylum claims of Syrian citizens, without sending them back to the country of first entry.<sup>7</sup> On 31 August, German Chancellor Angela Merkel, during her speech at the Federal Press Conference, announced emphatically: “*Wir schaffen das*” (“We can do it”), effectively committing to a permissive asylum policy. Some days later, she further stressed that there would be no legal limit to the number of refugees Germany would be accepting. Her message resonated around the world, signalling migrants the possibility to successfully seek asylum in Germany. Thus, the temporary asylum policy change (i.e., the suspension of the Dublin procedures), coupled with Merkel’s speech, constituted a “pull” effect for asylum seekers and migrants.

In fact, asylum applications are determined by country of origin factors, like genocide, civil war or human rights abuse, and by country of destination variables, like high income, good employment prospects and the restrictiveness of asylum policies. Hatton (2016b) estimates the determinants of asylum applications to 19 OECD countries over 1997–2012, uncovering the deterrent effects of though asylum policies.<sup>8</sup> It is possible that the

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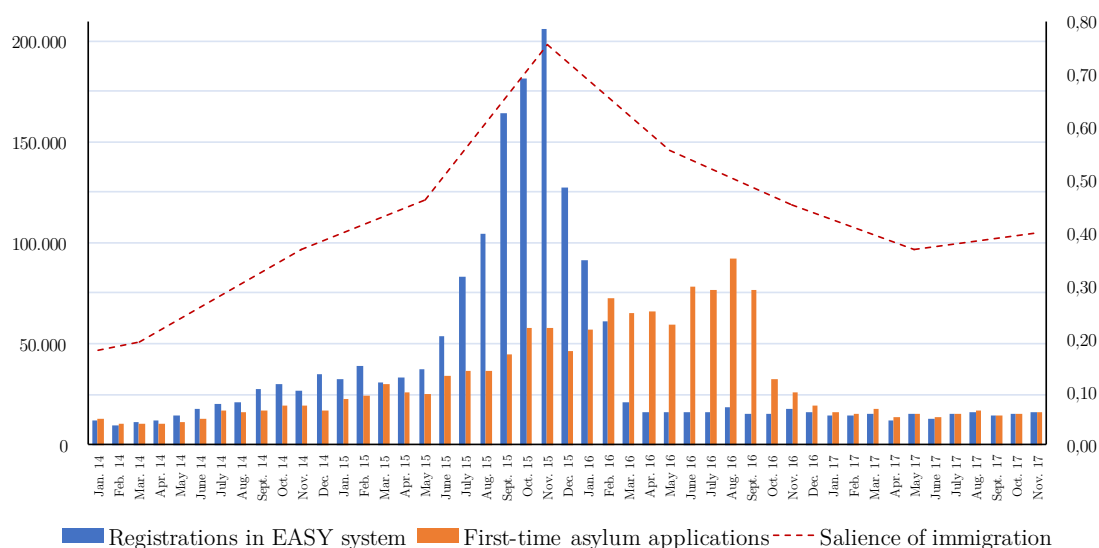
<sup>5</sup>EASY statistics might be inflated due to double-counting and registration errors. While the total number of registered arrivals in 2015 is almost 1.1 million people, the Federal Office for Migration and Refugees (BAMF) estimated a more realistic figure of 890,000. Starting from 2017, the EASY system registers personal information of the asylum seekers, thus avoiding any miscalculation.

<sup>6</sup>Information on the survey question underling this measure is given in Section 3.2.

<sup>7</sup>EU Regulation No 604/2013 (Dublin III Regulation) establishes that the EU member state responsible for examining the asylum claim is the first country in which the asylum seeker lodged its application. (<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2013:180:0031:0059:EN:PDF>). As of 21 October 2015, Germany put the standard procedures back into place.

<sup>8</sup>The toughness of asylum policies is measured through an index composed of 15 factors, divided

Figure 1: Arrivals of asylum seekers and salience of immigration in Germany



Source: BMI (2017), Eurostat (2017), Eurobarometer (2017).

Notes: Blue bars represent the number of arrivals of people who intent to apply for asylum in Germany, registered through the EASY system. Orange bars represent first-time asylum applications lodged in Germany. The dashed red line reports the salience of immigration as a policy issue for the German people (scale on the right axis). It is calculated as the share of respondents that report "Immigration" as one of the two most important issues facing Germany, in the Eurobarometer survey.

more permissive asylum policy and Merkel's rhetoric further increased arrivals of asylum seekers and migrants in Germany, and in Europe in general.

However, it is difficult to prove rigorously this is the case in such a short time frame, as the decision to migrate depends from exogenous factors in the country of origin we are not properly able to control for. Instead, I can provide descriptive evidence suggesting that, after Merkel's speech, Germany was receiving a higher proportion of asylum seekers among all the other European Union countries. In Figure 2, I plot the monthly share of extra-EU first-time asylum applications lodged in Germany, out of all extra-EU first-time asylum applications in the EU, in 2012–2017. After Merkel's speech, the German share drastically increased from an average level of 29% over the previous years to 66% in February 2016. Considering Syrian asylum seekers only, the share increased even more sharply, reaching 90% in February 2016.<sup>9</sup> Nevertheless, to the extent that German welcoming policies at the end of 2015 did not increase arrivals in Europe, a higher share of

in the 3 following categories: characteristics related to the access to the hosting country, aspects that determine the procedures for recognition of asylum, and the welfare provisions during and after the processing of an application.

<sup>9</sup>In 2015, Syrian nationals made up 36% of all first-time asylum applications to Germany.

Figure 2: Share of extra-EU first-time asylum applications lodged in Germany, out of all EU28 countries



Source: Eurostat (2017).

Notes: The figure plots the monthly share of extra-EU first-time asylum applications lodged in Germany, out of all extra-EU first-time asylum applications in the EU, in the period 2012-2017. The first red line represents 31 August 2015, the day of Merkel's speech ("We can do it"). The second red line represents 18 March 2016, the day of the EU-Turkey Statement.

the asylum seekers that would have come anyway to the EU, was attracted to Germany.

On 18 March 2016, the EU signed a statement with Turkey intending to limit the incentives to migrate. Any irregular migrant entering the EU through Turkey could be sent back, while the EU would agree to resettle in Europe any migrants qualified for asylum in the same proportion. The agreement also envisaged financial aid to Turkey for the refugees hosted there and the acceleration of visa liberalization for Turkish nationals. Following the deal, the arrival of migrants from the Balkan route greatly decreased (blue bars in Figure 1). Instead, asylum seekers already residing in the country kept lodging applications, as they could not do so in the previous months (orange bars in Figure 1). Once the number of asylum applications started going down in October 2016, so did the share received by Germany (Figure 2). After the peak of the crisis, and with a lag of a couple of months after the EU-Turkey Statement due to the slow lodging of applications, the German share returned to its baseline level of around 30%.

In sum, the peak of the refugee crisis in Germany was reached in the second half of 2015. The government enacted a permissive asylum policy, while the German Chancellor encouraged a welcoming culture, possibly further increasing arrivals. Starting from June 2015, the number of registrations in the EASY system was increasing at a higher pace

than the number of asylum applications. After Merkel’s speech at the end of August, the German share of extra-EU first-time asylum applications increased sharply.

## 2.2 Effect of the Crisis on Concerns about Immigration

The refugee crisis sparked heated political debates throughout the country and uncovered polarised attitudes toward migrants and refugees, with divergent views on their potential impact on society. On the one hand, there was a surge in the number of hostile acts against refugees, among which personal injuries, arson attacks on refugee accommodations and anti-immigrant demonstrations. Most of the violent acts took place in East Germany and there is a correlation between these events and the vote shares for extreme right and populist right-wing parties at the district level (Jäckle and König, 2017). On the other hand, the “welcome politics” sustained by the Chancellor were embraced by a vast number of people who volunteered enthusiastically to help the arrival and integration of refugees into the German society.

The crisis was characterized by a seemingly unstoppable inflow of asylum seekers and migrants, who were perceived to be culturally more distinct from previous immigrants (Dustmann *et al.*, 2017a). Such a consistent arrival of refugees can constitute a contextual determinant causing the manifestation of preferences toward immigration and an increase in the salience of the policy issue. A variety of theories account for restrictive preferences toward immigration at the individual level, ranging from economic to cultural explanations. First, self-interested individuals could hold negative attitudes based on their concerns about the perceived impact of immigration on wages and taxes. Second, the arrival of refugees could threaten the national identity and more basic prejudicial reasons would form the basis for opposition toward immigration. Moreover, migration flows and the number of asylum applications are positively correlated with the salience of immigration as a policy issue (Hatton, 2017a). Thus, the refugee crisis has likely increased natives’ concerns about immigration.

As noted, the second half of 2015 marked the peak of arrivals, possibly further spurred by the welcoming policy enacted by the German government. Hence, I estimate the increase in concerns from 1st June until the end of the year.<sup>10</sup> The treatment I analyse in this paper consists of both the refugee crisis and the permissive government’s asylum policy. The management of the crisis in August 2015 changed the expectations of asylum seekers and migrants regarding the way Germany would handle their claims. But most importantly for my analysis, it changed the expectations of the German people.

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<sup>10</sup>In a robustness check, I utilize the day after Merkel’s speech of 31st August as the start of the treatment.

Indeed, natives' concerns are likely influenced both by current (and perceived) migration flows and by the future expectation about these flows. Even if the permissive asylum policy – epitomised by Merkel's speech – did not affect actual inflows, it might have changed Germans' perceptions about how many more people would have been arriving to the country. To be sure, to the extent that the government's stance did not affect asylum seekers and migrants' expectations, and German concerns, what I estimate is solely the effect of the peak of the refugee crisis.

### 3 Data

In Section 3.1, I present the dataset and basic descriptive statistics. In Section 3.2, I analyse the association of my dependent variable of concerns with alternative indicators of public opinion used in the literature. I find that my variable is more correlated to a measure of preference, than to one of salience of immigration.

#### 3.1 Dataset and Descriptive Statistics

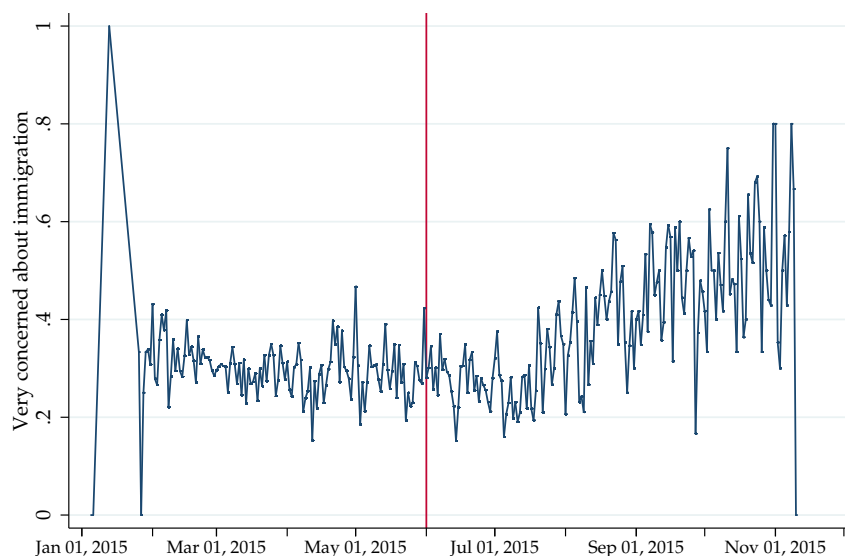
The empirical analysis of this paper utilizes data from the German Socio-Economic Panel (SOEP), a nationally representative longitudinal survey, interviewing annually around 12,000 households and nearly 30,000 individuals since 1984 (Wagner *et al.*, 2007). The dataset contains a wide range of information at the individual level, including socio-economic characteristics, labour-market outcomes and a variety of attitudinal measures. Interviews are conducted randomly throughout the year, from January until November.<sup>11</sup> Thus, there is substantial variability at the individual level within and across years. For instance, a given individual might be interviewed in February once, and in September the following year. This exogenous variation in survey interview timing allows me to identify the short-term effect of the refugee crisis.

The dependent variable I utilise in the main analysis is derived from answers to the following question: “How concerned are you about the following issues?”. Respondents answer on several issues, namely “The economy in general”, “Your own economic situation”, “Your health”, “Immigration to Germany”, “Hostility toward foreigners or minorities in Germany”, and others. Respondents can answer “very concerned”, “somewhat concerned”, and “not concerned at all”. My dependent variable is a dummy equal to one for individuals who are very concerned about immigration to Germany, and zero otherwise. In 2014 (2015), 25.32% (31.64%) of respondents were very concerned about it,

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<sup>11</sup>Most of the interviews are conducted in the first half of each year. For instance, in my dataset, 77% of the interviews in 2015 are conducted until the end of June.

Figure 3: Daily average of "Very concerned about immigration" in 2015



Source: SOEP 2016.

Notes: The figure plots the daily average of the dependent variable, a dummy equal to one if the respondent is "very concerned about immigration to Germany", and zero otherwise. The red line represents 1 June 2015, the start of the treatment.

41.80% (42.36%) were somewhat concerned, and 32.87% (26.00%) were not concerned at all. In Figure 3, I plot the daily average of the dependent variable for 2015. It is evident that the share of individuals that are very concerned about immigration to Germany increases sharply after June, during the peak of the refugee crisis.

The analysis is conducted dividing the full sample of respondents in 2015 in a treatment and a control group. The treatment group is composed of all individuals who were interviewed from June 2015 until the end of the year.<sup>12</sup> All these individuals were exposed to the treatment, namely the peak of the refugee crisis and the related government's asylum policy. Accordingly, the control group is composed of all individuals interviewed between 1 January and 30 May 2015. It is important to note that this group division is time-invariant (where time is measured in years), because it depends on interview timing in 2015.

The dataset covers all individuals interviewed in 2012–2015. I exclude respondents who were not interviewed in 2015, as I would not be able to divide them between the treatment and control group. I also exclude individuals with missing values for my dependent variable. Below, my main analysis includes only respondents for 2014 and

<sup>12</sup>The last interview contained in the dataset was conducted on 10 November.

Table 1: Descriptive statistics by treatment status

	2014		Norm. Diff.	2015		Norm. Diff.
	Control	Treatment		Control	Treatment	
N	16,398	7,134		16,845	8,308	
Immigration Concerns	0.255	0.249	0.010	0.300	0.349	-0.074
Age	51.54	42.17	0.416	51.93	41.91	0.434
Age 26-35	0.135	0.168	-0.065	0.130	0.148	-0.037
Age 36-45	0.172	0.296	-0.209	0.169	0.269	-0.172
Age 46-64	0.344	0.325	0.028	0.341	0.341	0.000
Age 65 over	0.269	0.067	0.396	0.279	0.066	0.415
Male	0.465	0.442	0.033	0.466	0.443	0.033
Secondary Education	0.614	0.575	0.056	0.615	0.583	0.046
Tertiary Education	0.249	0.222	0.045	0.250	0.214	0.060
Disabled	0.134	0.066	0.162	0.131	0.064	0.160
Single	0.211	0.265	-0.090	0.218	0.292	-0.120
Divorced	0.086	0.105	-0.046	0.088	0.106	-0.044
Widowed	0.068	0.026	0.143	0.070	0.025	0.150
East Germany	0.239	0.155	0.150	0.236	0.154	0.147
Retired	0.228	0.055	0.364	0.240	0.056	0.380
Maternity Leave	0.019	0.027	-0.037	0.017	0.023	-0.029
Unemployed	0.043	0.065	-0.069	0.042	0.064	-0.069
Non Working	0.080	0.077	0.007	0.075	0.074	0.001
In Education	0.026	0.042	-0.063	0.027	0.045	-0.071
Other Non Working	0.037	0.036	0.007	0.038	0.040	-0.009
Ln(Net HH Income)	7.872	7.879	-8.756	7.899	7.901	-2.476
Migration Background	0.117	0.291	-0.313	0.116	0.279	-0.296

*Notes:* The table presents descriptive statistics for 2014 and 2015, by treatment status. The treatment group is composed by all respondents interviewed from 1 June until the end of the year, in 2015. The control group is composed by all respondents interviewed between 1 January and 30 May in 2015. The normalised difference is calculated as  $\frac{\bar{X}_1 - \bar{X}_0}{\sqrt{S_0^2 + S_1^2}}$ , where  $\bar{X}_1$  is the mean of the control group,  $\bar{X}_0$  is the mean of the treatment group, and  $S_1^2$  and  $S_0^2$  are the respective variances.

2015, and the full sample (2012–2015) is utilised to test the credibility of the identifying assumption. Hence, the main subsample is an unbalanced panel of 48,720 observations (23,532 for 2014 and 25,188 for 2015).

Table 1 reports descriptive statistics by treatment status, for both 2014 and 2015. The analysis includes a series of demographic controls (gender, age, education, marital status, migration background, disability), and labour market characteristics (net household income and working status). The table includes averages of the dependent variable and of all the control variables, along with the normalised differences between treatment and control group.<sup>13</sup> As a rule of thumb, normalised differences exceeding a

<sup>13</sup>The normalized difference is the difference in averages by treatment status, scaled by the square root of the sum of the variances:  $\frac{\bar{X}_1 - \bar{X}_0}{\sqrt{S_0^2 + S_1^2}}$ .

quarter indicate a sample which is unbalanced on observable characteristics and might lead to sensitive results (Imbens and Wooldridge, 2009). The sample is unbalanced on age, migration background, and retirement status, with the treatment group including a younger subsample, a lower share of retired individuals and a higher share of individuals with a migration background. Nevertheless, I control for all these demographic characteristics.

### 3.2 Concerns: Preference over, or Salience of, Immigration?

Most of the studies in the economic literature of public opinion on immigration analyse measures of preferences, inquiring whether individuals would prefer more or less immigration. However, a recent paper by Hatton (2017a) stresses the need to account for the salience of immigration, defined as the importance which is attached by individuals to immigration, relative to other policy issues.

In his paper, preferences are measured utilising data from three survey questions of the European Social Survey (ESS).<sup>14</sup> These are the following: “To what extent do you think Germany should allow people of the same race or ethnic group as most German people to come and live here?”; “How about people of a different race or ethnic group from most German people?”; “How about people from the poorer countries outside Europe?”. The answers can be “Allow many to come and live here”, “allow some”, “allow a few”, and “allow none”. For all three questions, a measure of anti-immigration preferences is built with a dummy variable equal to one if the response is “allow a few” or “allow none”, and zero otherwise. A comprehensive measure is composed of the average of the three questions.

A measure of salience is produced with data from the Standard Eurobarometer surveys.<sup>15</sup> Each round, respondents are asked the following question: “What do you think are the two most important issues facing Germany at the moment?” Respondents can answer a maximum of two issues out of a list of fourteen.<sup>16</sup> A measure of salience is created with a dummy variable equal to one if “Immigration” is mentioned by the respondent, and zero otherwise.

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<sup>14</sup>The European Social Survey is a cross-national survey measuring attitudes, beliefs and behavior patterns of individuals in Europe. It is cross-sectional and conducted biannually since 2002, with 8 rounds of data (2002–2016), containing around 2,000 observations per country each round.

<sup>15</sup>The Standard Eurobarometer is a cross-national public opinion study operated on behalf of the European Commission since 1973. It is a cross-sectional survey conducted twice a year, in a spring and autumn round.

<sup>16</sup>In the latest rounds, these are “Crime”, “Economic situation”, “Rising prices/inflation”, “Taxation”, “Unemployment”, “Terrorism”, “Housing”, “Government debt”, “Immigration”, “Health and social security”, “The educational system”, “Pensions”, “The environment, climate and energy issues” or “Other”.



The dependent variable I analyse in this paper is quite different from these two measures of preference and salience, but it might be correlated to them. Hence, understanding where a measure of concerns fits in this categorization becomes a relevant question, so as to grasp which component of public opinion the variable is picking up.

*Prima facie*, one would be inclined to consider concerns merely a measure of salience. In this perspective, being very concerned about immigration to Germany would be interpreted as attaching utmost importance to this specific policy issue. And this interpretation would hold irrespective of the preferences an individual has over immigration – be they more restrictive or permissive. However, the SOEP question measuring concerns is different from the salience question of the Eurobarometer in two ways. First, respondents of the SOEP questionnaire do not have to choose two important issues facing their country out of a list of fourteen, as in the Eurobarometer. Thus, for instance, when unemployment becomes a pressing issue, the salience of immigration goes down, whereas concerns about it might stay stable or even increase. Second, the framing of the question is not the same, in that being “very concerned” is somewhat different from “important issue facing our country”.

An alternative view, which has been pushed forward in the SOEP literature, is implicitly considering concerns a measure of pure anti-immigration preferences, or attitudes.<sup>17</sup> In this case, being very concerned about immigration would be interpreted as being against further immigration. However, it is also possible that an individual with a permissive attitude toward immigration is very concerned about it, or about the way the phenomenon is being handled by the government.

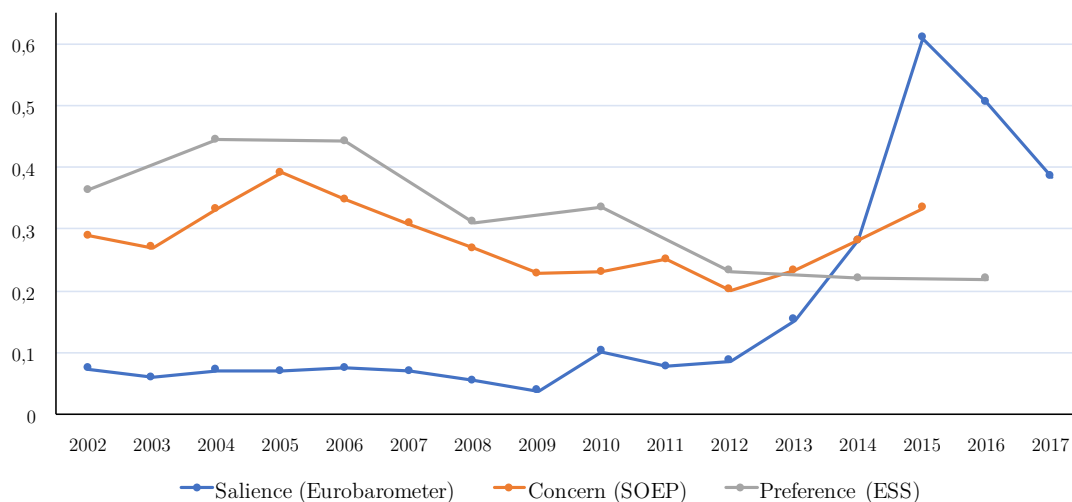
To shed some light on these alternative interpretations, I analyse the association of my measure of concerns with measures of preferences over, and salience of, immigration to Germany.<sup>18</sup> Ideally, one would want to analyse measures of preferences, salience and concerns at the individual level in a panel setting. Unfortunately, to the best of my knowledge, such a dataset does not exist. Thus, I line up yearly measures from the three datasets at my disposal. Figure 4 presents such an exercise. For Eurobarometer data, the autumn and spring rounds are averaged to yield a yearly measure. SOEP data are provided yearly. Finally, ESS surveys are conducted every two years, and the average of the three questions is presented. Looking at the figure, it seems that concerns (in orange) closely follow preferences (in grey), until salience (in blue) increases. The correlation between salience and concerns is 0.2067. Instead, averaging concerns every two years to match the ESS data, the correlation between preferences and concerns is 0.6501.

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<sup>17</sup>Mayda (2006) uses the terms “preference” and “attitude” interchangeably.

<sup>18</sup>I thank Timothy Hatton for this suggestion.

Figure 4: Saliency, concern and preference over immigration in 2002-2017



*Source:* Eurobarometer (2017), SOEP (2015), European Social Survey (2017).

*Notes:* The blue line represents the share of respondents who report "Immigration" as one of the two most important issues facing Germany at the moment, in the Eurobarometer survey. The orange line represents the yearly average of the share of respondents who are very concerned about immigration to Germany in the SOEP dataset. Finally, the grey line represents the average value of three variables on immigration preference in Germany from the European Social Survey. The variables are constructed based on the following questions: "To what extent do you think Germany should allow people of the same race or ethnic group as most German people to come and live here?"; "How about people of a different race or ethnic group from most German people?"; "How about people from the poorer countries outside Europe?" The variables measure the share of respondents who answer "allow a few" or "allow none".

Moreover, utilizing SOEP data, a recent paper provides evidence about the inter-generational correlation of the measure of concerns I utilize in this work (Avdeenko and Siedler, 2017). Young adults, whose parents were ever very concerned about immigration during their childhood, have a higher likelihood of also ever being very concerned about it. This association lends some support to the view that concerns include a component of values that gets transmitted either from parents to offspring, or by the environment.

Taken together, this evidence suggests that my measure of concerns from the SOEP, although associated to both, is more correlated to a measure of preferences than to a measure of salience, as represented by ESS and Eurobarometer data respectively.

## 4 Empirical Strategy

As argued above, starting from June 2015, the peak of the refugee crisis took place, as the number of arrivals increased sharply and surpassed the number of asylum applications. In 2015, after 1 June, all individuals were treated by this event (the treatment group), and before that date all individuals were not treated (the control group). In 2014, both treatment and control groups were not treated. Exploiting the exogenous variation in survey interview timing of the SOEP data, I can estimate the causal effect of the treatment in a quasi-experimental setting, by comparing the outcomes of the treatment and control groups, in the time before (2014) and after (2015) the treatment. In other words, I employ a difference-in-differences strategy, analysing the change, between 2015 and 2014, in concerns about immigration of the treatment group, composed by individuals interviewed from June 2015 until the end of the year, and comparing it with the same difference for the control group, composed by all individuals interviewed between 1 January and 30 May 2015.

In the main analysis, the estimation equation is the following:

$$Y_{ismt} = \alpha + \beta_1 \text{RefugeeCrisis}_{ism} + \beta_2 \text{Year2015}_t + \beta_3 (\text{RefugeeCrisis}_{ism} * \text{Year2015}_t) + \gamma' X_{ismt} + \delta_s + \lambda_m + \mu_i + \varepsilon_{ismt} \quad (1)$$

where subscripts refer to individual  $i$ , residing in German state  $s$ , interviewed in month  $m$  of year  $t$ , the time indicator.  $Y$  is the dependent variable, a dummy variable equal to one if the individual is very concerned about immigration to Germany, and zero otherwise.  $\text{RefugeeCrisis}$  is a dummy equal to one if the individual was interviewed between 1 June and 10 November in 2015, and zero otherwise.<sup>19</sup> This variable defines

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<sup>19</sup>The last interview contained in the dataset was conducted on 10 November.

the treatment status based on the survey interview date in 2015, independent of when the individual was interviewed in other years.  $Year2015$  is a dummy variable equal to one if the interview was conducted in 2015, and zero otherwise.  $X$  is a vector containing a variety of individual controls, such as gender, age, education, marital status, disability, working status, net household income and migration background.  $\delta_s$  is a set of German state fixed effects,  $\lambda_m$  of month of interview fixed effects, and  $\mu_i$  of individual fixed effects. Finally,  $\varepsilon_{ismt}$  is an error term.

The empirical strategy hinges on the crucial identifying assumption that, in the absence of the peak of the refugee crisis and the permissive government’s asylum policy, the outcomes of treatment and control group would have followed parallel trends. Below, the credibility of this assumption is checked by showing that treatment and control group had a common trend in the years before the refugee crisis. Additionally, I run a series of regressions with the full sample of 2012–2015, containing placebo treatment interactions and finding no significant effect in the years prior to 2015. Hence, under the common trend assumption, the coefficient of interest,  $\beta_3$ , yields the causal effect of the refugee crisis. The equation is estimated by pooled OLS and, alternatively, by individual fixed effects, to control for time-invariant unobserved heterogeneity. In both cases, standard errors are clustered at the individual level.

## 5 Results

In this section, I present the results of my empirical analysis. First, in Section 5.1, I find that the refugee crisis increased concerns about immigration to Germany. Moreover, I provide evidence supporting the credibility of the common trend assumption. In Section 5.2, I provide robustness checks, showing my main results are robust to alternative specifications. Finally, in Section 5.3, I test the heterogeneity of the treatment effect, finding that concerns increased more in East Germany.

### 5.1 Main Results

Table 2 presents the results of the main regressions based on equation (1). In the first two columns, I estimate the effect of the refugee crisis on concerns about immigration without controls, while the last two columns are estimated including all covariates, German state fixed effects and month of interview fixed effects. Columns (1) and (3) are estimated by pooled OLS, and columns (2) and (4) by individual fixed effects. The dependent variable is always a dummy equal to one if the individual is very concerned about immigration to

Table 2: The refugee crisis and concerns about immigration

	(1)	(2)	(3)	(4)
	Very concerned about immigration to Germany			
	OLS	FE	OLS	FE
Year 2015	0.0453*** (0.00349)	0.0462*** (0.00350)	0.0471*** (0.00389)	0.0467*** (0.00409)
Refugee Crisis	-0.00614 (0.00615)		-0.00620 (0.00777)	
Refugee Crisis x Year 2015	0.0547*** (0.00674)	0.0552*** (0.00683)	0.0575*** (0.00848)	0.0545*** (0.00899)
Age			0.00315*** (0.00114)	
Age Squared			-0.00302*** (0.00117)	
Male			-0.00107 (0.00515)	
Secondary Education			-0.0289*** (0.00785)	-0.0773* (0.0451)
Tertiary Education			-0.164*** (0.00874)	-0.0835 (0.0583)
Single			-0.0231*** (0.00822)	0.00428 (0.0343)
Divorced			-0.00276 (0.00931)	0.00983 (0.0414)
Widowed			-0.0156 (0.0126)	0.0208 (0.0573)
Retired			-0.00387 (0.0123)	0.0615*** (0.0238)
Maternity Leave			0.0415** (0.0162)	0.0257 (0.0190)
Unemployed			0.0326*** (0.0118)	4.06e-05 (0.0177)
Non Working			-0.00282 (0.00992)	-0.00478 (0.0170)
In Education			-0.0864*** (0.0165)	-0.0222 (0.0220)
Other Non Working			-0.0378*** (0.0125)	0.00820 (0.0168)
Disabled			0.0457*** (0.00854)	0.0277 (0.0188)
Net HH Income			-0.0534*** (0.00513)	0.00242 (0.0126)
Migration Background			-0.0510*** (0.00719)	
Constant	0.255*** (0.00340)	0.253*** (0.00157)	0.644*** (0.0640)	0.273** (0.135)
Observations	48,720	48,720	44,042	44,042

*Notes:* Refugee Crisis is equal to one if the individual was interviewed from 1 June until the end of the year in 2015, and zero otherwise. Year 2015 is equal to one if the individual was interviewed in 2015, and zero otherwise. Reference groups are year 2014, female, primary education, married, employed, not disabled, not with a migration background. Regressions in column (3) and (4) include German state and month of interview fixed effects. In regressions in column (2) and (4), Age and Age Squared are substituted by age dummies. Standard errors, clustered at the individual level, in parentheses. \*\*\* p<0.01; \*\* p<0.05; \* p<0.1.

Table 3: The refugee crisis and concerns about immigration, 2012-2015

	(1)	(2)	(3)	(4)
	Very concerned about immigration to Germany			
Refugee Crisis	-0.0159* (0.00953)		0.00672 (0.0102)	
Year2013	0.0281*** (0.00355)	0.0287*** (0.00353)	0.0296*** (0.00373)	0.0288*** (0.00374)
Year2014	0.0693*** (0.00364)	0.0792*** (0.00366)	0.0755*** (0.00383)	0.0778*** (0.00397)
Year2015	0.115*** (0.00385)	0.125*** (0.00389)	0.123*** (0.00410)	0.125*** (0.00443)
Refugee Crisis x Year 2013	0.00855 (0.0105)	0.00874 (0.0105)	0.00688 (0.0111)	0.00730 (0.0111)
Refugee Crisis x Year 2014	0.00972 (0.00996)	0.00346 (0.0103)	-0.0160 (0.0106)	0.00472 (0.0109)
Refugee Crisis x Year 2015	0.0644*** (0.0103)	0.0593*** (0.0106)	0.0391*** (0.0116)	0.0558*** (0.0120)
Estimation	OLS	FE	OLS	FE
Demographic controls	No	No	Yes	Yes
Labour market controls	No	No	Yes	Yes
State FE	No	No	Yes	Yes
Month of interview FE	No	No	Yes	Yes
Observations	79,614	79,614	72,573	72,573

*Notes:* Refugee Crisis is equal to one if the individual was interviewed from 1 June until the end of the year in 2015, and zero otherwise. Year 2013 is equal to one if the individual was interviewed in 2013, and zero otherwise. Year 2014 is equal to one if the individual was interviewed in 2014, and zero otherwise. Year 2015 is equal to one if the individual was interviewed in 2015, and zero otherwise. The reference year is 2012. Standard errors, clustered at the individual level, in parentheses. \*\*\* p<0.01; \*\* p<0.05; \* p<0.1.

Germany, and zero otherwise. Across all specifications, the coefficients on the interaction term between “Refugee Crisis” and “Year 2015” are positive and statistically significant. The point estimates are stable to the inclusion of controls and individual fixed effects, suggesting results are not sensitive to observables and time-invariant unobservables. For the treatment group, interviewed during the peak of the refugee crisis, I find that the share of individuals who are very concerned about immigration increased by 5–6 percentage points. Relative to the pre-refugee crisis baseline level of concerns, this is an increase of around 22%. Thus, the refugee crisis, and the related government’s asylum policy, substantially increased concerns about immigration to Germany. Moreover, the estimated coefficients of the variable “Year 2015” are positive and statistically significant across all specifications, indicating an increase in concerns from 2014 to 2015 for the control group as well.

The pooled OLS estimation in column (3) includes as controls all demographic and labour market characteristics. The effect of age is positive at a decreasing rate, indicating an inverted U-shaped relationship with concerns. Consistent with the literature on anti-immigration preferences (Hatton, 2017a), the level of education is negatively correlated with concerns. Individuals with a tertiary education are 16 percentage points less likely to be very concerned about immigration. Being single, being in the process of getting an education, and having a direct migration background, are all negatively correlated with concerns. The logarithm of net household income is also included in the regression, yielding a negative coefficient. Finally, individuals who are unemployed or on maternity leave, and those who are disabled, are more likely to be very concerned about immigration.

In Table 3, I present the results of the analysis covering the period 2012–2015, including two additional years in the regressions to control for underlining time trends. I estimate equation (1), also adding year dummies and placebo interaction terms between “Refugee Crisis” and these dummies. No dummy and interaction term is inserted for 2012, which constitutes the reference year. Again, I run regressions with and without controls, both by pooled OLS and individual fixed effects. In the last two columns, coefficients for controls are not displayed for the sake of brevity.<sup>20</sup> Across all specifications, the interaction term between “Refugee Crisis” and “Year 2015” is positive and statistically significant. Point estimates are unchanged at 4–6 percentage points. As expected, the estimated coefficients of all the interaction terms between the dummy defining the treatment group, “Refugee Crisis”, and all the years prior to 2015, are close to zero and statistically insignificant. These results lend strong support to the credibility of the

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<sup>20</sup>The sign of the coefficients is the same as in Table 2, with similar magnitudes.

common trend assumption.

## 5.2 Robustness

If what I identify with the interaction term between “Refugee Crisis” and “Year 2015” is the effect of the refugee crisis, I do not expect this treatment to affect other concerns but those related to immigration. In table 4, I estimate equation (1) with the extended sample 2012–2015, substituting my main dependent variable with dummies measuring other possible concerns of the German people. These alternative concerns are about “hostility towards foreigners or minorities in Germany”, “economic development”, “your own economic situation”, “your health”, “maintaining peace”, and “crime in Germany”. In column (1), I find that the refugee crisis increased concerns about hostility towards foreigners and minorities in Germany. Only the estimated coefficient of the interaction with “Year 2015” is positive and statistically significant (at the 10% confidence level), supporting the credibility of the common trend assumption for this outcome as well. This result is interesting in and of itself, and not unexpected. Indeed, during 2015 there was a surge in the number of violent acts against refugees. It is possible that concerns about hostility towards foreigners increased because individuals believed there were rising xenophobic tendencies in the country. An alternative interpretation is that Germans became more emphatic towards foreigners and minorities, thus becoming more concerned about hostility in their regards (Schüller, 2016). In column (5), analysing the effect of the refugee crisis on the share of individuals very concerned about maintaining peace, the coefficient of the interaction term for 2015 is negative and statistically significant. However, I also estimate positive and statistically significant coefficients for the interactions of 2013 and 2014, suggesting that, before the refugee crisis, treatment and control groups followed different trends for this outcome. Finally, for the other concerns, all the estimated coefficients of the interactions are close to zero and statistically insignificant. As expected, I do not find any effect of the refugee crisis on these variables.

In a second robustness check, I test whether my results are robust to the inclusion of survey weights. In Table 5, I run my baseline regressions with fixed effects both for the restricted sample of 2014–2015 and the extended one of 2012–2015, weighting the data with a variable equal to the mean of the weighing factors of all the years included in the analysis. The estimated coefficients of my variable of interest remain positive and statistically significant. In column (1), for the sample 2014–2015, the coefficient is equal to 3.7 percentage points, slightly smaller than the one previously estimated. I conclude that my results are robust to the inclusion of survey weights.



Table 4: Robustness - The refugee crisis and other concerns

	(1)	(2)	(3)	(4)	(5)	(6)
	Very concerned about					
	Hostility to foreigners	Economic Development	Own economic situation	Own Health	Maintaining Peace	Crime in Germany
Year 2013	-0.0125*** (0.00402)	-0.0381*** (0.00408)	-0.0277*** (0.00339)	-0.0163*** (0.00351)	-0.0218*** (0.00442)	0.00307 (0.00430)
Year 2014	0.0149*** (0.00421)	-0.0983*** (0.00407)	-0.0402*** (0.00345)	-0.00275 (0.00363)	0.0509*** (0.00475)	0.0333*** (0.00451)
Year 2015	0.127*** (0.00488)	-0.0817*** (0.00433)	-0.0469*** (0.00364)	-0.00871** (0.00394)	0.179*** (0.00520)	0.0883*** (0.00493)
Refugee Crisis x Year 2013	0.00293 (0.0121)	-0.00492 (0.0123)	0.00609 (0.0105)	0.00971 (0.0101)	0.0290** (0.0130)	0.0128 (0.0130)
Refugee Crisis x Year 2014	0.00788 (0.0118)	-0.0133 (0.0115)	-0.00379 (0.0101)	0.00711 (0.00981)	0.0493*** (0.0131)	0.00183 (0.0122)
Refugee Crisis x Year 2015	0.0245* (0.0131)	-0.00590 (0.0122)	-0.00431 (0.0107)	0.00903 (0.0105)	-0.0734*** (0.0142)	-0.0186 (0.0130)
Estimation	FE	FE	FE	FE	FE	FE
Demographic controls	Yes	Yes	Yes	Yes	Yes	Yes
Labour market controls	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes
Month of interview FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	72,419	72,440	72,493	72,498	72,484	72,492

*Notes:* Refugee Crisis is equal to one if the individual was interviewed from 1 June until the end of the year in 2015, and zero otherwise. Year 2013 is equal to one if the individual was interviewed in 2013, and zero otherwise. Year 2014 is equal to one if the individual was interviewed in 2014, and zero otherwise. Year 2015 is equal to one if the individual was interviewed in 2015, and zero otherwise. The reference year is 2012. Standard errors, clustered at the individual level, in parentheses. \*\*\* p<0.01; \*\* p<0.05; \* p<0.1.

Table 5: Robustness - Weights, alternative treatment and clustering

	(1)	(2)	(3)	(4)	(5)
	Very concerned about immigration to Germany				
Year 2013		0.0211*** (0.00553)			
Year 2014		0.0679*** (0.00582)			
Year 2015	0.0547*** (0.00591)	0.125*** (0.00655)	0.0525*** (0.00350)	0.0469*** (0.00418)	0.0469*** (0.00958)
Refugee Crisis				-0.00496 (0.00877)	-0.00496 (0.0126)
Refugee Crisis x Year 2013		0.0221 (0.0154)			
Refugee Crisis x Year 2014		0.0134 (0.0147)			
Refugee Crisis x Year 2015	0.0368*** (0.0136)	0.0529*** (0.0170)		0.0579*** (0.00925)	0.0579*** (0.00726)
Post Speech x Year 2015			0.160*** (0.0195)		
Estimation	FE	FE	FE	OLS	OLS
Weights	YES	YES	NO	NO	NO
Clustering	Individual	Individual	Individual	Household	State
Demographic controls	YES	YES	YES	YES	YES
Labour market controls	YES	YES	YES	YES	YES
State FE	YES	YES	YES	YES	YES
Month of interview FE	YES	YES	YES	YES	YES
Observations	43,788	72,085	44,042	44,042	44,042

*Notes:* Refugee Crisis is equal to one if the individual was interviewed from 1 June until the end of the year in 2015, and zero otherwise. Post Speech is equal to one if the individual was interviewed from 1 September until the end of the year in 2015, and zero otherwise. Year 2013 is equal to one if the individual was interviewed in 2013, and zero otherwise. Year 2014 is equal to one if the individual was interviewed in 2014, and zero otherwise. Year 2015 is equal to one if the individual was interviewed in 2015, and zero otherwise. In all regressions, the reference year is 2014, and for column (2) it is 2012. Standard errors, clustered at the individual level, in parentheses. \*\*\*  $p < 0.01$ ; \*\*  $p < 0.05$ ; \*  $p < 0.1$ .

In column (3) of the same table, I estimate the baseline regression by changing the definition of my treatment group. In this specification, the treatment group is determined by the variable “Post Speech”, a dummy equal to one for all individuals interviewed after 31 August, the day of Merkel’s speech (“We can do it”), and zero otherwise. This is an alternative way to define my treatment, by catching up the effect of the very peak of the refugee crisis, starting from September 2015. I estimate an increase in the share of very concerned individuals of 16 percentage points, representing an increment of 53% compared to the pre-crisis baseline level of concerns.

Finally, in columns (4) and (5), I estimate the baseline regression by pooled OLS with clustering at the household and state level, instead of at the individual one. The estimated coefficients of interest are still significant at the 1% confidence level. I conclude my results are robust to these alternative specifications as well.

### 5.3 Effect Heterogeneity

The effect of the refugee crisis on concerns about immigration might have not been homogenous across the whole population. Individuals with different demographic characteristics may have reacted more or less strongly to the refugee crisis, and to the government’s asylum policy. I test the heterogeneity of the treatment effect by adding triple interaction terms between “Refugee Crisis”, “Year 2015” and some demographic characteristics of interest. Regressions are estimated with the 2014–2015 sample, by pooled OLS with clustering at the individual level, and not by fixed effects, because these demographic variables are mostly time-invariant. All regressions include the full set of controls but, in Table 6, I only display the estimated coefficients of interest.

First, I test effect heterogeneity with respect to the level of education. In column (1), the triple interaction term with “Tertiary Edu” represents the additional effect of the refugee crisis for the group of individuals who hold a tertiary education. These individuals on average are 16 percentage points less likely to be very concerned about immigration, and incurred an increase in concerns due to the refugee crisis 2 percentage points lower than that of the rest of individuals with a lower level of education. However, the coefficient of the triple interaction is only significant at the 10% level. This result is consistent with Schüller (2016), who finds that education has a moderating role on the effect of the 9/11 attack on concerns about immigration to Germany.

Second, I test whether the gender of individuals matters. The regression in column (2) shows that men incurred an increase in concerns 2 percentage points lower than that of women, although the coefficient is only significant at the 10% confidence level.

Table 6: Effect Heterogeneity

	(1)	(2)	(3)	(4)	(5)
	Very concerned about immigration to Germany				
Refugee Crisis x Year 2015	0.0622*** (0.00907)	0.0669*** (0.00997)	0.0495*** (0.00886)	0.0620*** (0.00920)	0.0535*** (0.00984)
Refugee Crisis x Year 2015 x Tertiary Edu	-0.0216* (0.0127)				
Refugee Crisis x Year 2015 x Male		-0.0213* (0.0117)			
Refugee Crisis x Year 2015 x East Germany			0.0594*** (0.0162)		
Refugee Crisis x Year 2015 x Mig Back				-0.0157 (0.0134)	
Refugee Crisis x Year 2015 x Age Over 45					0.00715 (0.0118)
Tertiary Edu	-0.161*** (0.00897)				
Male		0.00234 (0.00548)			
East Germany			0.0411*** (0.00689)		
Mig Back				-0.0471*** (0.00789)	
Age Over 45					0.0119* (0.00652)
Estimation	OLS	OLS	OLS	OLS	OLS
Demographic Controls	Yes	Yes	Yes	Yes	Yes
Labour Market Controls	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	No	Yes	Yes
Month of interview FE	Yes	Yes	Yes	Yes	Yes
Observations	44,042	44,042	44,042	44,042	44,042

*Notes:* Refugee Crisis is equal to one if the individual was interviewed from 1 June until the end of the year in 2015, and zero otherwise. Year 2015 is equal to one if the individual was interviewed in 2015, and zero otherwise. Standard errors, clustered at the individual level, in parentheses. \*\*\* p<0.01; \*\* p<0.05; \* p<0.1.

Third, in column (3), I investigate whether concerns have increased differentially in East and West Germany. The full set of German state fixed effects is substituted by a dummy equal to one if an individual lives in East Germany, and zero if he lives in the West. East Germans are on average 4 percentage points more likely to be very concerned about immigration and incurred an increase in concerns due to the refugee crisis of an additional 6 percentage points compared to West Germans. This means concerns about immigration of individuals living in East Germany increased more than double that those of individuals living in the West. The refugee crisis and the related government's asylum policy had a stronger effect in increasing people's concerns in East Germany. This result might be indicative of a persistent difference in the cultural and social histories of the two parts of the country.

Forth, I test whether individuals with a direct migration background were less affected by the refugee crisis. In column (4), I find there is no evidence of a heterogeneous treatment effect with respect to migration background, as the coefficient of the interaction term is negative, but statistically insignificant. Finally, I find no evidence of a heterogeneous treatment effect with respect to age. I test this by inserting a dummy equal to one for individuals over 45 years old, instead of the usual age controls. The triple interaction term is close to zero and statistically insignificant.

## 6 Concerns about Immigration and Support for the AfD

As argued above, the refugee crisis substantially increased German concerns about immigration. Clearly, this increase in concerns may have played a role in shifting political preferences, to the benefit of the recently established populist, right-wing party, *Alternative für Deutschland* (AfD). Indeed, the AfD was founded in February 2013 as a single-issue party, criticizing the Euro, and more generally the European Union. In the federal election of 2013, the party gained 4.7% of the vote, reaching a near-success in such a short time since its founding, but missing the threshold of 5% to enter the parliament. After the election, the AfD began shifting its focus from the Euro crisis to the pressing issue of immigration (Schmitt-Beck, 2017). In this respect, the AfD adopted populist communication strategies, promoting a nationalist and conservative stance. Once the refugee crisis broke out in the summer of 2015, the party further stressed its strong anti-immigration position and criticized the welcoming asylum policy enacted by Chancellor Merkel.

In the federal election of 2017, the AfD received 12.6% of the vote, becoming the third largest party in the German parliament. Moreover, the party gained a stronger

electoral support in East Germany, for instance, claiming 27% of the vote in the state of Saxony. Importantly, immigration was the single most important issue for the German population during the election (Dostal, 2017).<sup>21</sup> Thus, concerns about immigration might have played a crucial role in shifting political support of voters towards the AfD.

Unfortunately, SOEP data regarding voting in 2017 are not available yet. Hence, I resort to analysing the relationship between concerns about immigration and party support for 2014 and 2015, the only two years in which data for the AfD support are available. Respondents are asked whether they support a political party.<sup>22</sup> In case of affirmative answer, they are then asked the following question: “Which party do you lean toward?”. I create a dummy variable equal to one if an individual supports the AfD, and zero if it supports another party. Similarly, I create dummy variables for each party present in the German electoral field.

In Panel A of Table 7, I regress these measures of support for parties on a dummy variable equal to one for individuals who are “very concerned about immigration to Germany”, and zero otherwise. All regressions include the full set of demographic and labour market controls, German state fixed effects, month of interview fixed effects and are estimated by individual fixed effects, with clustering at the individual level. The estimated coefficient for the AfD is positive and statistically significant. Individuals who are very concerned about immigration are 0.88 percentage points more likely to support the AfD. This is a substantial effect, because, in my dataset, only 2.21% of respondents support the AfD in 2014 and 2015, conditional on declaring which party they support. The estimated coefficients for all the other parties are close to zero and statistically insignificant.

However, it is important to note these regressions estimate correlations, and not causal effects. Indeed, the usual endogeneity issues are likely to be at play. Omitted variables might account for both concerns about immigration and political support for the AfD. Moreover, causality may be running in the other direction. It is possible that an individual who supports the AfD becomes more concerned about immigration by being affected by the xenophobic rhetoric supplied by the party. This hypothesis is supported by a recent paper of Müller and Schwarz (2017), who find that anti-refugee hate speech on the Facebook page of the AfD predicts violent crimes against refugees in Germany.

Next, I attempt to estimate the casual effect of concerns about immigration on

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<sup>21</sup>This is confirmed by the Standard Eurobarometer, autumn round of 2017. Immigration was cited as the most important issue facing the country by 40% of respondents, followed by the education system (22%), terrorism (20%), and the environment, climate and energy issues (20%).

<sup>22</sup>In my dataset, 41.9% of respondents in 2015 support a political party. Of these, 95.2% report which specific party they support.

Table 7: Concerns about immigration and support for the AfD

	Support for								
	AfD	CDU	CSU	FDP	SPD	Greens	Linke	NPD	Pirate Party
<i>Panel A: OLS</i>									
Very concerned about immigration	0.00876*** (0.00328)	-0.00143 (0.00723)	-0.00296 (0.00439)	-0.00340 (0.00275)	0.00436 (0.00613)	0.000671 (0.00386)	-0.00230 (0.00360)	-0.00158 (0.00119)	0.000841 (0.00190)
<i>Panel B: Reduced Form</i>									
Year 2015	0.00718*** (0.00150)								
Refugee Crisis x Year 2015	-0.00537 (0.00345)								
<i>Panel C: 2SLS</i>									
Very concerned about immigration	-0.275 (0.271)								
Demographic Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Labour Market Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Individual FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Month of interview FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	19,128	19,128	19,128	19,128	19,128	19,128	19,128	19,128	19,128

*Notes:* Very concerned about immigration is a dummy equal to one if the individual is very concerned about immigration to Germany, and zero otherwise. Refugee Crisis is equal to one if the individual was interviewed from 1 June until the end of the year in 2015, and zero otherwise. Year 2015 is equal to one if the individual was interviewed in 2015, and zero otherwise. Dependent variables for party support are equal to one if the individual supports that specific party, and zero if the individual supports any another party. Standard errors, clustered at the individual level, in parentheses. \*\*\* p<0.01; \*\* p<0.05; \* p<0.1.

support for the AfD by exploiting the exogenous variation in concerns generated by the refugee crisis. Under the assumption that the refugee crisis, and the related government's asylum policy, affected AfD support only through concerns about immigration, I can employ an instrumental variable strategy. Since this condition may not be credible, I consider the following analysis as tentative. First, in Panel B of Table 7, I estimate the reduced form by regressing equation (1), substituting the usual dependent variable with support for the AfD. Surprisingly, I find that, during the peak of the refugee crisis, support for the AfD decreased, although the effect is not statistically significant. In Panel C, I estimate the effect of concerns on support for the AfD with 2SLS estimation. Again, the estimated coefficient is negative and statistically insignificant. Thus, it seems that the correlation between concerns about immigration and support for the AfD is not of a causal nature. If anything, these results suggest that support for the AfD decreased during the refugee crisis.

However, these findings are subject to a series of limitations. First, as already noted, the identifying assumption of the instrumental variable strategy might be violated. Second, the reduced form estimates are biased if the common trend assumption is not respected for the variable measuring AfD support. Unfortunately, there is no way to check the credibility of this assumption directly, because the AfD was founded in 2013 and I only dispose of data concerning support for the party in 2014 and 2015. Third, and more importantly, I do not analyse a measure of voting, but rather of political preference. Thus, it is possible that individuals do not fully disclose their real preferences, especially when it comes to declaring support for a right-wing populist party that expresses radical and xenophobic positions. Alternatively, it might be the case that the AfD, relative to other parties, holds a lower support among the electorate that the share of votes it ends up getting at the elections. In other words, it is possible that on election day the AfD succeeds, more than its competitors, in mobilizing parts of the electorate that do not steadily support the party. Indeed, my analysis focuses on the short term, in that I attempt to find an effect of concerns on political support in the second part of 2015. However, it is probable that concerns about immigration affected political outcomes in the following period, and precisely on the election day.

In sum, I find that concerns about immigration are positively correlated with support for the AfD. This correlation suggests that AfD supporters are characterised by some personality or cultural traits that lead them to be more concerned about immigration. Exploiting the exogenous variation in concerns generated by the refugee crisis, I provide tentative evidence suggesting that this correlation does not have a causal nature. If anything, I find that support for the AfD diminished during the peak of the refugee



crisis. More research is needed to establish if the increase in concerns due to the refugee crisis caused an electoral gain for the AfD in the federal election of 2017.<sup>23</sup>

## 7 Conclusion

The refugee crisis represented one of the most important events in contemporary German history. In this paper, exploiting exogenous variation in survey interview timing of the SOEP, I estimate the short-term causal effect of this considerable influx of asylum seekers and migrants on concerns about immigration. The estimated effect is substantial, representing an increase of around 22%, compared to the pre-refugee crisis baseline level of concerns. Interestingly, I find that this increase was twice as large for East Germans, compared to West Germans. In a second section, I show concerns about immigration are positively correlated with political support for the relatively new, right-wing populist party *Alternative für Deutschland*. However, using the variability in concerns generated by the refugee crisis, I find no evidence of a causal effect of concerns on political preferences in the short term.

My findings suggest that the refugee crisis, and the related government's asylum policy, affected public opinion on immigration in Germany, by substantially increasing the share of people who are very concerned about immigration. Refugee flows might not only bring about large distributional consequences in the labour market (Borjas and Monras, 2017), but also affect people's anxieties. Moreover, I argue concerns about immigration may be an independent driver of populist voting, specifically for the case of Germany, which received the most refugees in Europe and was not affected much by the economic crisis. Future research is needed to investigate whether the increase in concerns generated by the refugee crisis affected political outcomes in favour of the AfD. For the moment, my paper makes a first step by uncovering the correlation between concerns about immigration and support for this right-wing populist party.

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<sup>23</sup>Data on voting in 2017 are collected by the SOEP during 2018 and will likely be released in December 2019.

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