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The Day after the Bomb: Well-being Effects of Terrorist Attacks in Europe

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Abstract

We study the non-monetary costs of the terrorist attacks occurred in France, Belgium and Germany between 2010 and 2017. Using four waves of the European Social Survey, we find that individuals' well-being is significantly reduced in the aftermath of a terrorist attack. We explore possible mechanisms for this effect, finding that terrorist attacks determine a reduction in generalized trust, institutional trust, satisfaction with democracy and satisfaction with the government. Terrorist attacks are also found to increase negative attitudes towards migrants and perceived discrimination. However, contrary to expectations, the negative impact of terrorism on well-being is less strong for Muslim immigrants. We posit that this occurs because immigrants benefit more than natives from the institutional reaction following the attacks.

Keywords: Terrorism, Well-being, Happiness, Democracy, Trust.

JEL classification: H56, I31.

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1 Introduction

Terrorism implies significant costs in terms of casualties and human lives. However, the main aim of terrorism, far beyond its direct damages, is to disrupt the ordinary life of individuals, even those not directly affected by the attacks. Anyone who experiences a terrorist attack, either directly or indirectly, feels subject to a potential danger. The climate of fear that the attacks provoke is inflated by the media coverage (Powell, 2011; Ruigrok and van Atteveldt, 2007), and leads the public to react as if responding to an outbreak of a contagious disease (Becker and Rubinstein, 2011). Although the actual probability of being hit is very small, individuals suffer from the potential threat and respond to fear, rather than to the actual risk, by adjusting their behavior in a number of ways.

The literature shows that terrorist attacks crucially influence, among other things, individuals' risk assessment and their willingness to trade-off security for liberties (Bozzoli and Mller, 2011). This increased perception of risk also affects trust in other people, governments and other institutions that were supposed to prevent terrorist attacks from happening (Blomberg et al., 2011), with a resulting increase in the support for right-wing parties and their hawkish policies (Berrebi and Klor, 2008). Most importantly, terrorism significantly affects the way people view other groups, especially the groups to which the terrorists belong to (Bar-Tal and Labin, 2001; Huddy et al., 2005; Echebarria-Echabe and Fernández-Guede, 2006).

In this paper, we study the well-being effects of the terrorist attacks occurred in France, Belgium and Germany between 2010 and 2017, by using four waves of the European Social Surveys. We contribute to the existing literature in several respects. First, we analyze multiple terrorist attacks, whereas most of the literature focuses on the effects of a single attack. Second, we study the effects of terrorist attacks on subjective well-being, while examining the role played by trust and satisfaction with institutions as potential transmission channels. Third, we focus on the well-being of immigrants and, more specifically, Muslim immigrants. Following the attacks, Europe was pervaded by a public sentiment against Muslim immigrants, that has been fuelled by the anti-immigrant rhetoric of most right-wing parties, who claimed the need to close the borders as a way to protect citizens from the threat of terrorism.¹ We thus explore the hypothesis that the negative effects of terrorism on well-being are stronger for minorities associated with the attacks, i.e., Muslim immigrants.

Our results indicate that terrorist attacks significantly reduce self-reported well-being, as measured by either life satisfaction or happiness. As for the potential channels, terrorist attacks are found to negatively affect generalized

¹Indeed, data from the Pew Research center (<https://www.pewglobal.org>) show that the immigration wave and the terrorist threat have been, and still are, largely related to one another in the minds of many Europeans.

and institutional trust, and satisfaction with democracy and the government. As expected, terrorist attacks increase negative attitudes towards migrants and perceived discrimination. However, contrary to expectations, in the aftermath of a terrorist attack the reduction in well-being experienced by Muslim immigrants is less strong than that experienced by natives.

We interpret this latter finding by showing that the reduction in satisfaction for government or democracy that natives experience following a terrorist attack is stronger than that experienced by Muslim immigrants. This is consistent with the instrumental perspective on political support, that posits that immigrants support democracy for its tangible benefits (Rogowski, 1974), including better protection, rights and freedoms to its citizens, by continuing to employ – at least in the short run – their country of origin as a reference group (Stark et al., 1991). More specifically, we interpret our results as an indication that immigrants positively value the reaction that democratic institutions in the host country have exerted following the terrorist attacks, and compare it to what would have happened in their home country. This reaction includes lack of retaliation and certainty of being protected, despite a growing perception of discrimination and increased xenophobia. On the contrary, natives negatively value the reaction of the institutions that were supposed to protect their citizens against terrorism, and react to anger by reducing their support for democracy (Valentino et al., 2011).

The remainder of the paper is structured as follows. Section 2 provides the conceptual background by discussing the related literature. Section 3 illustrates the data and methods used in the empirical analysis. Section 4 presents the results. Section 5 concludes.

2 Related literature

Terrorism has relevant economic consequences, as it negatively affects growth (Abadie and Gardeazabal, 2003; Blomberg et al., 2004; Gaibulloev and Sandler, 2008; Meierrieks and Gries, 2013), capital markets (Chen and Siems, 2004) and trade (Bandyopadhyay et al., 2018). Attempts to estimate the economic costs of terrorism generally consider direct costs (loss of lives, severity of injuries, value of damaged structures, etc.) and indirect costs (higher insurance premia, increased security costs, loss of future trade). However the consequences of terrorism go well beyond its economic costs (Frey et al., 2007, 2009), as they include the psychological, social and political effects that are caused to the population by the climate of fear that the attacks generate. In turn, this changes the social perception of terrorism and the political attitudes of societies (Vergani, 2018).

The key question is how to measure the overall effects of a wide-ranging event such as a terrorist attack. This is a well known problem in welfare economics, about the provision of a (negative) non-market public good. The standard approach has been to measure individuals' willingness to pay (WTP), through

either revealed or stated preferences. In the first case, the costs of terrorism are inferred from individuals' WTP for defense or security expenses (Smith et al., 2009). In the second case, the WTP for a reduction of terrorist threat is measured through contingent valuation surveys (Viscusi, 2009). WTP approaches suffer from a number of problems, ranging from the difficulty of assessing prices in the absence of equilibrium markets to the severe biases that are present in individuals' responses to surveys. More recently, there has been increasing interest in analyzing people's experienced utility by measuring their subjective well-being (SWB) (Dolan and Kahneman, 2008).

Self-reported ratings of well-being can be considered relevant for welfare analysis, as they have been shown to be strongly correlated with physiological indicators (Cohen and Pressman, 2006; Steptoe et al., 2005), actual behaviour (Bray and Gunnell, 2006), and some key economic and social variables, such as income, employment, and health (Clark and Oswald, 1994; Tella et al., 2003; Ferrer-i-Carbonell, 2005; Winkelmann, 2009). Changes in subjective well-being have, in turn, relevant social and political consequences.

2.1 Terrorism and well-being

A growing body of literature has studied the effects of terrorism on well-being, generally finding a negative relationship. Metcalfe et al. (2011) exploit the timing of the London bombings in 2001 in a quasi-experimental framework, showing that the attacks resulted in lower levels of subjective well-being for those interviewed after the bombings. These results are largely confirmed by Clark et al. (2019), who focus on the US and exploit the timing of the Boston marathon bombing in a regression-discontinuity design. This study finds that the bombing significantly reduced the well-being of women and residents of the States close to Boston, while it did not affect labor supply and time use. On the contrary, Coupe (2016) focus on the 2015 Charlie Hebdo attacks in Paris, finding a reduction in optimism, an increase in trust in the national government but no effect in terms of life satisfaction or political orientation.

Evidence from Pakistan suggests that continuous exposure to terrorism reduces subjective financial well-being, with the effect being stronger for the less-educated and those living in urban areas (Gaibullov et al., 2018). Evidence from the exact time and place of terrorist-related incidents occurred in Northern Ireland, linked to individual-level records on happiness and anxiety, show that terrorism has a significant effect on individuals' short-lived happiness and anxiety levels. This effect, however, is largely confined to incidents that led to the death of victims and incidents within a twenty-kilometre radius (Bryson et al., 2018). Guedalia-Ephrat (2016), using individual-level survey data from Israel, find that terrorism negatively affects the subjective well-being of secular people, while positively affects the subjective well-being of religious people. The author interprets this puzzling result as evidence of the fact that religion could act as

a coping strategy in the aftermath of terrorist attacks.

2.2 Terrorism and social capital

Terrorism has been shown to affect confidence, in general, and more specifically confidence in governments and in institutions (Blomberg et al., 2011). If the reduction in confidence comes exactly from the fact that terrorist attacks, especially in Europe, have been perpetrated by people coming from inside, the reduction in confidence in governments and in institutions is usually supported by the claim that they have not done enough. This reduced satisfaction and confidence in institutions might translate into an increased engagement in politics through voting, a mechanism usually called “blind voting”.

Evidence from the UK indeed suggests that the 2005 London suicide bombings reduced generalized trust, while increased local participation (Giordano and Lindström, 2016). Evidence from Spain shows that both lethal and non-lethal terrorist attacks significantly increased individuals’ willingness to take part in future democratic election (Balcells and Torrats-Espinosa, 2018) and that terror is associated with a positive probability that the incumbent government is replaced (Gassebner et al., 2008). These results are consistent with those for the United States, where families and neighbors of victims of the September 11 2001 attack were found to be significantly more active in politics and to support the Republican party (Hersh, 2013). They are also consistent with findings from Spain, where the terrorist attacks of March 11, 2004 in Madrid have impacted on the results of the elections that took place few days later by negatively affecting the incumbent (conservative) party while favouring the opposing (socialist) party (Montalvo, 2011). Evidence from Israel (Berrebi and Klor, 2008; Getmansky and Zeitzoff, 2014) suggests, instead, that terrorism is associated with increased support for right-wing parties.

Confidence, whether general, institutional or particular, together with networks, social and political participation, are among the components of social capital, one of the buffers against poor psychological well-being. A reduction in trust and a consequent increase in participation – as a reaction to a dissatisfaction with the way democratic institutions work – might, therefore, be a mechanism through which terrorism negatively affects well-being.

2.3 Terrorism and immigrants

Abundant empirical evidence supports the idea that terrorist attacks are likely to induce a backlash against minorities, a rise in their costs of assimilation, with possible resulting effects in terms of their health outcomes and economic prospects. Gould and Klor (2015) use data from US municipalities to estimate the long term effects of the 9/11 terrorist attack in terms of assimilation of Muslim immigrants. They show that the increased backlash against the Muslim community brought about by the attack caused a reduction in Muslim

immigrants' assimilation, measured as an increase in same ethnicity marriages and in fertility, and a reduction in female labor force participation and English proficiency.

Several empirical papers indicate that attitudes towards Muslim immigrants have changed also outside the US after the 9/11 attacks. Evidence from Sweden shows that, following 9/11, attitudes towards Muslim immigrants have worsened, while this has not translated into actual discrimination in the labour market for Muslim minorities ([Åslund and Rooth, 2005](#)). In the Netherlands, house prices have declined in neighborhoods where more than 25% of the population belong to ethnic minorities from Muslim countries ([Gautier et al., 2009](#)), while in the UK the increased perceived discrimination post 9/11 has resulted in worse subjective and objective health outcomes for Muslim minorities ([Johnston and Lordan, 2012](#)), and in an increase in hate crimes ([Hanes and Machin, 2014](#)). In Germany, the 9/11 attack negatively affected earnings, but only for low-skilled Muslim workers employed in small and medium-sized firms ([Cornelissen and Jirjahn, 2012](#)).

Following [Gould and Klor \(2015\)](#), it can be expected that Islamic terrorism increases the perceived discrimination of the Islamic community in the targeted country. This translates into a stronger reduction of well-being for Muslim immigrants, with potential long lasting effects in terms of integration in the host country. In fact, in the aftermath of terrorist attacks, people are loath to make social connections, especially with people belonging, or being supposed to belong, to the group of the “unknown enemy”. This, in turn, increases social fragmentation and reduces well-being.

Relatively few papers, to date, have attempted to study this issue. [Hole and Ratcliffe \(2015\)](#) exploit the timing of the London bombings to identify the impact of a rapid increase in racism on the well-being of young Muslims. Their results suggest that while the well-being of Muslim teenage girls declines after the bombings, no effects are found for Muslim teenage boys. [Zorlu and Frijters \(2018\)](#) make use of six rounds of the European Social Survey (ESS) to examine the happiness trajectory of Muslims living in European countries following the terrorist attacks on 11 September 2001. They show that happiness among the general Muslim migrant population declines and subsequently returns to average relative to others after 9/11, with the exception of Muslim young males coming from the Middle East, who continuously report a lower level of subjective well-being.

3 Data and methods

Europe has witnessed a long history of terrorism. The use of terrorism to further a political cause has accelerated after World War II, and has often been linked to separatist movements (such as the Irish Republican Army in the United Kingdom, or the ETA separatist group in Spain), or to political extremism (such

as the far-right or far-left extremism, and anarchism in Italy in the 1970s). As such, terrorist incidents were initially concentrated in relatively few areas. This picture changed dramatically in the first decade of the new millennium. Since the Madrid train bombings in 2004, the deadliest Islamic attack ever occurred in Europe in which 193 civilians were killed, Islamic terrorism has started to hit Europe, particularly France,² reaching a peak between 2014 and 2016, when the number of people killed by Islamic terrorist attacks was greater than that of all previous years combined, as shown in Figure 1.

[Figure 1 about here]

Within Europe, our analysis focuses on countries that were the object of terrorist attacks between 2010 and 2017. We further restricted the sample to countries for which the timing of the interviews for the individual-level survey data (described below) included the date of the terrorist attack, thus allowing us to conduct a pre-post analysis. As a consequence, we analyze individual-level data for France, Belgium and Germany, focusing on the following events: the Charlie Hebdo attack in Paris in January 2015,³ the Brussels airport attack in March 2016,⁴ and the Christmas market attack in Berlin in December 2016.⁵

Individual-level data on subjective well-being and other characteristics were obtained from different waves of the European Social Survey (ESS), a biennial general social survey, available since 2002, designed to map values and attitudes of the European population regarding the most relevant social issues. This survey, conducted with face-to-face interviews, provides cross-sectional probability samples that are representative of all persons aged 15 and over resident within private households in each country.

The ESS contains detailed information about respondents' characteristics, such as age, sex, family background, religion, nationality, level of education, employment status and level of income (expressed in income deciles). In addition, the survey contains information about individuals' social attitudes, such as their level of trust, satisfaction with institutions, voting behaviour and, most

²In particular, a series of coordinated terrorist attacks occurred in Paris on November 13 2015, when 130 people were killed and 368 injured outside the *Stade de France* in Saint-Denis during a football match, and in a mass shooting during a concert at the Bataclan theatre.

³On January 7, 2015, in Paris, two brothers entered the offices of a French satirical weekly newspaper, *Charlie Hebdo*, killed 12 people and injured 11 others. The attack was claimed by Al-Qaeda. The *Charlie Hebdo* attack was followed by several related attacks around Paris, including an attack to a kosher supermarket where a terrorist held 19 hostages, four of whom died.

⁴On March 22, 2016, in Brussels, two coordinated suicide bombings occurred in Brussels, one at the Brussels Airport in Zaventem, and one at the Maalbeek metro station. The attacks provoked 35 victims and more than 300 injured. The attack was claimed by the Islamic State of Iraq and the Levant (ISIL).

⁵On 19 December 2016, in Berlin, a truck broke into a Christmas market, leaving 12 people dead and 56 injured. The perpetrator was an asylum seeker. The attack was claimed by The Islamic State of Iraq and the Levant (ISIL).

importantly, subjective well-being (both life satisfaction and happiness). For our purposes, a crucial element of the ESS is the availability of the date of the interview, that allows us to conduct a pre-post analysis.

The application of the criteria described above left us with a sample of 46,649 individuals. Table 1 reports summary statistics for the variables used in the analysis. Life satisfaction and happiness, our key dependent variables, are discrete variables on a scale between 0 and 10. Our main explanatory variable, “post-attack”, is a dummy variable that takes value 1 following the terrorist attack in the given country (about 19% of the observations in the sample).

[Table 1 about here]

As discussed in Section 2, our analysis aims at testing three main hypotheses, that can be summarized as follows:

- H1: Terrorist attacks have a negative effect on individuals’ well-being.
- H2: Terrorist attacks negatively affect trust and satisfaction with institutions.
- H3: The well-being effects of terrorism are stronger for minorities associated with the attacks.

Our empirical strategy is based on a pre-post analysis based on the following specification:

$$SWB_{ijt} = \alpha + \beta_1 TA_{jt} + \beta_2 X_{ijt} + \beta_3 TA_{jt} \times x_{ijt} + \beta_4 T_t + \epsilon_{ijt} \quad (1)$$

where SWB_{ijt} denotes an indicator of subjective well-being (life satisfaction or happiness) for individual i in country j at time t , TA_{jt} is a dummy variable (“post-attack”) taking value of 0 for observations before the day of the attack and 1 thereafter, X_{ijt} is a vector of individual-specific characteristics, $TA \times x$ is the (possible) interaction term between the *post-attack* dummy and specific individual characteristics (e.g., immigrant status), while T_t denotes time fixed-effects.

Our identification strategy relies on the exogeneity of the timing of the terrorist attacks, that are assumed to be unpredictable. Equation (1) is estimated by OLS for ease of interpretation. In order to take into account the ordinal nature of the dependent variables, we also report, as a robustness check, the results obtained by using ordered logit estimation. Furthermore, as an additional robustness check, we consider estimates for a multi-level model, in order to take into account the structure of the data set (individuals nested within countries and regions).

4 Results

This section reports the results of the empirical analysis. We start from the effect of terrorist attacks on subjective well-being overall, to then focus on possible explanations of this effect. We then examine how the effect of terrorism on well-being differs for immigrants and, more specifically, for the sub-group of Muslim immigrants.

4.1 Terrorist attacks and well-being

Table 2 reports OLS estimates for equation (1). Life satisfaction falls significantly in the aftermath of a terrorist attack, with an expected reduction of -0.263 on a scale between 0 and 10. The size of the effect is relevant, as it is about one quarter the coefficient for being unemployed (-1.032), and well above the coefficients for being separated/divorced or widowed (-0.186 and -0.075, respectively). The results are virtually unchanged when focusing on self-reported happiness. In the aftermath of a terrorist attack, happiness is significantly lower, with an estimated effect of -0.104 on a scale between 0 and 10. Focusing on the control variables, no significant difference in well-being is found for immigrants. Consistently with the results in the existing literature, subjective well-being is found to be positively related to age, education level, and income.

[Table 2 about here]

Table 3 presents the results obtained by estimating equation (1) using either an ordered logit estimator (columns 1 and 3), in order to take into account the ordinal nature of the dependent variables, or a multilevel model (columns 2 and 4), in order to take into account the nested structure of the data set. Overall, the results are virtually unchanged: the negative effect of terrorist attacks on well-being is qualitatively and quantitatively robust, both for life satisfaction (estimated coefficients are -0.321 and -0.226, respectively) and happiness (estimated coefficients are -0.211 and -0.190, respectively).

[Table 3 about here]

What are the mechanisms that can contribute to explain the negative effect of terrorist attacks on subjective well-being? Table 4 presents the results obtained by estimating the specification in (1) by using as dependent variable a number of alternative indicators aimed at capturing the potential role played by trust and satisfaction with institutions, as described in Section 2. This allows us to provide a direct test of hypothesis 2. The findings indicate that, as expected, general trust, trust in politicians, and trust in the EU parliament are significantly lower following a terrorist attacks. Similarly, satisfaction with democracy and satisfaction with government are also significantly reduced after terrorist

attacks. Overall, these findings indicate that the negative effects of terrorism on trust and satisfaction with institutions provide one possible interpretation of the negative impact of terrorism on well-being.

[Table 4 about here]

4.2 Terrorist attacks and immigrants

The wave of xenophobic sentiments that followed the terrorist attacks in Europe has led to an increase in the perception of discrimination and threat among immigrants. Table 5 reports OLS estimates of the effects of terrorist attacks on attitudes towards migrants (columns 1 to 3) and perceived discrimination (columns 4 to 6). The results indicate that, in the aftermath of a terrorist attack, there is a significant increase in negative attitudes towards immigrants. On a scale between 0 and 10, the rating to the statement that immigrants are good for the economy, culture, or the country, fall by 0.796, 0.213 and 0.137, respectively. In addition, estimates for a linear probability model indicate a significant increase in perceived discrimination by race and by religion, although not by nationality.

[Table 5 about here]

Against this background, we turn to testing hypothesis 3, by assessing whether the negative effect of terrorism on well-being is stronger for sub-groups directly associated with the terrorist attacks. Table 6 reports OLS estimates of the effects of terrorist attacks on the well-being of immigrants (columns 1 and 3) or, more specifically, Muslim immigrants (columns 2 and 4). Focusing on life satisfaction, the findings indicate no differential effects for either immigrants or Muslim immigrants. On the other hand, when using happiness as a dependent variable, the negative effect of terrorist attacks is found – contrary to expectations – to be significantly *less* strong for both immigrants (0.244) and Muslim immigrants (0.560). When computing standardized coefficients, the coefficient of the interaction effect on Muslim immigrants is approximately 15% higher, denoting a stronger differential effect for this sub-group.

[Table 6 about here]

In order to assess the robustness of this finding, Table 7 presents, as above, the results obtained by estimating equation (1) using either an ordered logit estimator (columns 1 and 3), or a multilevel model (columns 2 and 4). The findings are qualitatively unchanged. While the negative effect of terrorist attacks on life satisfaction is not significantly different for Muslim immigrants, the negative effect on happiness is found to be significantly *less* strong for Muslim immigrants, using either an ordered logit estimator (0.535) or a multilevel model (0.821).

[Table 7 about here]

How can these findings for immigrants and Muslim immigrants be interpreted? The literature shows that perceptions of threat among immigrants affect their political behavior (e.g., Ramakrishnan and Espenshade, 2001; Cho et al., 2006) by increasing their political engagement. We suggest that the increased perception of discrimination that immigrants have experienced in Europe has been followed by an unexpected political reaction (Bălăţescu, 2007): protection and absence of retaliation against them. To the extent that immigrants perceive that democratic institutions have protected them from this potential threat to their rights and freedoms, they may experience an increase in the satisfaction with the functioning of democracy, with a resulting differential effect in terms of well-being with respect to natives.

In order to assess this possible interpretation, Table 8 reports estimates of the differential effect for Muslim immigrants of terrorism on the indicators of trust and satisfaction with institutions examined in Table 5. No significant difference for Muslim immigrants is found in the effect of terrorism on indicators of trust. On the other hand, consistent with our predictions, the negative effect of terrorist attacks on satisfaction with democracy or government is significantly less strong for Muslim immigrants.

[Table 8 about here]

5 Conclusions

This paper investigates the well-being effects of the terrorist attacks occurred in France, Belgium and Germany between 2010 and 2017. By exploiting the exogeneity of the timing of the attacks, we identify a large significant negative effect of terrorist attacks on individuals' subjective well-being. In order to assess possible channels through which this effect occurs, we show that terrorist attacks produce a significant reduction in trust and satisfaction with institutions. We also explore the differential effects on immigrants' well-being. Terrorist attacks are found to increase negative attitudes towards immigrants. However, the negative effect of terrorism on well-being is found to be *less* strong for immigrants and, more specifically, for Muslim immigrants.

We posit that the institutional channel could provide an explanation of this finding. In this perspective, immigrants may appreciate more the institutional reaction, while natives are likely to perceive that institutions have not done enough for protecting their citizens. Albeit our data do not allow to corroborate further these findings, they may nevertheless provide important indications for future research. They may also have relevant policy implications, as they indicate that the security perception of individuals depends not only on the actual results that policies achieve, but also on how policies are explained to the public.

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Table 1: Descriptive statistics

Variable	Mean	Std. Dev.	Min.	Max.	N
Life satisfaction	7.03	2.16	0	10	46587
Happiness	7.45	1.76	0	10	46572
Post-attack	0.19	0.39	0	1	46649
Most people can be trusted	4.87	2.23	0	10	46618
Trust in politicians	3.63	2.21	0	10	46343
Trust in the European Parliament	4.35	2.38	0	10	44762
Satisfaction with democracy	5.20	2.40	0	10	46116
Satisfaction with government	4.15	2.26	0	10	45742
Voted	0.82	0.38	0	1	41299
Immigration good for the economy	5.04	2.39	0	10	45949
Cultural life enriched by immigrants	5.72	2.49	0	10	46122
Immigrants make better place to live	4.91	2.21	0	10	46013
Discrimination: colour or race	0.01	0.11	0	1	46649
Discrimination: nationality	0.01	0.12	0	1	46649
Discrimination: religion	0.01	0.12	0	1	46649
Muslim immigrant	0.02	0.14	0	1	46648
Immigrant	0.09	0.28	0	1	46648
Male	0.49	0.50	0	1	46649
Age	48.66	18.6	14	105	46541
Unemployed	0.04	0.20	0	1	46649
Higher tertiary education	0.13	0.33	0	1	46430
Lower tertiary education	0.10	0.30	0	1	46430
Advanced vocational	0.14	0.35	0	1	46430
Upper tier upper secondary	0.13	0.34	0	1	46430
Lower tier upper secondary	0.28	0.45	0	1	46430
Lower secondary	0.13	0.34	0	1	46430
Less than lower secondary	0.10	0.29	0	1	46430
Household's total net income (decile)	5.52	2.74	1	10	35548
Not in a relationship	0.37	0.48	0	1	46549
In a relationship	0.58	0.49	0	1	46549
Separated/Divorced	0.03	0.17	0	1	46549
Widowed/civil partner died	0.02	0.14	0	1	46549
Catholic	0.31	0.46	0	1	46390
Protestant	0.13	0.33	0	1	46390
Islamic	0.04	0.19	0	1	46390
Other	0.03	0.16	0	1	46390
No religion	0.50	0.50	0	1	46390

Note: European Social Surveys.

Table 2: Terrorist attacks and well-being

	Life satisfaction (1)	Happiness (2)
Post-attack	-0.263*** (0.047)	-0.104** (0.039)
Immigrant	0.052 (0.050)	0.031 (0.041)
Male	0.020 (0.025)	0.065** (0.020)
Age	-0.107*** (0.004)	-0.079*** (0.003)
Age ²	0.001*** (0.000)	0.001*** (0.000)
Unemployed	-1.032*** (0.079)	-0.641*** (0.067)
Higher tertiary education, >= MA level	0.647*** (0.061)	0.184*** (0.048)
Lower tertiary education, BA level	0.657*** (0.062)	0.259*** (0.049)
Advanced vocational, sub-degree	0.463*** (0.063)	0.151** (0.049)
Upper tier upper secondary	0.398*** (0.061)	0.135** (0.048)
Lower tier upper secondary	0.351*** (0.059)	0.088 (0.046)
Lower secondary	0.269*** (0.064)	0.012 (0.052)
Household's total income, all sources (decile)	0.172*** (0.006)	0.120*** (0.005)
Catholic	0.166*** (0.028)	0.102*** (0.023)
Protestant	0.398*** (0.040)	0.148*** (0.034)
Islamic	0.126 (0.078)	0.188** (0.061)
Other	0.277*** (0.075)	0.110 (0.064)
In a relationship	0.392*** (0.033)	0.668*** (0.027)
Separated/Divorced	-0.186* (0.074)	0.080 (0.064)
Widowed/civil partner died	-0.075 (0.098)	-0.118 (0.099)
Constant	7.724*** (0.136)	7.913*** (0.100)
N.	35234	35232

Note: Dependent variable as in column heading. OLS estimates. Covariates as described in equation (1) and Table 1. Robust standard error reported in brackets. * p<0.05, ** p<0.01, *** p<0.001

Table 3: Terrorism and wellbeing: robustness

	Life satisfaction		Happiness	
	Ordered Logit	Multilevel	Ordered Logit	Multilevel
	(1)	(2)	(3)	(4)
Post attack	-0.321*** (0.041)	-0.226** (0.076)	-0.211*** (0.042)	-0.190*** (0.054)
N.	35234	12122	35232	12126

Note: Dependent variable as in column heading. Covariates as described in equation (1) and Table 1. Robust standard error reported in brackets. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 4: Terrorism: possible mechanisms

	Trust			Satisfaction with	
	General	Politicians	EU Parl.	Democracy	Government
Post-attack	-0.230*** (0.050)	-0.567*** (0.052)	-0.237*** (0.053)	-0.684*** (0.054)	-0.877*** (0.049)
N.	35240	35093	34168	34972	34771

Note: OLS regression coefficients for equation (1), using each of the variables in the column heading as dependent variable. Covariates as described in equation (1) and Table 1. Robust standard error reported in brackets. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 5: Attitudes towards immigrants, perceived discrimination

	Immigrants good for			Discrimination		
	Economy	Culture	Better place	Colour	Nationality	Religion
	(1)	(2)	(3)	(4)	(5)	(6)
Post attack	-0.796*** (0.052)	-0.213*** (0.055)	-0.137** (0.050)	0.019*** (0.003)	0.005 (0.003)	0.014*** (0.003)
N.	34900	35002	34925	35263	35263	35263

Note: Dependent variable as in column heading. OLS estimates. Covariates as described in equation (1) and Table 1. Robust standard error reported in brackets. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 6: Terrorist attacks and well-being: immigrants

	Life satisfaction		Happiness	
	(1)	(2)	(3)	(4)
Post attack	-0.267*** (0.047)	-0.333*** (0.046)	-0.132*** (0.040)	-0.139*** (0.038)
Immigrant*post	0.034 (0.097)		0.244** (0.082)	
Immigrant	0.044 (0.058)		-0.027 (0.047)	
Muslim immigrant*post		0.300 (0.182)		0.560*** (0.155)
Muslim immigrant		0.119 (0.131)		0.012 (0.099)
N.	35234	35336	35232	35334

Note: Dependent variable as in column heading. OLS estimates. Covariates as described in equation (1) and Table 1. Robust standard error reported in brackets. * p<0.05, ** p<0.01, *** p<0.001

Table 7: Terrorism and well-being of immigrants: robustness

	Life satisfaction		Happiness	
	Ordered Logit	Multilevel	Ordered Logit	Multilevel
	(1)	(2)	(3)	(4)
Muslim imm.*post	0.150 (0.168)	0.347 (0.245)	0.535** (0.183)	0.821*** (0.207)
Post attack	-0.387*** (0.041)	-0.238** (0.076)	-0.254*** (0.041)	-0.207*** (0.054)
Muslim immigrant	0.113 (0.121)	0.100 (0.209)	0.019 (0.111)	-0.189 (0.177)
N.	35234	12122	35232	12126

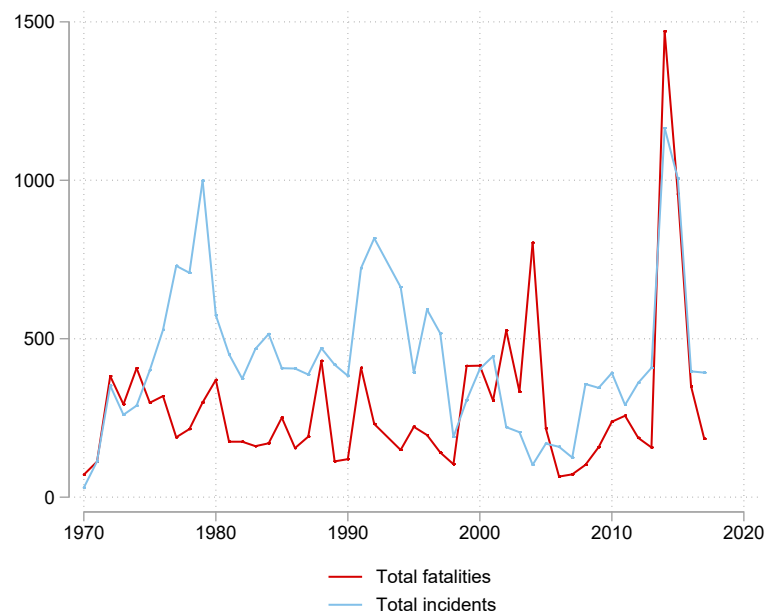
Note: Dependent variable as in column heading. Ordered Logit and Multilevel estimates. Covariates as described in equation (1) and Table 1. Robust standard error reported in brackets. * p<0.05, ** p<0.01, *** p<0.001

Table 8: Terrorism and well-being of immigrants: mechanisms

	Trust			Satisfaction with	
	General	Politicians	EU Parl.	Democracy	Government
Post attack	-0.285*** (0.049)	-0.626*** (0.050)	-0.288*** (0.052)	-0.828*** (0.054)	-0.994*** (0.049)
Muslim immigrant*post	0.324 (0.220)	0.024 (0.218)	0.230 (0.245)	0.551** (0.210)	0.421* (0.213)
Muslim immigrant	0.046 (0.122)	1.211*** (0.143)	1.060*** (0.147)	1.415*** (0.128)	0.976*** (0.141)
N.	35342	35193	34266	35072	34871

Note: Dependent variable as in column heading. OLS estimates. Covariates as described in equation (1) and Table 1. Robust standard error reported in brackets. * p<0.05, ** p<0.01, *** p<0.001

Figure 1: Fatalities and incidents for terrorist attacks in Europe (1970–2018)



Source: Authors' elaboration from the Global Terrorism Database (<https://www.start.umd.edu/gtd/>). The Global Terrorism Database defines a terrorist attack as: the threatened or actual use of illegal force and violence by a non-state actor to attain a political, economic, religious, or social goal through fear, coercion, or intimidation. Data does not include acts of state terrorism. Total number of fatalities represents the number of total confirmed fatalities for the incident. This includes all victims and attackers who died as a direct result of the incident.