

# Thank You, Infidels! Social Welfare and Islamic State Recruitment

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## Abstract

Recently, there have been numerous reports about Islamic State (IS) fighters receiving welfare payments from their home countries, sometimes for many years. In this study, we empirically investigate the hypothesis that social welfare has a positive effect on IS recruitment, by increasing potential terrorists' capacity for joining IS in Syria and Iraq. Unlike previous empirical research on welfare and terrorism, we find considerable evidence that countries that have more social welfare spending tend to witness a higher number of its citizens joining IS overseas. The hypothesis is mostly confirmed in OECD countries where a 1% increase in the social safety spending (%GDP) increases the number of foreign fighters by 0.87%.

Keywords: Conflict, Empirical Conflict Research, Terrorism Financing, Islamic State, Terrorism

JEL Classification: D74, F51, F52, J22, N45

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## **1. Introduction**

The recent rise in Islamic State (IS) terrorism in many parts of the world, especially in Europe, can be correlated with the fact that many IS fighters were receiving state welfare payments, sometimes for many years. In a recent report published by the European Parliament, the authors note that “certain (European) States have reported cases where foreign terrorists continued to receive welfare payments while they are in IS-controlled areas” (European Parliament, 2017, p. 17). Examples include the following: according to the Wall Street Journal, authorities have concluded that at least five of the alleged plotters in the 2015 Paris terror attack, as well as the 2016 Brussels attack, partly financed themselves with payments from Belgium's social welfare system. In total they received more than EUR 50,000 (Maremont & Pop, 2016).

Anis Amri, the terrorist who ploughed a truck into a crowded Berlin Christmas market in December 2016, duped German authorities into giving him welfare benefits using 14 different identities (BBC, 2017). In 2013, the Boston Herald reported that the family of Boston marathon bombers Tamerlan and Dzhokhar Tsarnaev received over \$100,000 in public benefits from 2002 to 2012 (Cassidy, 2013). Recently, it was revealed that Khalid Masood, the radical terrorist responsible for London's Westminster terror attack in March 2017, was receiving government benefits before engaging in his violence (Read, 2017).

It seems that this phenomenon is not recent. Zacarias Moussaoui, for instance, the French North African charged with conspiracy in connection with the 9/11 attack and who is currently serving six life sentences without parole in the United States, became an Islamic radical living in London while drawing welfare benefits (Brabant, 2001). Interestingly, Abu

Qatada, the cleric who taught Moussaoui and is accused of having links to al-Qaida agents in six countries, avoided extradition to Jordan on terrorism charges by settling in England, where "[l]ike many other London-based Arab dissidents, [he] has received regular welfare checks from the British government and government subsidized housing," according to the Washington Post (Dobbs, 2001). Abu Qatada's welfare payments were stopped when it was discovered that he administered a secret bank account containing approximately \$270,000.

According to a recent article in USA Today (Hjelmgaard, 2017), many European governments have accidentally paid taxpayer-funded welfare benefits, including unemployment funds and housing allowances, to Islamic State recruits who have used the money to wage war in Iraq and Syria. The New York Times, for example, reported that Danish officials announced that since 2016, municipal and state authorities had been trying to collect about \$95,000 in welfare benefits that had been wrongly paid to 29 citizens who had gone to Syria to fight for the Islamic State (Bilefsky, 2017). Troels Lund Poulsen, Denmark's labor minister, stated that "It is a huge scandal that we disburse money from the welfare fund in Denmark for people who go to Syria" (Hjelmgaard, 2017).

In March 2017, the Swedish National Defense University published a report on financing terrorism. The report investigated hundreds of Swedes who left to join Islamic extremist groups such as Islamic State between 2013 and 2016. The report found that the majority of those Swedish jihadists were still receiving living allowances, child and parental benefits and maintenance support while abroad, enabled by other people handling their mail to make it look like they were still at home (Russia Today, 2017).

Stemming from the aforementioned observations, our paper empirically investigates the relationship between social welfare and Islamic State recruitment. Although a considerable amount of literature argues that welfare benefits have a mitigating effect on transnational terrorism (Burgoon, 2006), as well as homegrown terrorism (Krieger & Meierrieks, 2010), we argue the opposite. Social welfare benefits may play a key role in financing fundamentalist IS foreigners. This may be achieved through increasing potential fighters' capacity for joining IS overseas and becoming terrorists. Consequently, we hypothesize that social welfare in a given country may have a positive effect on the number of fighters joining IS from the respective country.

In order to model the radicalization of disenchanted Muslim youths who fail to pass selection tests of the labor market and who are therefore unable to generate enough income for themselves or their family, we propose a simple time allocation model that suggests that social safety nets provide a financial reprieve for radicalized Muslims that gives them time to vent their socioeconomic grievances by joining IS in Syria and Iraq. We provide empirical support for this conclusion.

We find strong empirical evidence for the hypothesis that social welfare and IS recruitment are positively correlated. This is particularly evident when looking at OECD countries, where a 1% increase in social safety spending (%GDP) increases the number of foreign fighters by 0.87%: this relationship becomes more complex in a more diversified and larger sample of countries. In the latter case, the relationship between welfare spending and Islamic State recruitment becomes non-linear and reveals regional differences. Our results

show that, in the full sample, for every 1% increase in social spending (%GDP), the number of foreign fighters increases by 0.39%.

The remainder of this paper is organized as follows: Section two reviews the relevant literature; we present our data and methodology in Section three; a discussion of our empirical findings follows in Section four; and we conclude with a summary of our main results and outlook in Section five.

## **2. Literature Review**

No empirical study has yet been conducted on the link between social welfare and individuals choosing to fight with IS in Syria and Iraq. Considerable literature exists on the relationship between welfare payments and terrorism, whether transnational or homegrown. Although Berman (2000) focuses on Israeli Ultra-orthodox Jews and Chen (2003) investigates Islamic insurgency in Indonesia, both claim that weak welfare policies in both settings strengthen religious groups, instigating fundamentalist extremism.

In his seminal paper, Burgoon (2006) finds evidence of a negative relationship between the extensiveness of the welfare state and the incidence of terrorism. The author presents five mechanisms through which social welfare policies may have an impact on terrorism. First, social policies can be expected to affect terrorism by influencing economic inequality. In other words, welfare policies are supposed to decrease both income inequality, as well as economic inequality that coincide with ethnic or religious divisions in a society, thus reducing terrorism. Second, social welfare policies may lead to less poverty and higher development, which in turn mitigates the danger of terrorism. Third, social welfare policy

also decreases economic insecurity, leading to less terrorism. Fourth, welfare policies reduce religious-political extremism (also through lower poverty and economic security). Although Burgoon does not control for per capita income in his model, he concludes by stating that “social welfare [policies] ought to reduce terrorism by reducing poverty, horizontal and income inequality, economic insecurity, and religious extremism” (Burgoon, 2006, p. 197).

Although all the aforementioned mechanisms are postulated to have a negative effect on terrorism, Burgoon (2006), lastly, hypothesizes that social welfare policies may have a positive effect on terrorism. This is achieved through increasing the effect on the ‘capacity for terror,’ as potential terrorists may have more time and money to organize terrorist attacks. It should be noted, however, that after examining Burgoon’s (2006) econometric method and usage of variables, Crenshaw et al., (2007, pp. 13-14) replicated the study and find that Burgoon’s results are overstated. Most importantly, the adjusted model makes social welfare policy only significant for leftist terrorism, whereas religious identity terrorism is found to be not influenced by the welfare state (Crenshaw, Robison, & Jenkins, 2007, p. 13)

Peddicord (2008) examines the effect of structural policies on the incidents of terrorist attacks in 150 countries for the period 1975-1995. The author finds that social welfare spending is negatively associated with the count of terrorist incidents. In fact, the results show that a 1% increase in social and health spending, as a share of GDP, is associated with a 0.14% decline in the count of terrorist attacks, all else being equal. Peddicord concludes by arguing that “the evidence suggests governments that are perceived as inclusive and

equitable and demonstrate this commitment through social welfare spending suffer from fewer attacks” (Peddicord, 2008, p. 34).

Krieger and Meierrieks (2010) investigate the effect of welfare policies (indicated by social spending and welfare regime variables) on domestic terrorism in Western Europe in the period 1980-2003. The results show that terrorism decreases as the total welfare spending increases. More specifically, welfare spending on health, labor and unemployment separately increases the probability of domestic terrorism. But, welfare spending on housing and old age has no relationship with terrorism.

Using the number of terror assaults during 1971 to 2005 in 123 countries, Freytag et al., (2010) investigate social and economic conditions in countries witnessing terrorism, and hypothesize that minimal opportunity costs of terror, e.g., as approximated by slow growth and bad institutions, raise the likelihood of terror. They find government spending to be significantly and negatively related to terrorist activity in Europe and the OECD. However, in the Islamic region of the world, government spending is irrelevant to the probability of terrorist attacks (Freytag, Krüger, & Meierrieks, 2010, p. 17).

Using pooled cross-section time-series estimations, Malan (2012) examines the relationship between social welfare policy and the incidence of terrorism in the 18 most-developed countries for the 1971-2002 period. Results show that there is indeed a modest, albeit significant, negative effect of the welfare state on terrorism. Furthermore, two transmission mechanisms through which this effect may work are examined: inequality and poverty. While inequality does seem to have a significant effect on terrorism, the author finds no evidence that poverty affects terrorism.

In summary, the existing literature on the relationship between social welfare spending and terrorist activities is not conclusive. According to Gassebner and Luechinger (2011), although the majority of relevant literature finds a significant negative relationship between welfare spending and terrorist attacks, considerable literature finds no evidence for such a controversial relationship.

In this paper, we focus especially on IS foreign fighters. We argue that unemployment may be a key push factor for young Muslims to be radicalized and express allegiance to IS (ASDA'A Burson-Marsteller, 2016; Bhatia & Ghanem, 2017; Devarajan, et al., 2016; Gouda & Marktanner, 2018). Many radical Islamists may lack the necessary funds needed to actually join IS ranks in Syria and Iraq. Many developed countries, as well as some Muslim-majority countries (i.e., Gulf monarchies) provide their residents with many social safety nets. Consequently, we hypothesize that social welfare programs could be then utilized to provide potential Islamist fighters the needed means to support themselves and families while joining IS overseas. We therefore expect a positive and significant association between a country's social spending and the propensity of that country to supply IS foreign recruits.

### **3. Theoretical Framework**

We use a simple time-allocation model to illustrate the relationship between social welfare and IS recruitment. Assume that a potential unemployed radical Islamist has the following quasi-concave standard utility function

$$U = C^\alpha J^{1-\alpha} \tag{1}$$

where  $U$  = Utility,  $C$ =Consumption of Goods and Services, and  $J$ =Jihadist Activity, and  $a$  and  $1-a$  the utility elasticities of consumption and jihadist activities, respectively. We assume that jihadist activity can take on any value between  $0 < J < \infty$ . This can be thought of as a range from slight jihadist activity like preaching radical Islam on the internet to one's willingness to die for the Islamic State's cause. The potential jihadist's consumption opportunity curve is given by

$$C = T - \frac{E}{T} J \quad (2)$$

where  $T$  is the level of governmental transfers to an unemployed wannabe IS fighter. Thus,  $T$  simultaneously increases the jihadist' consumption opportunities and reduces the marginal opportunity cost of jihadist activity. The parameter  $E$  captures the available employment opportunities and is defined for  $E > 0$ , implying that a higher employment level increases the marginal opportunity costs of jihadist activity.

Substituting (2) in (1) and solving for the optimal jihadist activity  $J^*$  yields the simple result

$$J^* = (1 - \alpha) \frac{T^2}{E} \quad (3)$$

with

$$\frac{\partial J^*}{\partial T} > 0 \text{ and } \frac{\partial J^*}{\partial E} < 0 \quad (4)$$

Thus, transfers increase the number of radical fighters joining IS overseas whereas more employment opportunities reduce them. With this framework in mind, we next discuss our

data and methodology used to test our hypotheses that more social spending increases the number of IS recruits in a given country.

#### **4. Data and Methodology**

In line with our model, our dependent variable is Foreign Fighters per Million of a country's population. For the main independent variable, we use social spending (% GDP) as a proxy for social welfare programs. Following Gouda and Marktanner (2018), we argue that Muslim youth unemployment is a significant push factor behind IS recruitment overseas. We control for the latter through the interaction variable of youth unemployment and Muslim population share.

We categorize other control variables into three groups; economic capability, grievance, and grievance amelioration variables. Our economic capability control variables are: GDP per capita, Human Development Index, and the distance between the expat jihadist's home country's capital and Damascus. Holding everything else constant, we hypothesize that higher GDP per capita and human development, similar to social welfare programs, increase the economic and human capital resources needed by the jihadist to join the Islamic State. Conversely, as the distance to Damascus increases, the more costly travel becomes, and the fewer IS foreign fighters we expect.

Our grievance control variables are: income inequality (Gini) and religious fractionalization. Holding everything else constant, we expect income inequality and religious fractionalization to increase the number of IS foreign fighters in a given country. Specifically, we argue that jihadist propaganda can exploit income inequality in order to

portray the jihadist world as a place to fight for a just cause. Likewise, religious fractionalization can also become a source of jihadist ideology and be used to create enemy images that help the Islamic State in its recruitment efforts.

Our final set of control variables are grievance amelioration factors. This includes the level of democracy (Polity2 score), an indicator of good governance, and a country's manufacturing and services export share (%GDP). Democracy and good governance provide avenues to address socioeconomic grievances that may undermine radical Islamists' willingness to become foreign fighters. We argue, moreover, that the manufacturing and services export share (% GDP), is an indicator for openness and productive economic capabilities that can provide individuals with hope for a better future and upward mobility, making jihadist recruitment endeavors more difficult. Last but not least, we control for unobservable fixed effects.

Table 1 describes our data and sources. In order to improve the efficiency of the estimates, we also transformed various indicators. These data transformations are also indicated in Table 1.

<Table 1 about here>

Table 2 summarizes our hypothesis table.

<Table 2 about here>

Our dataset consists of 217 observations, which are the countries listed in the World Bank Development Indicators Database. We have complete observations for 116 countries. Table 3 summarizes the number of foreign fighter countries by geographic region. These

geographic regions are the same as the ones categorized by the World Bank Development Indicators Database, except for the region Europe and Central Asia (ECA). We divided this region into Western European (WE) countries and former socialist countries, which we label Eastern Europe and Central Asia (EECA). This way, a country like Turkey, for example, becomes part of Western Europe. We also examine OECD countries as a separate economic cluster.

<Table 3 about here>

Table 4 provides an overview of the number of foreign fighters per million per country and region.

<Table 4 about here>

Summary statistics by region and total of all variables (non-transformed) are shown in Figure 5.

<Table 5 about here>

In order to detect possible multicollinearity issues, such as unexpected non-significant or flipping signs, we also show in Table 6 a correlation matrix (using transformed variables, if transformed).

<Table 6 about here>

A look at Table 6 suggests potential multicollinearity problems between the variables  $\ln y$  and HDI ( $r=0.93$ ),  $\ln y$  and GovX ( $r=0.79$ ), and MusXyuer and  $\ln \text{Muslim}$  ( $r=0.92$ ). Therefore, in order to reduce potential multicollinearity problems such as non-significant coefficients or flipping signs, we orthogonalized HDI and GovX by running each of these variables

against  $\ln y$  and including the residuals on the right hand side of the equation. The orthogonalized variables are called  $HDIres$  and  $GovXres$ , respectively. Similarly, we orthogonalized the variable  $\ln Muslim$  by regressing it against the interaction term  $\ln MusXyuer$  and using again the residuals as the independent variable. The orthogonalized Muslim variable is labelled  $\ln Muslimres$ . Due to space constraints, the regression results for these orthogonalization procedures are not shown in the appendix.

Because our data is left-censored (because many countries sent zero foreign fighters) whereas the observations for the 68 countries that sent foreign fighters are continuous, we estimate our equations using a Tobit model. We run our regression using the open source software model “gretl,” whose accompanying manual also provides a technical description of the Tobit estimator. Our model can be summarized as follows

$$FFperMill_i = \beta_0 + \beta_1 SocSpend_i + \sum_j \beta_j controls_{(j-1)_i} + u_i \quad (5)$$

where  $i =$  country  $i$  and  $j$  the coefficient number for the various  $(j-1)$  control variables with  $j \geq 2$ .

Figure 1 shows a scatter plot of the relationship between social spending and foreign fighters. This plot shows a strong cubic relationship between the number of foreign fighters and social spending. It also suggests that the plot is dominated by two regional clusters. OECD countries are clustered after the minimum of the cubic line of best fit around a strongly upward sloping part of the trend line at high values of social spending. A second cluster consists of largely Middle Eastern and North African (MENA) and Eastern European and Central Asian (EECA) countries that have low social spending but high numbers of foreign fighters. This observation suggests a necessity for running the empirical analysis

once for OECD and once for MENA/EECA countries, and once for the entire population of observations using a cubic polynomial estimation.

We always run at least five models. The first model specification includes our focus variables consisting of the variables social safety spending, the Muslim population share, the youth unemployment rate, as well as their interaction term. The second to fourth specifications add to model specification one, the economic capability, grievance, and grievance amelioration factors. These factor groups are added one at the time to specifications two to four. The fifth specification then includes all variables. For the regression results of the entire population, a sixth specification is added to the fifth. In line with Figure 1 we add the two dummies for the combined EECA/MENA region, and the OECD countries.

## **5. Empirical Results**

Table 7 summarizes the regression results for the sample of OECD countries in our sample.

<Table 7 about here>

It shows that our main focus variable Social Spending (%GDP) is statistically significant at 1% and carries the hypothesized positive sign across all five specifications. The variable MusXyuer also carries, across all specifications, the expected positive sign, but is regularly significant at 1%. On the other hand, the interaction term's subcomponent youth unemployment (lnyuer) is once significant (at 5%) with a negative sign. In other model specifications, the youth unemployment variable is twice positive and twice negative but

never significant. However, since the coefficient of the interaction term is always greater than the absolute value of any negative coefficient of  $\ln y_{uer}$ , the net marginal effect of youth unemployment is regularly positive. Because  $MusXy_{uer} = \ln(\text{Muslim Population Share} \times \text{youth unemployment rate (both non-}\ln \text{ transformed)} + 1)$ , Model IV, for example, suggests a marginal effect of  $\ln y_{uer}$  when controlling for the Muslim population share of 4.05 ( $4.05 \times [\ln \text{Muslim} + \ln y_{uer}]$ ), which is outweighed by the individual negative effect of  $\ln y_{uer}$  of -0.40. The variable Muslim population share ( $\ln \text{Muslimres}$ ) also carries regularly the expected positive sign and is significant (at least 10%) in model specification two to five. The two variables  $MusXy_{uer}$  and  $\ln y_{uer}$  are always jointly significant ( $p < 1\%$ ).

In line with our hypotheses, the economic capability indicators GDP per capita and (the orthogonalized) human development index also carry the expected sign and are significant at the 10% level. The variable distance is not significant.

None of the grievance variables is significant. As for the grievance amelioration variables, interestingly, the (orthogonalized) good governance ( $\text{GovXres}$ ) indicator is significant at 1%, but carries an unexpected positive sign. One explanation for this might be that the World Bank's good governance indicators do not specifically capture policies that promote upward social mobility rather than hardship amelioration. The variable manufactures and services export share ( $\ln \text{MSExpShr}$ ) carries the expected negative sign, but it is not significant.

There is, therefore, strong support for our simple model that when social safety nets meet socioeconomic frustrations embedded in youth unemployment, interacting with the

Muslim population share, social safety nets become, on average, more of a foreign fighters' travel subsidy. This, at least, seems to be the case for OECD countries.

Table 8 replicates the same analysis for the EECA/MENA region.

<Table 8 about here>

For this region, the only significant variable across all five specifications is the interaction term of the Muslim population share with youth unemployment, which regularly carries the expected positive sign and is always significant at 1%. The interaction term also regularly outweighs the negative, though never significant, negative coefficients of the subcomponent Inyuer. Grievance, therefore, seems to explain IS recruitment in the EECA/MENA region. Although the social safety variable is not significant in any model specification, it always carries an unexpected negative sign. This suggests that for the EECA/MENA region, social safety nets play no role in supporting a possible foreign fighter's decision to join the Islamic State, or they play a weakly positive role in the sense that better social safety nets could reduce IS recruitment.

The economic capability variable Human Development Index is significant, at least 5%. Distance, as is the case for the OECD region, is again not significant either. None of the grievance or grievance amelioration factors are significant.

Lastly, Table 9 shows the regression results for the entire data set, capturing the cubic relationship illustrated in Figure 1.

<Table 9 about here>

The individual components of the cubic relationship between social spending and foreign fighters are individually never robustly significant across all five specifications, their joint significance, however, is always given at  $p < 5\%$ . Across all model specifications, the interaction term of the Muslim population share and youth unemployment is again significant with the hypothesized positive sign at 1%. The coefficients of the interaction term also again regularly outweigh the negative coefficient of the individual subcomponent  $\ln yuer$ , which, however, is only significant in model specifications two, five, and six.

In the full sample, the economic capability variable GDP per capita and Human Development Index also regularly carry the expected positive sign and are significant at the 1% significance level. All other variables are not robustly significant.

Last but not least, we calculated, for all three samples, the marginal effects of  $\ln SocSafe$ ,  $\ln MusXyuer$ , and  $\ln yuer$ , taking into account the econometric idiosyncrasies of Tobit models. Regression coefficients in Tobit models cannot be interpreted as easily as regression coefficients in Ordinary Least Square (OLS) models. Whereas OLS regression coefficients capture the partial marginal effect of the independent on the dependent variable, Tobit regression coefficients capture a combination of an independent variable's marginal effect on whether a certain observation is non-zero and its marginal effect on non-zero observations. In technical terms, the marginal effect is written as

$$\frac{\partial FF_{perMill_i}}{\partial IV_i} = \Phi(\widehat{FF_{perMill}_i}) \times \beta_j \quad (6)$$

where  $\Phi(\widehat{FF_{perMill}_i})$  is the cumulative density of the predicted standardized value of the Tobit regression evaluated at the mean values of all right hand side variables and  $\beta_j$  the

Tobit coefficient of interest. Table 10 summarizes the calculated marginal effects. For this purpose, we use a baseline model in Table 9.

<Table 10 about here>

Table 10 shows that social safety nets play a strong role in explaining foreign fighters' recruitment, especially among OECD countries. A 1% increase in the social safety spending (%GDP) increases the number of foreign fighters by 0.87%. For the EECA/MENA region the coefficient is negative, but, as shown in Table 8, not significant. The variable social safety spending is again significant in the entire sample. It is with little surprise, therefore, that when looking at Figure 1, we see that the overall effect of social spending in the entire sample is smaller than for the OECD countries alone (0.39 vs. 0.87).

As for the impact of the grievance factor youth unemployment, we find strong evidence for its statistical significance in interaction with the Muslim population share across all samples. The net effect of youth unemployment on the number of foreign fighters, which can be calculated as the difference of the marginal effect of  $\ln\text{MusXyuer}$  and  $\ln\text{yuer}$ , is positive across all three samples.

## **6. Conclusion**

In this paper we examine the role of social spending on the number of IS foreign fighters and find evidence for a strong positive relationship between the two variables for OECD countries as well as for the entire data set. Nevertheless, for the entire sample, the relationship is, on average, weaker and non-linear. How do we interpret this result?

We argue that social safety nets play a different role in different socioeconomic settings. As for OECD countries, our findings are in line with Kaus (2001) who argues that “relatively generous welfare benefits enable those [Muslims] in the ethnic ghetto to stay there, stay unemployed, and seethe. Without government subsidies, they would have to overcome the prejudice against them and integrate into the mainstream working culture. Work, in this sense, is anti-terrorist medicine.” In a similar vein, and acknowledging that the foreign fighter problem is closely related to Muslim youth unemployment in high-income countries, the recent phenomenon of IS recruitment abroad provides another case study for the perverse effects of subsidizing unemployment as opposed to subsidizing work. Yet, our findings are probably limited to high-income countries where marginalized Muslims, with the “jihadist cause”, find in social safety nets an enabler to subvert socioeconomic frustration into desperate adventurism for some alleged higher purpose in life.

As far as the Eastern European and Central Asian as well as Arab world is concerned, we find weak evidence that it is actually the absence of social safety nets that promotes IS foreign fighters, possibly suggesting that it is real socioeconomic frustration that drives foreign fighters from their countries.

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## Appendix Tables

Table 1: Data and Sources

	Variable	Definition and Source	Transformation
Dependent Variable	Foreign fighters per million (lnFFperMill)	We collected data on foreign fighters from two sources, Soufan (2015, p. 7ff) and Soufan (2017, p. 12f). Soufan (2015) reports official and non-official counts, and Soufan (2017) revised 2015 counts. Some numbers are reported as ranges (for example, "100-200"), others with a "~", "+", "<" or ">" sign (for example, "~90," "104+," <10," or ">165"). Whenever available, we took Soufan (2017) data. If Soufan (2017) data was unavailable, we took available official count data from Soufan (2015). If neither Soufan (2017) nor official counts in Soufan (2015) data was available, we took the unofficial count in Soufan (2015). For numbers given with ranges, we took the midpoint of the range. Data provided with "~", "+", "<" or ">" signs were reported by ignoring the signs. Population data are 2010-2015 averages from the World Bank Development Indicator Database (WDI).	$\ln(\text{FFperMill}+1)$
Focus Independent Variables	Social safety spending, % GDP (lnSocSafe)	Compiled for OECD and non-OECD countries from two different sources. For OECD countries, the variable is the 2010-2015 average of "Social Expenditure - Aggregated data, %GDP" ( <a href="http://stats.oecd.org/">http://stats.oecd.org/</a> ). For non-OECD countries, the variable is the 2010-2015 average of "Total spending as percent of GDP - All Social Assistance" from the World Bank's "The Atlas of Social Protection: Indicators of Resilience and Equity (ASPIRE)" dataset ( <a href="http://datatopics.worldbank.org/aspire/indicator_glance">http://datatopics.worldbank.org/aspire/indicator_glance</a> ).	$\ln(\text{SocSafe}+1)$
	Youth unemployment rate (lnyuer)	Unemployment, youth total (% of total labor force ages 15-24) (modeled ILO estimate), 2010-2015 averages, World Bank Development Indicator Database.	$\ln(\text{yuer})$
	Muslim (lnMuslim)	Muslim population share (2010 observation), Association of Religion Data Archives ( <a href="http://www.thearda.com/">www.thearda.com/</a> )	$\ln(\text{Muslim}+1)$
	Interaction term of Muslim Population Share and Youth Unemployment (lnMusXyuer)	Muslim $\times$ yuer	$\ln(\text{Muslim} \times \text{yuer} + 1)$
Economic Capability Controls	GDP per capita (lny)	GDP per capita (constant \$2010), 2010-2015 averages, World Bank Development Indicator Database.	$\ln(y)$
	Human Development Index (HDI)	Human Development Index, 2010-2015 averages ( <a href="http://hdr.undp.org/en/data">http://hdr.undp.org/en/data</a> )	None
	Distance (Dist)	Distance of Expat Jihadist's Home Country's Capital to Damascus, Mayer, Thierry, and Soledad Zignago. "Notes on CEPII's distances measures: The GeoDist database" (2011). dist_cepil.dta dataset.	None
Grievance Controls	Gini	United Nations University's World Income Inequality Database (WIID). Latest available observation.	$\ln(\text{Gini})$
	Religious Fractionalization (RelFrac)	Religious Fractionalization Index, Alesina et al., (2003), Fractionalization, Journal of Economic Growth, vol. 8, no. 2, June 2003, pp. 155-194.	None

Table 1: Data and Sources (Contd.)

Grievance Amelioration Controls	Polity	Polity2 score, which ranges between negative ten and positive ten. Values between negative ten and negative six indicate autocracies, values between negative five and positive five anocracies, and values between positive six and positive ten democracies. Center for Systemic Peace. All observations are 2010-2015 averages.	None
	Index of Good Governance (GovX)	Arithmetic mean of the indicators Voice and Accountability, Political Stability and Absence of Violence, Government Effectiveness, Regulatory Quality, Rule of Law, and Control of Corruption. World Bank World Wide Governance Indicators ( <a href="http://info.worldbank.org/governance/wgi/#home">http://info.worldbank.org/governance/wgi/#home</a> ), 2010-2015 averages.	None
	Manufactures and Services Export Share, %GDP (lnMSExpShr)	Calculated as a country's Manufacturing and Service Export Share as a percentage of GDP, using the variables Merchandise exports by the reporting economy (current US\$), Manufactures exports (% of merchandise exports), Service exports (BoP, current US\$), and GDP (current US\$), which are all available from the World Bank Development Indicator Database. The values are 2010-2015 averages.	ln(MSExpShr)
Regional Dummies and OECD	EAP, EECA, MENA, NAM, LAC, SA, SSA, WE, OECD	EAP=East Asia and the Pacific, EECA=Eastern Europe and Central Asia, MENA=Middle East and North Africa, NAM=North America, LAC=Latin America and the Caribbean, SA=South Asia, SSA=Sub Saharan Africa, WE=Western Europe, OECD=Organization for Economic Cooperation and Development Member	None

Table 2: Hypothesis Table

Dependent Variable=FFperMill	Abbreviation	Expected Sign
Focus Independent Variables	SocSafe	+
	yuer	+
	Muslim	+
Economic Capability Controls	y	+
	HDI	+
	Dist	-
Grievance Controls	Gini	+
	RelFrac	+
Grievance Amelioration Controls	Polity	-
	GovX	-
	MSExpShr	-
Regional Dummies	EECA, MENA, OECD	?

Table 3: Foreign Fighter Sending Countries by Region

Region	Countries in Region	Foreign Fighter Sending Countries	Percent
EAP	37	9	24.3%
EECA	29	17	58.6%
LAC	42	3	7.1%
MENA	21	12	57.1%
NAM	3	2	66.7%
SA	8	5	62.5%
SSA	48	4	8.3%
WE	29	16	55.2%
OECD	35	22	62.9.0%

Table 4: Foreign Fighters per Million per Country and Region

EAP	FFperMill	NAM	FFperMill
Australia (OECD)	7.2	Canada (OECD)	5.29
Cambodia	0.07	United States (OECD)	0.41
China	0.22	SA	FFperMill
Indonesia	2.4	Afghanistan	1.6
Japan (OECD)	0.07	India	0.06
Malaysia	3.09	Maldives	154.36
New Zealand (OECD)	1.35	Pakistan	3.61
Philippines	1.02	Sri Lanka	1.56
Singapore	0.38	SSA	FFperMill
EECA	FFperMill	Madagascar	0.13
Albania	31.06	Somalia	5.4
Azerbaijan	96.21	South Africa	0.02
Bosnia and Herzegovina	68.36	Sudan	4.11
Bulgaria	1.37	WE	FFperMill
Georgia	52.53	Austria (OECD)	34.93
Kazakhstan	29.55	Belgium (OECD)	47.47
Kosovo	175.79	Denmark (OECD)	25.85
Kyrgyz Republic	88.02	Finland (OECD)	14.75
Macedonia, FYR	67.47	France (OECD)	29.01
Moldova	0.28	Germany (OECD)	11.3
Montenegro	48.32	Ireland (OECD)	6.52
Romania	0.05	Italy (OECD)	1.83
Russian Federation	23.83	Netherlands (OECD)	16.69
Serbia	6.96	Norway (OECD)	17.84
Tajikistan	160.69	Portugal (OECD)	1.15
Turkmenistan	75.17	Spain (OECD)	4.38
Uzbekistan	50.01	Sweden (OECD)	31.34
LAC	FFperMill	Switzerland (OECD)	8.7
Argentina	0.54	Turkey (OECD)	19.94
Brazil	0.01	United Kingdom (OECD)	13.3
Trinidad and Tobago	96.69		
MENA	FFperMill		
Algeria	4.48		
Egypt, Arab Rep.	6.75		
Israel (OECD)	7.51		
Jordan	366.36		
Kuwait	43.06		
Lebanon	176.63		
Libya	96.78		
Morocco	49.42		
Qatar	4.63		
Saudi Arabia	109.95		
Tunisia	267.13		
United Arab Emirates	1.7		

Table 5: Summary Statistics

FFperMill	EAP	EECA	LAC	MENA	NAM	SA	SSA	WE	OECD	World
Mean	0.43	33.64	2.32	54.02	1.90	20.15	0.20	9.83	8.77	12.37
Median	0.00	1.37	0.00	4.48	0.41	0.81	0.00	1.83	1.83	0.00
S.D.	1.33	48.49	14.92	100.30	2.94	54.24	0.97	13.12	12.21	41.34
Min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max	7.20	175.80	96.69	366.40	5.29	154.40	5.40	47.47	47.47	366.40
SocSafe	EAP	EECA	LAC	MENA	NAM	SA	SSA	WE	OECD	World
Mean	4.18	2.88	1.54	2.40	18.05	0.91	1.56	23.65	17.42	5.21
Median	0.84	1.96	1.46	0.80	18.05	0.73	0.97	25.12	19.69	1.50
S.D.	7.06	3.66	0.85	4.61	1.32	0.44	1.88	6.72	10.13	8.42
Min	0.01	0.45	0.19	0.17	17.11	0.33	0.00	1.14	0.77	0.00
Max	22.57	19.85	3.49	16.11	18.98	1.52	10.10	31.45	31.45	31.45
yu	EAP	EECA	LAC	MENA	NAM	SA	SSA	WE	OECD	World
Mean	14.48	25.55	19.36	24.28	14.68	10.88	16.55	21.55	19.49	19.22
Median	10.72	23.59	17.33	25.75	14.68	9.785	10.69	19.12	17.48	16.47
S.D.	12.21	14.06	9.973	12.5	0.9263	4.94	13.87	12.08	10.45	12.89
Min	0.5	1.3	5.97	1.05	14.02	4.88	2.17	8.17	7.33	0.5
Max	53.22	63.78	47.32	45.47	15.33	18.75	54.87	49.68	49.68	63.78
Muslim	EAP	EECA	LAC	MENA	NAM	SA	SSA	WE	OECD	World
Mean	0.09	0.26	0.01	0.76	0.02	0.52	0.32	0.08	0.05	0.24
Median	0.01	0.04	0.00	0.91	0.02	0.52	0.16	0.04	0.02	0.04
S.D.	0.23	0.35	0.04	0.32	0.01	0.48	0.34	0.20	0.17	0.36
Min	0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.00
Max	0.84	0.95	0.20	0.99	0.02	1.00	1.00	0.99	0.99	1.00
MusXyu	EAP	EECA	LAC	MENA	NAM	SA	SSA	WE	OECD	World
Mean	1.53	5.84	0.20	18.85	0.22	5.75	4.89	1.65	0.95	4.79
Median	0.01	1.42	0.00	21.90	0.22	4.18	1.66	0.48	0.27	0.47
S.D.	4.32	8.08	0.68	12.91	0.09	6.17	8.28	3.79	2.96	8.79
Min	0.00	0.00	0.00	0.13	0.15	0.09	0.00	0.00	0.00	0.00
Max	17.14	28.70	3.34	40.92	0.28	17.73	39.33	17.37	17.37	40.92
y	EAP	EECA	LAC	MENA	NAM	SA	SSA	WE	OECD	World
Mean	14004	8485	9775	15503	60899	2260	2408	55414	38428	15723
Median	3745	6419	7862	7096	49912	1306	968	45949	39990	5867
S.D.	17913	6057	7419	17597	19796	2380	3481	32358	22009	23248
Min	870	834	704	1089	49033	606	235	12414	9346	235
Max	62769	23229	32724	69575	83752	7676	16563	144200	105200	144200
HDI	EAP	EECA	LAC	MENA	NAM	SA	SSA	WE	OECD	World
Mean	0.72	0.77	0.72	0.73	0.92	0.60	0.50	0.89	0.88	0.69
Median	0.72	0.78	0.73	0.74	0.92	0.58	0.48	0.89	0.89	0.72
S.D.	0.14	0.07	0.07	0.11	0.01	0.09	0.10	0.04	0.04	0.16
Min	0.51	0.62	0.48	0.46	0.91	0.47	0.34	0.76	0.75	0.34
Max	0.93	0.88	0.84	0.89	0.92	0.76	0.77	0.94	0.94	0.94
Dist	EAP	EECA	LAC	MENA	NAM	SA	SSA	WE	OECD	World
Mean	10890	2240	11075	1604	9116	4485	4958	3159	4783	6294
Median	9640	2282	10820	1668	8998	4870	4967	3200	3173	5193
S.D.	3746	655	1108	1054	290	918	1201	1313	4012	4189
Min	5948	1041	9700	86	8904	3023	2034	329	214	86
Max	18162	3474	13413	3964	9446	5365	7053	6610	16286	18162
Gini	EAP	EECA	LAC	MENA	NAM	SA	SSA	WE	OECD	World
Mean	39.91	31.37	46.84	37.56	43.75	33.39	43.77	29.73	32.70	39.09
Median	38.60	31.12	47.05	37.33	43.75	32.48	43.38	29.35	30.70	37.90
S.D.	5.96	5.03	6.85	5.72	6.01	4.44	7.82	4.30	7.79	8.73
Min	30.70	23.70	27.00	28.10	39.50	27.80	30.82	23.60	23.60	23.60
Max	53.70	40.09	60.79	51.30	48.00	39.16	60.80	40.18	50.45	60.80

Table 5: Summary Statistics (Contd.)

RelFrac	EAP	EECA	LAC	MENA	NAM	SA	SSA	WE	OECD	World
Mean	0.52	0.48	0.44	0.25	0.74	0.31	0.51	0.33	0.42	0.44
Median	0.55	0.50	0.42	0.13	0.71	0.33	0.61	0.30	0.40	0.47
S.D.	0.20	0.14	0.21	0.24	0.07	0.12	0.25	0.19	0.24	0.23
Min	0.08	0.17	0.14	0.00	0.70	0.14	0.00	0.00	0.00	0.00
Max	0.82	0.69	0.79	0.79	0.82	0.49	0.86	0.72	0.82	0.86
Polity	EAP	EECA	LAC	MENA	NAM	SA	SSA	WE	OECD	World
Mean	2.37	4.52	6.63	-3.58	10.00	4.57	2.33	9.68	9.47	3.71
Median	4.00	8.00	8.00	-5.00	10.00	5.00	3.00	10.00	10.00	6.00
S.D.	7.17	6.68	4.22	5.10	0.00	2.88	5.20	0.82	1.02	6.28
Min	-10.00	-9.00	-7.00	-10.00	10.00	0.00	-9.00	7.00	6.00	-10.00
Max	10.00	10.00	10.00	6.00	10.00	9.00	10.00	10.00	10.00	10.00
MSExpShr	EAP	EECA	LAC	MENA	NAM	SA	SSA	WE	OECD	World
Mean	41.95	39.65	19.46	23.18	17.33	24.40	12.22	42.78	42.56	27.52
Median	27.82	37.05	20.35	9.17	17.09	15.94	8.91	31.54	33.95	19.66
S.D.	43.00	23.64	15.95	34.25	7.63	26.52	11.28	35.89	32.60	29.54
Min	6.18	6.60	1.07	1.17	9.82	8.83	0.39	0.60	6.36	0.39
Max	164.10	82.30	82.47	147.00	25.08	88.34	46.60	165.60	165.60	165.60
GovX	EAP	EECA	LAC	MENA	NAM	SA	SSA	WE	OECD	World
Mean	0.18	-0.03	0.07	-0.44	1.30	-0.54	-0.65	1.27	1.15	-0.01
Median	0.03	-0.01	-0.17	-0.28	1.25	-0.51	-0.70	1.49	1.25	-0.17
S.D.	0.83	0.73	0.66	0.85	0.32	0.59	0.64	0.53	0.57	0.91
Min	-1.70	-1.32	-1.42	-1.84	1.01	-1.49	-2.14	-0.21	-0.27	-2.14
Max	1.87	1.19	1.22	1.05	1.64	0.37	0.86	1.80	1.87	1.87

Table 6: Correlation Matrix

	lnFFperMill	lnSocSafe	lnMuslim	lnyuer	lnMusXyuer	lny	HDI	Dist	lnGini	RelFrac	Polity	GovX	lnMSExpShr
lnFFperMill	1.00												
lnSocSafe	0.24	1.00											
lnMuslim	0.39	-0.33	1.00										
lnyuer	0.16	0.18	0.03	1.00									
lnMusXyuer	0.46	-0.26	<b>0.92</b>	0.27	1.00								
lny	0.19	0.69	-0.24	0.22	-0.18	1.00							
HDI	0.33	0.64	-0.28	0.26	-0.19	<b>0.93</b>	1.00						
Dist	-0.40	-0.13	-0.46	-0.03	-0.51	-0.03	-0.02	1.00					
lnGini	-0.35	-0.41	-0.09	0.09	-0.08	-0.28	-0.36	0.49	1.00				
RelFrac	-0.14	0.00	-0.31	-0.01	-0.26	-0.05	-0.06	0.20	0.18	1.00			
Polity	-0.10	0.49	-0.45	0.22	-0.38	0.28	0.33	0.23	-0.08	0.11	1.00		
GovX	0.05	0.72	-0.42	0.14	-0.38	<b>0.79</b>	0.77	0.11	-0.24	0.12	0.57	1.00	
lnMSExpShr	0.13	0.30	-0.32	0.07	-0.26	0.38	0.50	-0.06	-0.29	0.05	0.35	0.56	1.00

Figure 1: Foreign Fighters vs. Social Spending

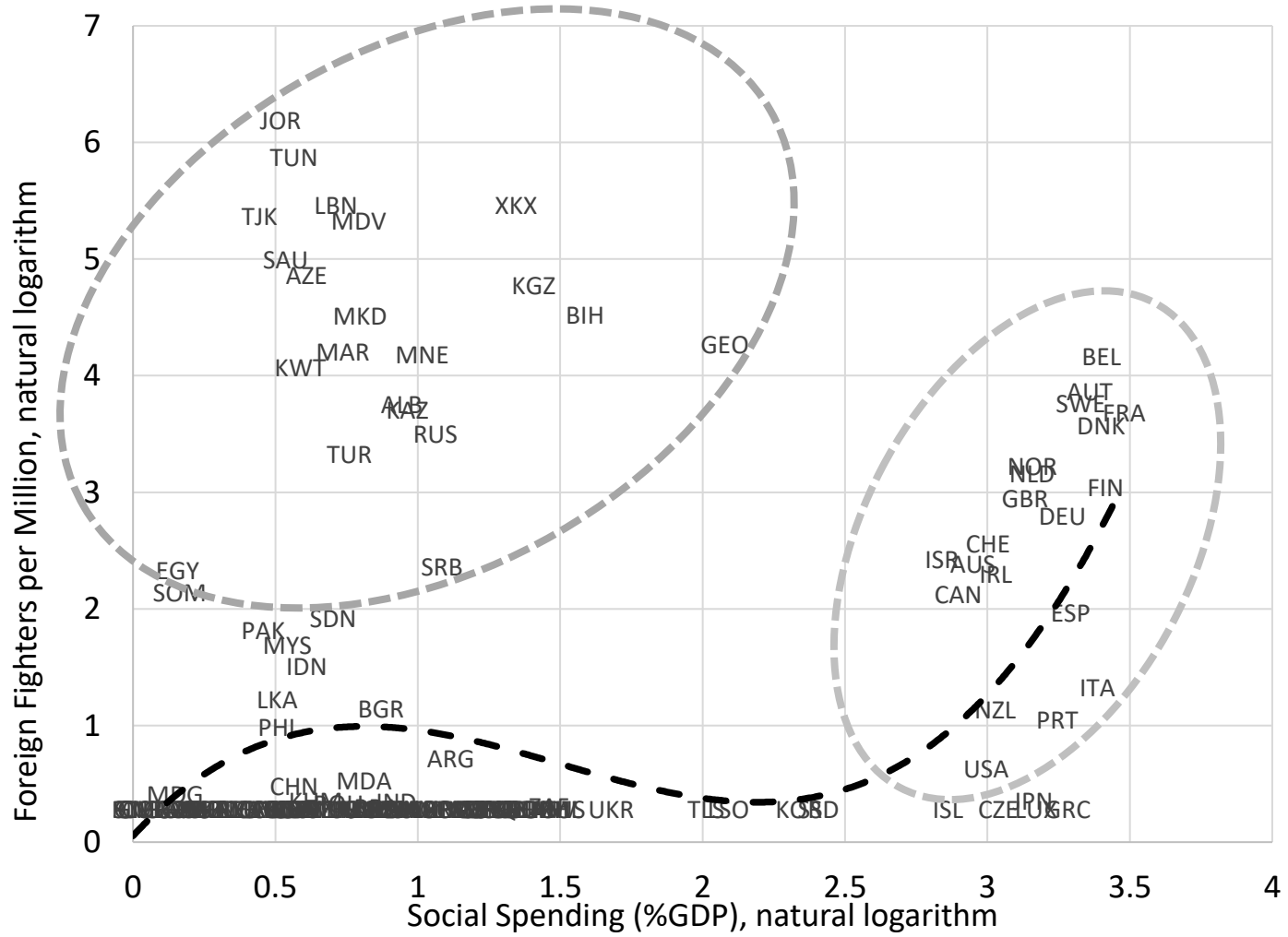


Table 7: Regression Results OECD Countries

OECD: DV = lnFFperMill	I	II	III	IV	V
const	-8.79** (4.21)	-54.07*** (14.09)	-4.74 (6.33)	-10.52** (4.42)	-36.22** (15.78)
lnSocSafe	3.93*** (1.18)	5.38*** (1.29)	3.88*** (1.21)	3.60*** (1.10)	3.43*** (1.24)
lnMusXyuer	3.51*** (0.77)	5.64*** (1.03)	3.72*** (0.81)	4.05*** (0.79)	4.41*** (1.02)
lnyuer	-1.00** (0.49)	0.71 (0.64)	-0.64 (0.52)	-0.40 (0.46)	0.74 (0.64)
lnMuslimres	13.20 (9.05)	34.89*** (10.55)	15.70* (9.25)	13.82* (7.91)	23.08** (9.77)
lny		3.34*** (1.02)			2.44*** (0.87)
HDIres		32.70** (13.14)			24.67* (13.32)
Dist		0.00 (0.00)			-0.00 (0.00)
lnGini			-1.60 (1.12)		-0.15 (1.30)
RelFrac			1.45 (1.04)		-0.22 (1.11)
Polity				0.08 (0.24)	-0.04 (0.22)
GovXres				2.11*** (0.62)	2.20*** (0.72)
lnMSExpShr				-0.17 (0.24)	-0.38 (0.31)
F-Test on Joint Significance of MusXyuer and lnyuer (p-value)	0.00	0.00	0.00	0.00	0.00
Log-likelihood	-35.26	-29.97	-33.95	-28.26	-23.17
n	34	34	34	33	33
Left-censored	12	12	12	11	11

Standard errors in parentheses, \*\*\* = significant at 1%, \*\* = 5%, \* = 10%.

Table 8: Regression Results EECA/MENA Countries

EECA/MENA: DV = lnFFperMill	I	II	III	IV	V
const	1.92 (2.43)	-13.09 (8.13)	-4.65 (12.2)	1.57 (3.91)	-31.1** (15.18)
lnSocSafe	-0.14 (0.94)	-0.37 (0.78)	-0.06 (1.05)	-0.09 (0.85)	-0.28 (0.89)
lnMusXyuer	2.07*** (0.44)	2.48*** (0.45)	2.08*** (0.45)	2.2*** (0.59)	2.41*** (0.58)
lnyuer	-1.30 (0.79)	-1.01 (0.65)	-1.25 (0.84)	-1.54 (0.98)	-0.45 (0.98)
lnMuslimres	-4.02 (4.58)	-1.39 (4.06)	-2.27 (5.39)	-3.42 (4.73)	3.04 (4.70)
lny		1.28 (0.79)			1.18 (0.80)
HDIres		36.74*** (13.93)			44.17** (18.13)
Dist		0.00 (0.00)			0.00* (0.00)
lnGini			1.65 (3.28)		4.03 (3.07)
RelFrac			1.31 (2.71)		3.27 (2.54)
Polity				-0.02 (0.11)	-0.02 (0.11)
GovXres				0.86 (1.21)	-0.74 (1.34)
lnMSExpShr				0.34 (0.65)	0.24 (0.57)
F-Test on Joint Significance of MusXyuer and lnyuer (p-value)	0.00	0.00	0.00	0.00	0.00
Log-likelihood	-35.62	-32.36	-35.43	-34.45	-30.76
n	27	27	27	27	27
Left-censored	12	12	12	12	12

Standard errors in parentheses, \*\*\* = significant at 1%, \*\* = 5%, \* = 10%.

Table 9: Regression Results Full Sample (n=116, left censored: 66)

All Countries: DV = lnFFperMill	I	II	III	IV	V	VI
const	-3.3*** (1.18)	-9.62*** (1.79)	5.19 (4.34)	-3.63*** (1.25)	-9.98** (4.58)	-10.97** (4.78)
lnSocSafe	4.61** (2.18)	2.94 (1.98)	2.31 (2.17)	2.54 (2.06)	2.86 (2.17)	2.34 (2.22)
lnSocSafesq	-2.97* (1.58)	-2.54* (1.34)	-1.50 (1.58)	-1.32 (1.44)	-2.55* (1.45)	-2.06 (1.50)
lnSocSafecu	0.64** (0.32)	0.57** (0.26)	0.37 (0.32)	0.32 (0.28)	0.58** (0.28)	0.50* (0.29)
lnMusXyuer	1.87*** (0.24)	1.90*** (0.21)	1.78*** (0.26)	1.58*** (0.23)	1.66*** (0.21)	1.61*** (0.22)
lnyuer	-0.53 (0.37)	-0.95*** (0.30)	-0.53 (0.38)	-0.54 (0.34)	-0.79*** (0.3)	-0.75** (0.3)
lnMuslimres	-3.68 (2.4)	-0.70 (2.05)	-4.74* (2.56)	-3.88 (2.39)	-2.84 (2.23)	-1.68 (2.30)
lny		1.07*** (0.20)			1.09*** (0.23)	1.23*** (0.26)
HDIres		19.6*** (3.69)			17.21*** (4.1)	17.10*** (4.72)
Dist		0.00 (0.00)			0.00 (0.00)	0.00 (0.00)
lnGini			-2.19* (1.13)		0.20 (1.09)	0.22 (1.14)
RelFrac			0.76 (0.97)		0.86 (0.76)	0.74 (0.79)
Polity				-0.09* (0.05)	-0.08** (0.04)	-0.07 (0.04)
GovXres				-0.81* (0.46)	0.47 (0.46)	0.59 (0.46)
lnMSExpShr				0.68*** (0.21)	-0.13 (0.24)	-0.13 (0.24)
EECA						-0.07 (0.69)
MENA						0.15 (0.78)
OECD						-1.44 (0.88)
F-Test on Joint Significance of MusXyuer and lnyuer (p-value)	0.00	0.01	0.00	0.00	0.03	0.03
F-Test on Joint Significance of SocSafe, SocSafe <sup>2</sup> , and SocSafe <sup>3</sup> (p-value)	0.00	0.01	0.00	0.00	0.00	0.02
Log-likelihood	-156.89	-119.7	-137.84	-125.86	-104.35	-102.07
n	141	134	134	118	116	116
Left-censored	83	80	82	66	66	66

Standard errors in parentheses, \*\*\* = significant at 1%, \*\* = 5%, \* = 10%.

Table 10: Marginal Effects

Variable	OECD Sample	EECA/MENA Sample	Full Sample
Social Safety Spending (lnSocSafe)	0.87	-0.23	1.16
			Squared term: -1.02
			Cubed term: 0.25
			Net Effect: 0.39
Interaction Term of Muslim population share and youth unemployment (lnMusXyuer)	1.12	1.92	0.80
Youth unemployment rate (lnyuer)	0.19	-0.36	-0.37
Net effect of youth unemployment	1.25	1.56	0.43