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Political Islam, Internet Use and Willingness to Migrate: Evidence from the Arab Barometer

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Abstract: This paper investigates the relationship between political Islam, willingness to migrate and Internet use by exploiting the second (2010–2011) and the third (2012–2014) waves of the Arab Barometer. In an effort to explain individual-level willingness to migrate from the Arab world, it investigates the channel through which the more people support political Islam the less they are willing to migrate. At the same time, it explores the fact that the Internet could potentially act as a vehicle of political Islam. Indeed, our findings indicate that there exists a positive relationship between Internet use and individual-level willingness to migrate, while there exists a negative relationship between political Islam and individual-level willingness to migrate. The findings indicate also that there is no significant effect of Internet use on political Islam.

Keywords: political Islam, Internet use, migration, culture and economics

JEL classification: F22, O15, Z12

1 Introduction

Europe is currently seeing an unprecedented wave of immigration arriving from refugee-producing countries and the sheer scale of the problem shows no signs of abating any time soon. Not since the World War II has the continent faced such a complex and conspicuous flow. Despite the fact that most of the migrants are refugees, many Europeans do not see them as asylum seeker. Rather migrants are often perceived as a threat to European citizens' security. The fear of Islamic terrorism coming from the sea together with migrants is rising. Obviously, not all these fears are groundless and monitoring of *jihadist* groups needs to be stepped up. However, to date, there is no empirical evidence suggesting that political Islam is among the determinants of migration (Falco and Rotondi 2015).

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In this paper we study how political Islam is related to individual-level willingness to migrate. Following Berman (2003), we define political Islam as a set of ideologies, also referred to as radical Islam or Islamism,[1] holding that Islam should guide not only personal life, but also social and political life. More specifically, we focus on the interconnections between political Islam, willingness to migrate and Internet use. Recently, several studies have focused on the importance of the Internet in shaping migration decisions (Vilhelmson and Thulin 2013). The Internet offers constantly updated information about opportunities, it stimulates distant personal contact and interaction via social media and it facilitates the practical organization of journeys by reducing their costs. The Internet is used in the pre-migration phase as well as in the post-migration phase. It helps would-be immigrants in collecting information about the country of destination and it facilitates connections with migrants already living there (Hiller and Franz 2004). During the post-migration phase, the Internet is used by migrants to integrate into the new society, to relate to the country of origin (Parham 2004) and to keep in touch with their family left behind (Bacigalupe and Cmara 2012). At the same time, it spurs individual political interest in particular in authoritarian regimes (Tufekci and Wilson 2012; Valenzuela, Arriagada, and Scherman 2014). As it is true everywhere else in the world, Internet use has markedly increased in the Middle East and it has been recently associated with an increase in protest participation and radicalization (Howard 2010). Some scholars see the Internet as a provider of means by which people and politicians can even the otherwise limited political field, stimulating new ideas and proposing the emergence of new candidates. Alternatively, some others claim that the Internet will eventually be captured by some political actors to prevent a shift in the basic power balance (Wagner and Gainous 2013). The Internet enters our discussion even from another perspective. Terrorists in the West are often waging a worldwide battle for their faith, powered by ideas they pick up on the Internet. There is a practical link, too. Some of those involved in recent European plots have been radicalized and trained in the Middle East and have been recruited via online social networks.

In our framework, political Islam and willingness to migrate are both, and simultaneously, affected by Internet use. In particular, we expect that Internet use negatively affects political Islam which, in turn, negatively affects willingness to migrate. Empirically we firstly study the effect of political Islam and Internet use on the individual level willingness to migrate and, subsequently, we analyze their effect jointly. In order to investigate this causal mechanism, we estimate a structural model for the simultaneous relationship between Internet

1 For a review of the dispute concerning the use of different terms refer to Kramer (2003).

use, political Islam, and the individual-level willingness to migrate. In the first equation, Internet use is explained by a set of exogenous individual characteristics, including gender, age, marital status, educational level and income. In the second equation, political Islam is modeled as a function of Internet use and a set of exogenous variables. In the third equation, willingness to migrate is explained by political Islam, Internet use, and a set of individual-level control variables. As a further investigation, we apply Instrumental variables techniques in order to account for the possible endogeneity of our dependent variables.

Our findings indicate that there is a positive relationship between Internet use and individual-level willingness to migrate and a negative relationship between political Islam and individual-level willingness to migrate. On the opposite, our results suggest that Internet use does not affect political Islam.

Our work contributes mainly to the literature on the determinants of individual-level willingness to migrate (Borjas 1987; Hagen-Zanker 2008; Mayda 2010) and to the literature on the cultural determinants of economic outcomes (Fogli and Fernandez 2009; Guiso, Sapienza, and Zingales 2006, 2009; Tabellini 2010). Moreover, we contribute to the literature on Internet use and migration (Hiller and Franz 2004). The rest of the paper is organized as follows. Section 2 describes the data and methods. Section 3 presents the results. Section 4 concludes.

2 Data and methods

2.1 Data

Our micro-level empirical analysis is based on the second (2010–2011) and third (2012–2014) waves of the Arab Barometer.[2] The sample includes 9 countries,[3] covering 11,378 individuals for 2010–2011 and 11,425 individuals for 2012–2014, respectively. The questionnaire in the Arab Barometer includes questions on citizens' attitudes about public affairs and governance, religion and religiosity, social capital, family status, employment and economic morality and one key question on the intention to migrate ("Do you think about emigrating from your country?").[4] Table 1 reports summary statistics for the variables used in our empirical analysis.

2 http://www.globalbarometer.net.

3 Algeria, Egypt, Iraq, Jordan, Lebanon, Palestine, Sudan, Tunisia and Yemen.

4 For ease of interpretation, we re-coded the original four-item migration variable into a dummy variable, with "I think about emigrating from my country" =1 and "I do not think about emigrating from my country" =0.

Table 1: Summary statistics, individual level.

Variable	Mean	Standard deviation	Minimum	Maximum	N
Variables of interest					
Willingness to migrate	0.333	0.471	0	1	21,216
Political Islam	7.59	2.564	1	10	20,354
Internet use (extensive margin)	0.429	0.495	0	1	21,863
Internet use (intensive margin)	1.36	1.703	0	4	21,574
Control variables					
Male	0.503	0.5	0	1	21,863
Age	36.356	12.326	18	65	21,863
Marital status	1.389	0.557	1	3	21,695
Primary education	0.303	0.46	0	1	21,863
Secondary education	0.476	0.499	0	1	21,863
Tertiary education	0.126	0.332	0	1	21,863
Married	0.672	0.47	0	1	20,904
Log income (US dollars)	5.67	1.664	−2.0	14.3	17,859
Employed	0.47	0.499	0	1	21,802
Political interest	2.729	0.978	1	4	21,670
Government satisfaction	3.888	2.393	1	10	15,747
General trust	0.27	0.444	0	1	21,127
Time abroad less than 1 month	0.032	0.175	0	1	21,430
Time abroad between 1 month and 3 months	0.027	0.162	0	1	21,430
Time abroad between 3 months and 6 months	0.018	0.131	0	1	21,430
Time abroad 6 months or more	0.027	0.161	0	1	21,430
Instrumental variables					
Islamic finance	3.104	0.914	1	4	19,472
Religious plurality	2.456	1.833	0	8	21,863
Openess	2.399	0.736	1	3	20,543
External factors	0.226	0.418	0	1	19,807

Source: Author's elaboration on Arab Barometer.

Our indicator for political Islam is based on the definition by Berman (2003) according to which political Islam is a *set of ideologies holding that Islam should guide social, political, as well as personal life*. We therefore measure political Islam on the basis of three questions regarding subjects' opinion[5] about the use of Islamic law in the formulation of (1) penal laws, (2) personal status laws and (3) inheritance laws in their countries.[6] Based on these three items, we created

5 On a scale from 1 to 4.

6 "To what extent do you agree or disagree with each of the following principles in the formulation of your country's laws and regulations? The government and parliament should enact penal

an additive scale index, ranging from 1 to 10, indicating the degree of individual-level political Islam.

Internet use is a variable accounting for whether individuals use the Internet (Castles and Miller 2003; Hiller and Franz 2004; Wellman et al. 2001), and how much time they devote to this activity. These two variables are referred to as the extensive and the intensive margin of Internet use, respectively. Thus, while in the former case we consider a dummy variable equal to 1 if the individual declares to use the Internet (and 0 otherwise), in the latter case we refer to a ranking variable (0–4) indicating the time use of the Internet.[7] As a matter of simplification, in the paper we present only the results concerning the extensive margin of Internet use. The results for the intensive margin (an ordered variable) are presented in the Appendix.

In our empirical specifications we included, among control variables, individual socio-demographic characteristics (i.e. gender, age and it's square, marital status), the respondent's subjective evaluation of family income (Borjas 1987; Chiquiar and Hanson 2005; Gibson, McKenzie, and Stillman 2011; Graves and Linnerman 1977; Lauby and Stark 1988; Massey et al. 1993; Stillman et al. 2015), employment status (Beine, Docquier, and Rapoport 2001; Dustmann, Frattini, and Rosso 2015; Dustmann and Preston 2011), education (Beine and Salomone 2013; Dustmann and Fabbri 2005; Dustmann and Glitz 2011), and generalized trust. Gender, age and marital status were included among the controls since several papers show that boys and girls have different social norms regarding migration and that migration decisions are substantially different for youth and for adults and for married and non-married people (Kanaiaupuni 2000). In the same vein, a different approach elaborates on the cultural implications of modernization theory and argues that egalitarian gender roles and gender itself is among the determinants of support for *Shari'a* in the Arab world (Ciftci 2012). Level of education and income are often used as economic indicators in evidence for modernization theory. As far as migration is concerned, they are measures of the economic opportunity cost of migration and are standard covariates used in the literature. Furthermore, employment, and in particular youth employment, has been shown to affect the eruption of violence and terrorism (Caruso and Gavrilova 2012) and, at the same time, diffuse and specific support for democracy and Shari'a in the Arab world (Ciftci 2012). The estimated specifications

laws in accordance with Islamic law (1), The government and parliament should enact personal status laws (marriage, divorce) in accordance with Islamic law (2), The government and parliament should enact inheritance laws in accordance with Islamic law (3)".

7 0 if never, 1 if several times a year, 2 if at least once a month, 3 if at least once a week, 4 if daily or almost daily.

also include a variable accounting for the time spent in Western countries[8] and a variable accounting for subjective satisfaction with the government[9] in order to control for systematic effects of institutional context. Each specification includes also country and time fixed effects to capture systematic differences across countries and to account for changes in surveys between waves.

Table 2 reports summary statistics for our dependent variables by gender and by educational levels. Males are more willing to migrate with respect to women (41% and 25%, respectively) and almost 50% of them are Internet users with respect to 37% of women. The higher density of would-be migrants and of Internet users is concentrated among those holding a secondary education diploma. As far as political Islam is concerned, there are not significantly different from zero differences across sub-groups.

2.2 Methods

We first run a series of regressions including cross-sectional estimation with a progressive larger set of controls and with country and time fixed effects. In the first panel our dependent variable is a dichotomous variable for *Internet use*, in the second panel it is a numerical variable for *political Islam* and in the third panel it is a dichotomous variable for *willingness to migrate*. In the first and in the third panel

Table 2: Descriptive statistics by subgroups.

	% of individuals willing to migrate	Mean political Islam	% of Internet users
By gender			
Female	25.42	7.63	36.53
Male	40.99	7.54	49.25
By educational level			
No Education	20.34	7.87	13.19
Primary	29.57	7.35	28.18
Secondary	38.49	7.70	57.50
Tertiary	32.48	7.52	44.85

Source: Author's elaboration on Arab Barometer.

8 "During the past 5 years, did you spend time in a Western country?".

9 "Suppose that there was a scale from 1 to 10 to measure the extent of your satisfaction with the government, in which 1 means that you were absolutely unsatisfied with its performance and 10 means that you were very satisfied, to what extent are you satisfied with the government's performance?".

we use Probit estimation,[10] while in the second panel the relationship is estimated by Ordinary Least Squares (henceforth, OLS). Hence, we apply Instrumental Variables techniques (henceforth, IV) to solve bias estimation due to the potential endogeneity of our two explanatory variables: political Islam and Internet use.

Our identification strategy is based on the estimation of a two equations' system, the first one describing individual-level willingness to migrate while the second one is the first step in the IV strategy and includes our selected IVs.[11]

$$\begin{cases} Emi_{ijt} = \alpha_0 + \alpha_1 PI_{ijt} + \alpha_2 INT_{ijt} + \alpha_3 X_{ijt} + \sigma_c + \delta_t + \varepsilon_{ijt} \\ PI_{ijt} = \beta_0 + \beta_1 Zp_{ijt} + \beta_2 X_{ijt} + \sigma_c + \delta_t + \varepsilon_{ijt} \end{cases} \quad (1)$$

$$\begin{cases} Emi_{ijt} = \alpha_0 + \alpha_1 PI_{ijt} + \alpha_2 INT_{ijt} + \alpha_3 X_{ijt} + \sigma_c + \delta_t + \varepsilon_{ijt} \\ INT_{ijt} = \gamma_0 + \gamma_1 Zi_{ijt} + \gamma_2 X_{ijt} + \sigma_c + \delta_t + \varepsilon_{ijt} \end{cases} \quad (2)$$

Empirically, we estimate a reduced form equation (i.e. the linear specification for Internet use (INT_{ijt}) and for political Islam (PI_{ijt}) in (2) and in (1)) and then substitute the estimated values into the first line of the system where Emi_{ijt} represents individual-level willingness to migrate that depends on political Islam, Internet use and from a set of exogenous covariates as described in Section 2.1. Zp_{ijt} and Zi_{ijt} are the excluded instruments. More specifically, the instruments for political Islam regard individuals' agreement (from 1 to 4) on the fact that (1) banks charging interest contradict the teachings of Islam and (2) that difference and variation between Islamic scholars with regard to their interpretation of religious topics is not acceptable. The first instrument deals with the so-called "Islamic finance", a financial system that operates according to Islamic law (*Shari'a*). The main principle of Islamic finance is its adherence to interest-free financial transactions. According to *Shari'a*, money itself has no intrinsic value but it is simply a medium of exchange. This means that earning interests (*Riba*) are not allowed. We assume that the more people are willing to have *Shari'a* as a ruling principle, the more they agree also with the principles of Islamic finance. The second instrument regards the very common controversy on religious pluralism in Islam. The

10 Note that in the Appendix we report the estimation of the baseline specification for the intensive margin of Internet use estimated by Ordered Logit Model to account for ordered categorical nature of our dependent variable.

11 While the linear IV model is a consistent estimator of an average effect of treatment, it could be biased when both the dependent and the independent variable are binary and its small sample performance may be inferior to a correctly specified Maximum Likelihood model. In order to check for potential bias we have estimated also a Bivariate Probit model (Heckman 1978). Results are qualitatively unchanged and available upon request.

Qur'an (the central religious text of Islam) and the *Hadiths* (the collections of the reports of the teachings, deeds and sayings of the Islamic prophet Muhammad), offer contradictory positions on religious pluralism. While some verses support religious pluralism, others discourage it. Traditionally, people more tied to political Islam are less likely to accept religious pluralism. Both instruments are not correlated with individual-level willingness to migrate.

The first instrument for Internet use regards individuals' evaluation on countries' openness. In particular, respondents are asked to express their opinion on the following question: "Is it better for your country to open up to the outside world to a greater extent? Or to maintain or decrease the current level of openness to the outside world?".[12] The second instrument reflects respondents' opinion regarding the lack of development in the Arab countries compared to other parts of the world. In particular, people are asked what factors, whether external or internal, are more important in determining the lack of development in the Arab word.[13] We claim that Internet users are more open-minded and, therefore, prefer to a greater extent countries' openness instead of countries' closure. At the same time, we expect Internet users to be more rigorous in assessing the causes of the lack of development in the Arab world. Once more, our instruments are not theoretically and empirically correlated with individual-level willingness to migrate.[14]

Once assessed the causal effect of political Islam and Internet use on the willingness to migrate we analyze the simultaneous relationships between individual attitudes toward Internet use, political Islam and willingness to migrate.

$$\begin{cases} Emi_{ijt} = \alpha_0 + \alpha_1 PI_{ijt} + \alpha_2 INT_{ijt} + \alpha_3 X_{ijt} + \sigma_c + \delta_t + \varepsilon_{ijt} \\ PI_{ijt} = \beta_0 + \beta_1 Zp_{ijt} + \beta_2 INT_{ijt} + \beta_3 X_{ijt} + \sigma_c + \delta_t + \varepsilon_{ijt} \\ INT_{ijt} = \gamma_0 + \gamma_1 Zi_{ijt} + \gamma_2 X_{ijt} + \sigma_c + \delta_t + \varepsilon_{ijt} \end{cases} \quad (3)$$

Firstly, we assume the error terms of the three equations to be correlated and we run the three equations simultaneously by means of a seemingly unrelated model. Secondly, we estimate the system of structural equations reported in (3), where we consider political Islam and Internet use as endogenous variables. The system is estimated via maximum likelihood. This acts as a robustness check.

12 Responses are coded as: "To open up to the outside world to a greater extent" =1, "To maintain the current level of openness to the outside world" =2 and "To decrease its level of openness to the outside world" =3.

13 "Some people attribute the lack of development in the Arab world compared to other parts of the world to external factors, while others blame internal factors. In your opinion, which is more important in causing the lack of development in the Arab world? Internal factors or External factors".

14 See statistical tests in Table 4.

3 Results

3.1 Baseline estimation results

Table 3 presents the results of the baseline estimations.[15] Columns 1–3 report the determinants of Internet use. First, the male variable indicates that males are more prone to use the Internet while the age variables indicate that Internet use decreases with age, though at an increasing rate (Howard 2010). Two particularly interesting coefficients are those for secondary and tertiary education: they are both positive and highly significant. The size of the coefficient for tertiary education is very large in absolute value: a person holding a tertiary education degree is 30% more likely to use Internet that a person without tertiary education. Marital status and employment are significantly and positively related to Internet use. This suggests that wealthier individuals are more prone to use the Internet as a source of information during their daily activities. Other three particularly interesting coefficients are those on generalized trust, government satisfaction and political interest: they are all negative and highly significant suggesting that people who exert a lower satisfaction in the way in which democracy works and a lower trust in unknown people are more probably Internet users. On the other hand, the time spent abroad seems to have a positive effect on Internet use.

Let us now turn to the determinants of political Islam (columns 4–6). According to our estimates, *ceteris paribus*, a married person is 17 percentage points less likely to sustain political Islam than a non married one with the same socioeconomic characteristics. Income is negatively and significantly related with political Islam. However, in column 6, one of the most striking results is the insignificant effect of Internet use on political Islam. This result is driven by the introduction in our empirical specification of the variables accounting for the time spent abroad. In fact, the coefficient for having spent between 3 and 6 months in Western countries during the last year, is more than twice as large (in absolute terms) as that on the respondent's income (that is negative and statistically significant). Columns 7–9 report the determinants of individual-level willingness to migrate. As expected, and in line with previous findings (Falco and Rotondi 2015), political Islam is negatively and significantly related to individual-level willingness to migrate and the size of the coefficient, although small, is in line with other papers investigating the effect of cultural variables on economic outcomes (Lee and Guven 2013) and it is virtually unchanged across all specifications. Males are more willing to migrate compared to females confirming that migration from

15 Results at the intensive margin of Internet use are reported in the Appendix A.1.

Table 3: Political Islam and Internet use on Willingness to migrate.

	Internet use			Political Islam			Willingness to migrate		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Political Islam							−0.010***	−0.010***	−0.010***
							(0.002)	(0.002)	(0.002)
Internet use (e)				−0.021	−0.070*	0.049	0.111***	0.106***	0.097***
				(0.032)	(0.037)	(0.044)	(0.007)	(0.009)	(0.011)
Male (d)	0.136***	0.076***	0.049***	−0.052*	−0.031	−0.055	0.151***	0.161***	0.167***
	(0.006)	(0.008)	(0.009)	(0.029)	(0.038)	(0.045)	(0.007)	(0.008)	(0.010)
Age	−0.012***	−0.012***	−0.016***	−0.003	−0.008	−0.012	−0.001	0.004*	0.003
	(0.002)	(0.002)	(0.002)	(0.007)	(0.009)	(0.011)	(0.002)	(0.002)	(0.003)
Age square	−0.000	0.000*	0.000***	−0.000	0.000	0.000	−0.000***	−0.000***	−0.000***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Primary education (d)		−0.010	0.014		−0.176***	−0.092		0.004	−0.025
		(0.013)	(0.016)		(0.067)	(0.080)		(0.017)	(0.021)
Secondary education (d)		0.241***	0.239***		−0.082	−0.025		0.045***	−0.006
		(0.013)	(0.016)		(0.066)	(0.081)		(0.017)	(0.021)
Tertiary education (d)		0.212***	0.309***		0.081	0.138		0.044*	−0.028
		(0.018)	(0.024)		(0.090)	(0.118)		(0.023)	(0.027)
Marital status		0.057***	0.058***		−0.123***	−0.174***		0.044***	0.028***
		(0.007)	(0.008)		(0.033)	(0.041)		(0.008)	(0.010)
Log income US dollars		0.003	0.000		−0.008	−0.121***		−0.006**	−0.005
		(0.002)	(0.003)		(0.012)	(0.014)		(0.003)	(0.003)
Employed (d)		0.086***	0.077***		−0.039	−0.002		−0.034***	−0.036***
		(0.008)	(0.010)		(0.040)	(0.047)		(0.009)	(0.011)
General Trust (d)			−0.024***			0.020			−0.108***
			(0.009)			(0.044)			(0.010)

Table 3: (continued)

	Internet use			Political Islam			Willingness to migrate		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Political Interest			−0.071***			0.028			−0.018***
			(0.004)			(0.021)			(0.005)
Government Satisfaction			−0.004**			−0.003			−0.018***
			(0.002)			(0.009)			(0.002)
Time abroad less than 1 month (d)			0.144***			−0.547***			0.063**
			(0.023)			(0.113)			(0.029)
Time abroad between 1 and 3 months (d)			0.152***			−0.375***			0.051
			(0.026)			(0.129)			(0.032)
Time abroad between 3 and 6 months (d)			0.191***			−0.863***			0.173***
			(0.032)			(0.156)			(0.041)
Time abroad 6 months or more (d)			0.148***			−0.492***			0.142***
			(0.025)			(0.121)			(0.031)
Observations	21,863	17,698	12,096	20,354	16,590	11,484	19,798	16,225	11,205

Marginal effects. Standard errors in parentheses. (d) for discrete change of dummy variable from 0 to 1.

*p<0.10, **p<0.05, ***p<0.01.

Probit estimates from column 1 to 3 and from column 7 to 9. Ordinary Least Squares estimates from column 4 to 6.

All specifications include time and country FE.

the Arab world is male-dominated (Bommes, Fassmann, and Sievers 2014). As we may expect, being employed is negatively related to individual-level willingness to migrate (Fargues 2004) whereas a positive relationship is found for the intensity of Internet use and the time spent abroad (Hiller and Franz 2004). In particular, Internet use increase the probability of being willing to migrate by almost 10%. The coefficients for political and institutional outcomes are negative and significant, suggesting that the more satisfied people with the government, or the more interested in politics, are the less willing to migrate (Stinner and Van Loon 1992). Generalized trust is negatively and significantly related to individual-level to migrate. Interestingly, the level of education does not seem to have a clear effect on the individual-level willingness to migrate. This result seems to confirm the striking pattern underlined in Fargues (2013).

3.2 Instrumental variables regressions results

Table 4 presents IV estimation results. For each regression we report the test statistic for a Hansen J statistics[16] and the endogeneity test.[17] While the coefficient for political Islam is still significantly and negatively related to willingness to migrate, the coefficient for Internet use becomes negative while it remains significant. Indeed, the size of the coefficients are greater when using IV suggesting that failing to account for the endogeneity of political Islam and Internet use may lead to underestimate their effect on individual-level willingness to migrate. Estimates for most control variables, available upon request, are qualitatively consistent with previous estimation results.

3.3 Seemingly unrelated regression and structural equation model results

Table 5 reports Seemingly Unrelated Regression (hencefort, SUR) estimates of the model's parameters and the BreuschPagan test of independence.[18] We are exploiting the efficiency gains derived from our assumed error structure, without using

16 Under the null joint null hypothesis is that the instruments are valid instruments, i.e. uncorrelated with the error term, and that the excluded instruments are correctly excluded from the estimated equation. Intensive margin results are reported in Appendix A.3.

17 Under the null hypothesis that the specified endogenous regressors can actually be treated as exogenous.

18 Intensive margin results in the Appendix.

Table 4: Instrumental variable estimations.

	First stage Political Islam	IV Willingness to migrate
Political Islam		−0.020**
		(0.010)
Islamic finance	0.466***	
	(0.026)	
Religious plurality	−0.092***	
	(0.016)	
Internet use		0.096***
		(0.010)
F(2, 10,337)=180.11		
Hansen J statistic: 3.584 (χ^2, p-value=0.0583)		
Endogeneity test: 1.329 (χ^2, p-value=0.2491)		
Observations	10,620	10,366
	First stage Internet use (extensive margin)	**IV Willingness to migrate**
Internet use		−0.523**
		(0.213)
Openess	0.028***	
	(0.006)	
External factors	−0.028***	
	(0.010)	
Political Islam		−0.006**
		(0.003)
(F 2, 10300)=16.09		
Hansen J statistic: 0.107 (χ^2, p-value=0.7435)		
Endogeneity test: 11.672 (χ^2, p-value=0.0006)		
Observations	10,574	10,329

Standard errors in parentheses.

Standard controls variables used as covariates as reported in Table 3.

Country and time fixed effects. *p<0.10, **p<0.05, ***p<0.01.

instrumental variables. The main results are not sensitive to estimating the system using a SUR estimator. Hence, they appear to be robust and in line with previous findings. Indeed, we find that (1) Internet use does not affect political Islam, that (2) political Islam is negatively and significantly related to individual level willingness to migrate and that (3) Internet use is positively and significantly related to willingness to migrate.

However, we are not able to reject the hypothesis that the correlation between the residuals of the three equations is zero. In theory, we could have estimated the model equation-by-equation using standard OLS. Such estimates would have

Table 5: Seemingly unrelated regression.

	Internet use (extensive margin)	Political Islam	Willingness to migrate
Political Islam			−0.009***
			(0.002)
Internet use (extensive margin)		0.029	0.090***
		(0.047)	(0.010)
Observations	9539	9539	9539
Standard controls	Yes	Yes	Yes
Country and time fixed effect	Yes	Yes	Yes

Standard errors in parentheses.
Breusch-Pagan test of independence: $\chi^2(3)=0.000$, Pr=1.0000.
Standard controls variables used as covariates as reported in Table 3.
Country and time fixed effects. *p<0.10, **p<0.05, ***p<0.01.

been consistent, however, generally not as efficient as the SUR method, which amounts to Feasible Generalized Least Squares with a specific form of the variance-covariance matrix. However, there are two cases when the SUR is in fact equivalent to OLS: either when the error terms are uncorrelated between the equations, or when each equation contains exactly the same set of regressors on the right-hand-side. Indeed, we fall into the first case. Our main results are, however, confirmed by the estimation of a structural equation model as described in Section 2.2 and reported in Table 6.

4 Conclusion

While the fear of Islamic terrorism coming from the sea together with migrants is rising, the role played by political Islam on migration decisions is becoming the core argument of the political debate worldwide. In an effort to explain willingness to migrate from the Arab world, we have investigated the channel *through which the more people claim that Islam should guide not only personal life, but also social and political life*, the less they are willing to migrate. At the same time, we have explored the fact that the Internet could be a vehicle of political Islam. Indeed, we find that Internet use does not affect political Islam while it positively and significantly affects individual-level willingness to migrate.

At the end of this work some words of caution are necessary. Firstly, in this paper we have studied a very specific relationship between willingness to migrate

Table 6: Structural equation model.

	(1) Internet Use	(2) Radical Islam	(3) Willingness to migrate (d)
Radical Islam			−0.008***
			(0.002)
Internet use (d)			0.092***
			(0.010)
Internet use (d)		0.037	
		(0.047)	
Islamic Finance		0.446***	
		(0.024)	
Religious plurality		−0.126***	
		(0.016)	
Openness	0.025***		
	(0.006)		
External factors	−0.025***		
	(0.010)		
Observations	9539	9539	9539

Marginal effects; Standard errors in parentheses.
(d) for discrete change of dummy variable from 0 to 1.
Standard controls variables used as covariates as reported in Table 3.
*p<0.10, **p<0.05, ***p<0.01.

from the Arab World and political Islam and between Internet use, political Islam and willingness to migrate. This study, therefore, does not address at all the question of the effect of Internet use on radicalism in the Western world among second generation immigrants, an issue crucially and tragically important nowadays. Secondly, in this paper we do not consider migration itself, but rather individual-level willingness to migrate. Although other papers in the literature have already used this measure (Hoffman, Marsiglia, and Ayers 2015; Otrachshenko and Popova 2014; Stinner, Van Loon, and Byun 1992), emphasizing the importance of studying its determinants (e.g. Becerra 2012), we are aware of the fact that willingness to migrate is not equivalent to migration. Nevertheless, from an economic perspective, migration is often the result of a process involving several steps, that ends with the matching between individual willingness and actual opportunities to migrate (Docquier, Peri, and Ruyssen 2014). Migration flows are therefore determined by the interaction between the pool of would-be migrants, i.e. people exerting a preference for migration, and actual migration opportunities. Unfortunately, data availability limits the reliability of our results. Thirdly, given the importance of the study of political Islam, of its causes and consequences, further

researches are needed (Caruso and Schneider 2013). Last but not least, although to date a growing literature indicates that cultural factors also play an important role for economic behavior (e.g. Alesina and Giuliano (2011); Alesina et al. (2015); Tabellini (2010); Williamson and Mathers (2011)), several other aspects regarding the interconnections between culture and economics have still to be analyzed. With this work, we leave the door open for further applications.

Appendix

Table A.1: Political Islam and Internet use (intensive margin) on Willingness to migrate.

	Internet use (intensive margin)			Political Islam			Willingness to migrate		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Political Islam							−0.010***	−0.009***	−0.010***
							(0.002)	(0.002)	(0.002)
Internet use (intensive margin)				−0.007	−0.021**	0.014	0.031***	0.029***	0.025***
				(0.009)	(0.011)	(0.013)	(0.002)	(0.002)	(0.003)
Male (d)	0.515***	0.311***	0.203***	−0.051*	−0.033	−0.062	0.150***	0.160***	0.166***
	(0.021)	(0.026)	(0.031)	(0.030)	(0.038)	(0.045)	(0.007)	(0.008)	(0.010)
Age	−0.049***	−0.050***	−0.056***	−0.002	−0.008	−0.012	−0.001	0.004*	0.002
	(0.005)	(0.006)	(0.008)	(0.007)	(0.009)	(0.011)	(0.002)	(0.002)	(0.003)
Age square	0.000	0.000***	0.000***	−0.000	0.000	0.000	−0.000***	−0.000***	−0.000***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Primary education (d)		−0.069	−0.048		−0.185***	−0.100		0.010	−0.020
		(0.045)	(0.055)		(0.068)	(0.081)		(0.017)	(0.021)
Secondary education (d)		0.838***	0.767***		−0.089	−0.030		0.050***	−0.000
		(0.045)	(0.055)		(0.067)	(0.081)		(0.017)	(0.021)
Tertiary education (d)		0.844***	1.099***		0.086	0.139		0.046**	−0.023
		(0.061)	(0.080)		(0.091)	(0.118)		(0.023)	(0.028)
Marital status		0.214***	0.234***		−0.124***	−0.177***		0.043***	0.027***
		(0.023)	(0.028)		(0.034)	(0.041)		(0.008)	(0.010)
Log income US dollars		0.017**	0.018*		−0.009	−0.121***		−0.006**	−0.006*
		(0.008)	(0.010)		(0.012)	(0.015)		(0.003)	(0.003)
Employed (d)		0.294***	0.248***		−0.037	0.006		−0.032***	−0.035***

Table A.1: (continued)

	Internet use (intensive margin)			Political Islam			Willingness to migrate		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
		(0.028)	(0.032)		(0.040)	(0.047)		(0.009)	(0.011)
General Trust (d)			−0.068**			0.015			−0.108***
			(0.030)			(0.044)			(0.010)
Political interest			−0.260***			0.030			−0.019***
			(0.015)			(0.021)			(0.005)
Government Satisfaction			−0.017***			−0.002			−0.018***
			(0.006)			(0.009)			(0.002)
Time abroad less than 1 month (d)			0.541***			−0.545***			0.058**
			(0.078)			(0.114)			(0.029)
Time abroad between 1 and 3 months (d)			0.649***			−0.367***			0.050
			(0.088)			(0.130)			(0.032)
Time abroad between 3 and 6 months (d)			0.647***			−0.868***			0.170***
			(0.107)			(0.157)			(0.041)
Time abroad 6 months or more (d)			0.596***			−0.512***			0.143***
			(0.083)			(0.121)			(0.031)
Observations	21,574	17,501	11,994	20,144	16,447	11,395	19,598	16,087	11,118

Marginal effects. Standard errors in parentheses.
(d) for discrete change of dummy variable from 0 to 1.
*p<0.10, **p<0.05, ***p<0.01.
Ordinary Least Squares estimates from column 1 to 6.
Probit estimates from column 7 to 9.
All specifications include time and country FE.

Table A.2: Internet use at the intensive margin: robustness check.

	Internet use (intensive margin)					
	OLS			OLogit		
	(1)	(2)	(3)	(4)	(5)	(6)
Male	0.515***	0.311***	0.203***	0.662***	0.454***	0.312***
	(0.021)	(0.026)	(0.031)	(0.028)	(0.037)	(0.045)
Age	−0.049***	−0.050***	−0.056***	−0.018**	−0.033***	−0.048***
	(0.005)	(0.006)	(0.008)	(0.008)	(0.010)	(0.012)
Age square	0.000	0.000***	0.000***	−0.001***	−0.000*	−0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Primary education (d)		−0.069	−0.048		0.468***	0.586***
		(0.045)	(0.055)		(0.099)	(0.128)
Secondary education (d)		0.838***	0.767***		1.746***	1.777***
		(0.045)	(0.055)		(0.096)	(0.126)
Tertiary education (d)		0.844***	1.099***		1.746***	2.177***
		(0.061)	(0.080)		(0.113)	(0.151)
Marital status		0.214***	0.234***		0.275***	0.308***
		(0.023)	(0.028)		(0.034)	(0.043)
Log income US dollars		0.017**	0.018*		0.023**	0.026*
		(0.008)	(0.010)		(0.012)	(0.015)
Employed		0.294***	0.248***		0.449***	0.390***
		(0.028)	(0.032)		(0.039)	(0.048)
General Trust			−0.068**			−0.103**
			(0.030)			(0.046)
Political interest			−0.260***			−0.395***
			(0.015)			(0.022)
Government satisfaction			−0.017***			−0.024**

Table A.2: (continued)

	Internet use (intensive margin)					
			OLS			OLogit
	(1)	(2)	(3)	(4)	(5)	(6)
			(0.006)			(0.010)
Time abroad less than 1 month (d)			0.541***			0.689***
			(0.078)			(0.110)
Time abroad between 1 and 3 months (d)			0.649***			0.873***
			(0.088)			(0.124)
Time abroad between 3 and 6 months (d)			0.647***			0.870***
			(0.107)			(0.150)
Time abroad 6 months or more (d)			0.596***			0.777***
			(0.083)			(0.117)
Observations	21,574	17,501	11,994	21,574	17,501	11,994

Marginal effects. Standard errors in parentheses. (d) for discrete change of dummy variable from 0 to 1. *p<0.10, **p<0.05, ***p<0.01. All specifications include time and country FE.

Table A.3: Instrumental variable estimations.

	First stage Internet use (intensive margin)	IV Willingness to migrate
Internet use (intensive margin)		−0.120**
		(0.047)
Openess	0.126***	
	(0.020)	
External factors	−0.101***	
	(0.033)	
Political Islam		−0.006**
		(0.002)
F(2, 10,224)=25.40		
Hansen J statistic: 0.029 (χ^2, p-value=0.8637)		
Endogeneity test: 11.545 (χ^2, p-value=0.0007)		
Observations	10,496	10,253
Standard controls	Yes	Yes
Country and time fixed effect	Yes	Yes

Standard errors in parentheses. *p<0.10, **p<0.05, ***p<0.01.

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