



NATIONAL RESEARCH UNIVERSITY  
HIGHER SCHOOL OF ECONOMICS

*Veronica Kostenko, Pavel Kuzmichev, Eduard Ponarin*

# **ATTITUDES TOWARDS GENDER EQUALITY AND PERCEPTION OF DEMOCRACY IN THE ARAB WORLD**

**BASIC RESEARCH PROGRAM**

**WORKING PAPERS**

**SERIES: SOCIOLOGY  
WP BRP 50/SOC/2014**

This Working Paper is an output of a research project implemented  
at the National Research University Higher School of Economics (HSE). Any opinions or claims contained  
in this Working Paper do not necessarily reflect the views of HSE.

## **ATTITUDES TOWARDS GENDER EQUALITY AND PERCEPTION OF DEMOCRACY IN THE ARAB WORLD**

This paper analyzes the relationship between support of democracy and attitudes to human rights: in particular, support for gender equality in the countries covered by the first wave of the Arab Barometer project. We used cluster analysis and negative binomial regression modeling to show that, unlike in most countries of the world, the correlation between support of democracy and gender equality is very low in Arab countries. There is a group of people in the region who support both democracy and gender equality, but they are a small group (about 17% of the population) of elderly and middle-aged people characterized by higher education and social status. A substantial number of poorly educated males express support for democracy, but not for gender equality. Many people (especially young males aged 25–35 in 2007) are against both gender equality and democracy. Younger people tend to be both better educated and more conservative - those belonging to the 25–34 age group are the most patriarchal in their gender attitudes. Controlling for age, education still has a positive effect on gender equality attitudes. Nevertheless, this phenomenon probably means that there are two simultaneous processes going on in the Middle East. On the one hand, people are becoming more educated, urbanized etc., which means the continuation of modernization. On the other hand, we observed a certain retrogression of social values.

**Keywords:** modernization, Arab Barometer, democracy, gender equality, patriarchal values, Islam

**JEL Classification:** E11

---

<sup>1</sup> National Research University Higher School of Economics, Research Fellow of the Laboratory for Comparative Social Research; E-mail: [vvkostenko@hse.ru](mailto:vvkostenko@hse.ru) – corresponding author.

<sup>2</sup> National Research University Higher School of Economics, Research Assistant of the Laboratory for Comparative Social Research; E-mail: [ass10pku@student.lu.se](mailto:ass10pku@student.lu.se)

<sup>3</sup> National Research University Higher School of Economics, Director of the Laboratory for Comparative Social Research; E-mail: [eponarin@hse.ru](mailto:eponarin@hse.ru)

# 1 Introduction

The Muslim publics have become a popular research subject in the past decade due to international terrorism worldwide and migration issues in the Western Europe. According to Samuel Huntington (1996), the collapse of the Soviet Union led to a new clash of civilizations between the Western world on one hand and the Muslim and Eastern Orthodox civilizations on the other hand. However, the heart of the Muslim world, the Arab civilization, is not yet well researched; and limited knowledge often results in prejudice and miscalculation. Scholars got a chance to learn more about this region in 2009 when the first wave of the Arab Barometer project was published by Mark Tessler and his colleagues ([www.arabbarometer.com](http://www.arabbarometer.com)). This dataset contains representative samples of population of seven countries of the Arab world surveyed in 2006–2007, providing an opportunity to test hypotheses about democratic and gender attitudes in the region, general values and many other issues.

This paper analyzes support for gender equality and democracy in the countries covered by the first wave of the Arab Barometer project. Liberalization of gender attitudes and its consequences are described by Ronald Inglehart and Pippa Norris in their book, "The Rising Tide" (Inglehart and Norris 2003). They find that attitudes towards gender equality are strong predictors of democratic aspirations all around the world. Moreover, the issue of women's rights in the Arab region is very controversial by itself and widely discussed by feminist and human rights organizations (Ahmed 1992; Hilsdon and Rozario 2006; Cherif 2010; Charrad 2011).

Mark Tessler has published a few works theorizing attitudes towards democracy in the Arab world (Tessler 2002; Tessler and Jamal 2006). He pointed out that about 80% of the region's population support democracy, and this observation was soon supported by the "Arab Spring" events when mass protests against the old authoritarian regimes shook many Arab countries (Filali-Ansary 2012). Despite the expectations of a bottom-up democratic transition (Ciftci 2010), most of those revolutions ended up with the rise of Islamist parties, and the current regimes in those societies are far from the Western ideal of democracy. This could have been predicted by the values and attitudes of the publics in those societies, as there was no wide support for equity, in any sense, in many of them.

We believe that attitudes towards gender equality in combination with support for democracy may be better predictors of liberal values in Arab countries than direct questions about democracy. Therefore, in this paper we constructed two indices: an index of gender equality and an index of democratic preferences. Then we performed a cluster analysis with these two variables and finally examined social and demographic differences between people across clusters.

# 2 Theory and Previous Research

Gender-related topics have become an integral part of comparative international studies in recent years. As Tessler and Warriner argue, "gender studies, which separate the socially constructed roles and orientations of women and men from biological definitions of sex, are increasingly being combined with international studies at the theoretical level" (1997, 250). Nowadays, there are reliable data that make it possible to analyze the on-going processes in the Middle East in a more profound way and consider the links between values, attitudes, and political orientations with the manifest changes occurring in that part of the world.

Women's empowerment has been an important topic in recent works on values and beliefs. As Alexander and Welzel argue, women's empowerment is inherently emancipative

and a belief-mediated process (Alexander and Welzel 2011). Consequently, we posit that the support of gender equality is a good measure of people's disposition for emancipating women. Therefore, those people who support women's empowerment (as measured by support of gender equality) are more likely to be included into the broader process of human empowerment—an important component of the knowledge society, and to support liberal democracy. Other studies have shown that gender attitudes correlate fairly well with the level of actual democratization and they are a better predictor than such questions as "Do you think that democracy is a right way of ruling the country?" (Ehteshami 1999).

The issue of Muslim women's rights and roles in the society has been discussed for years, but they still lack adequate representation in social and political sphere (Kandiyoti 1991; Paxton and Kunovich 2003; Stockemer 2014). Many comparative social scientists and feminist theorists argue that there is serious and systematic gender inequality in the Middle East (Abu-Habib 1997; Read 2003; Alexander and Welzel 2011). The Western media and public stereotype Arab Muslim women as "poor and oppressed".

However, some authors, including such established authorities in the field of human rights in the Middle East as Valentine Moghadam and Mounira Charrad, argue that "Muslim women are no longer nameless, faceless or voiceless, and that they are ready to stand up and be counted" (Hassan 1996: 54). Empirical research shows that many women in the Middle East and North Africa want to overcome their second-class citizenship (Abu Lughod 2002; Moghadam 2003). Feminist movements in some countries like Morocco, Tunisia, and Algeria, have managed to expand women's rights significantly (Moghadam 1998; Afary 2004; Charrad 2009).

Some scholars say that the post-colonial approach to the position of Muslim women should be challenged and their problems have to be studied in a comparative perspective in line with gender disparities worldwide (Golley 2004). This issue needs a revision as the Muslim world, and especially the Arab countries, are rapidly changing. This is reflected in the political turbulence they experienced in the course of the "Arab Spring" started in Tunisia in 2010, leading to dramatic changes in the political and social landscape of the region. Nadie Al-Ali believes that women and gender are "key to both revolutionary and counter-revolutionary processes and developments and not marginal to them" (Al-Ali 2012: 26).

A wave of protests, "Arab Spring", erupted in 2010 and toppled the government in some countries. However, the newly elected governments sometimes proved to be even more conservative and pro-Islamic than the old ones (Kuhn 2012). One reason for this could be the traditionalist value structure reflected, in particular, in gender attitudes (Bellin 2012). As Inglehart and Norris argue, "a society's commitment to gender equality and sexual liberalization...is the most reliable indicator of how strongly this society supports principles of tolerance and egalitarianism. Thus, the people of the Muslim world overwhelmingly want democracy, but democracy cannot be sustainable in their societies." (Inglehart and Norris 2003: 64).

## **2.1 Economic Wealth of the Arab World and the "Oil Curse" Discourse**

As many authors working in the framework of modernization theory have shown, GDP per capita and human development are intrinsically linked to egalitarian attitudes (Inglehart 1997; Bergh 2007). In wealthier societies (e.g. Scandinavia) people are less restrictive and discriminatory towards minorities and other vulnerable groups. Nevertheless, economic wealth does not always correlate well with gender equality, and oil-rich Muslim countries,

especially those inhabited by predominantly Arab populations, are the best example of this discrepancy.

Not only does Muslim culture affect gender inequality (Yeganeh and May 2011), but there may be some economic reasons for the subaltern position of women in Muslim, and particularly Arab, societies (Spierings, Smits and Verloo 2010). As Michael Ross argues in his insightful work, "Oil, Islam, and Women", the influence of Islam per se as a source of patriarchal norms is often overestimated (Ross 2008). According to his study, it is the "oil curse" that ruins equal labor market and opportunities for political representation of women in Arab countries. On the other hand, there are some counterarguments against the "oil curse" discourse. Pauline Jones Luong and Erika Weintal, in their book "Oil is Not a Curse" posit that the key issue of the so-called curse has to do with weak institutions that had not yet fully developed when the windfall of petroleum money began. They find some examples of oil-rich Muslim countries where mineral trade has led to a better societal outcome (Luong and Weintal 2010).

## **2.2 Cultural Explanations**

Some theoretical support for Muslim intransigence on gender egalitarianism can be found in Samuel Huntington's book. He argues that the post-Cold War era has brought a cleavage between Christian civilization, on one hand, and the Muslim and Eastern Orthodox civilizations, on the other hand (Huntington 1996). Huntington believes that Muslim societies prefer strong leaders and are unlikely to develop Western-type democracies. He finds the major reason is the traditional collectivism of Muslim culture as opposed to the individualism of Western civilization, which developed human rights, including gender equality, proprietary rights, and liberal democracy.

Contrary to these assumptions, Ronald Inglehart, based on the World Values Survey data, finds that Muslims have very strong aspirations to live under democratic regimes (Inglehart 2003). However, he finds that the populations of Muslim societies are still rather conservative with respect to human rights, gender attitudes, and tolerance towards unpopular minorities (e.g. homosexuals). Controlling for other variables, Islam remains a stable predictor for patriarchal values.

In spite of the ostensible preference for democracy among Muslim publics, only one-quarter of all the countries with an Islamic majority enjoy electoral democracy - until recently, none of these were Arab countries (Tessler 2002). According to the data available in 2003, only 55% of Muslims in the countries included in the World Values Survey support gender equality, compared to 82% of the people in Western countries (Inglehart and Norris 2003). At the same time, there are groups in each of these countries that support both democratic and gender-egalitarian values.

A prevailing scholarly opinion on the Arab world is that "there is a deficit both of democracy and of freedom in Muslim-majority countries" (Rowley and Smith 2009: 298). Meanwhile, scholars report a great demand for democracy among Arab publics (Jamal and Tessler 2008). Thus, 57 % of respondents in Muslim-majority countries, and only 45 % of respondents in other countries, answer that democracy is 'very good'. Jamal and Tessler mention that "73 % of people in Muslim-majority countries, as compared with 64 % in non-Muslim-majority countries, disagree with the claim that democracy is bad for the economy" (Ibid: 101).

### **2.3 Modernization Theory and Hypotheses**

Our theoretical approach draws mostly on the modernization theory revised by Inglehart and Welzel (Inglehart and Welzel 2005). The core explanatory idea of value change in the framework of revised modernization theory is that the new generations living in safer, more secure conditions are more likely to support self-expression (egalitarian) values in all spheres of life as opposed to survival (traditional) values (Inglehart 1997). The process of generational change ensures a movement towards a more egalitarian future. However, the populations of agrarian societies do not show such dramatic value shifts as do post-industrial and industrial countries. Our first hypothesis (H1) therefore is that younger people in the Arab countries are more egalitarian gender-wise than are older people, even though this difference may not be so large as in more affluent societies.

According to the revised theory of modernization, egalitarian gender attitudes (as well as other values characteristic of human empowerment) are predicted not only by age and gender, but also by higher levels of educational attainment. This leads to our second hypothesis (H2) that higher education is likely to be associated with greater support for gender equality, whereas those people who received only limited formal education are more traditional in their values. Men in agrarian societies, according to numerous findings from both quantitative research and feminist literature (Keddie 2007; Mule and Barthel 1992; Moghadam 1998), are more likely to support the status quo, whereas women (especially young and university-educated) are more likely to have higher levels of support for gender equality. For this reason, we expect significant interactions of education and age with gender (H2a).

As we have mentioned above, many studies find Islam to be an obstacle for gender egalitarianism. We cannot test this idea in our study because the prevailing majority of respondents are Muslims and thus there is little variance on religion in the sample. However, we can control for the level of religiosity, as it is associated with more conservative, traditionalist views in many countries of the world (Norris and Inglehart 2011). Thus, our third hypothesis (H3) is that more religious people will express lower support for gender egalitarianism (Cooke 2000).

Our final hypothesis (H4) is that we expect higher levels of gender egalitarianism to coincide with a greater preference for democracy because the latter is generally associated with post-materialism and liberalism (Inglehart and Welzel 2005). Although both gender equality and democracy in the Arab world have received quite a lot of attention in academic literature in recent years, these two issues are usually analyzed separately. Previous research on gender equality and democracy in the Arab world (e.g. Jamal 2006; Rizzo, Abdel-Latif and Meyer 2007; Blaydes and Linzer 2008; Spierings, Smits and Verloo 2009) is limited by scarcity of cross-cultural quantitative data in the region; such data have appeared only recently and now open new opportunities for cross-national comparative research.

## **3 Data and Variable Measurement**

The data we use was published by the Arab Barometer project (<http://www.arabbarometer.org>) in 2009. It was collected in Morocco, Algeria, Kuwait, Palestine (West Bank and Gaza), Lebanon and Yemen between Spring 2006 and Fall 2007. The dataset consists of 181 variables and 8,122 cases (pooled). The mode of data collection was face-to-face interviews. Different sampling procedures (such as area probability sampling with quotas or three-stage cluster sampling, etc.) were used in different countries to obtain a representative sample in each country.

The gender equality index was constructed with seven variables (all the questions from the block ‘505q’, see details in Appendix B). This index was designed to measure respondents’ attitudes towards gender equality in both public and private spheres. We had some concern regarding the number of latent factors that might underlie the seven variables. Exploratory factor analysis shows that it is possible to extract two factors that can be theoretically interpreted as ‘gender equality in public sphere’ and ‘gender equality in private sphere’. However, other methods showed that there is only one important latent factor. There is a simple theoretical argument to use all the seven variables in one general index: full-scale gender equality cannot be achieved even if women’s rights are limited in any single area but not the other. Thus we use a simple composite index involving all available variables.

Although the original variables were scaled from 1 to 4, our index was re-coded into a scale ranging from 0 to 1 (0—very conservative, 1—very liberal). Likewise, we constructed an index of support of democracy based on four items scaled from 1 to 4 each (see Appendix B for details).

The data originally contained 8,122 individual observations. However, list-wise deletion of missing variables excluded 2014 cases - 24% of the data. Therefore, we imputed missing values using a multiple imputation procedure implemented in the Amelia II package in the R environment (Honaker, et al. 2011).

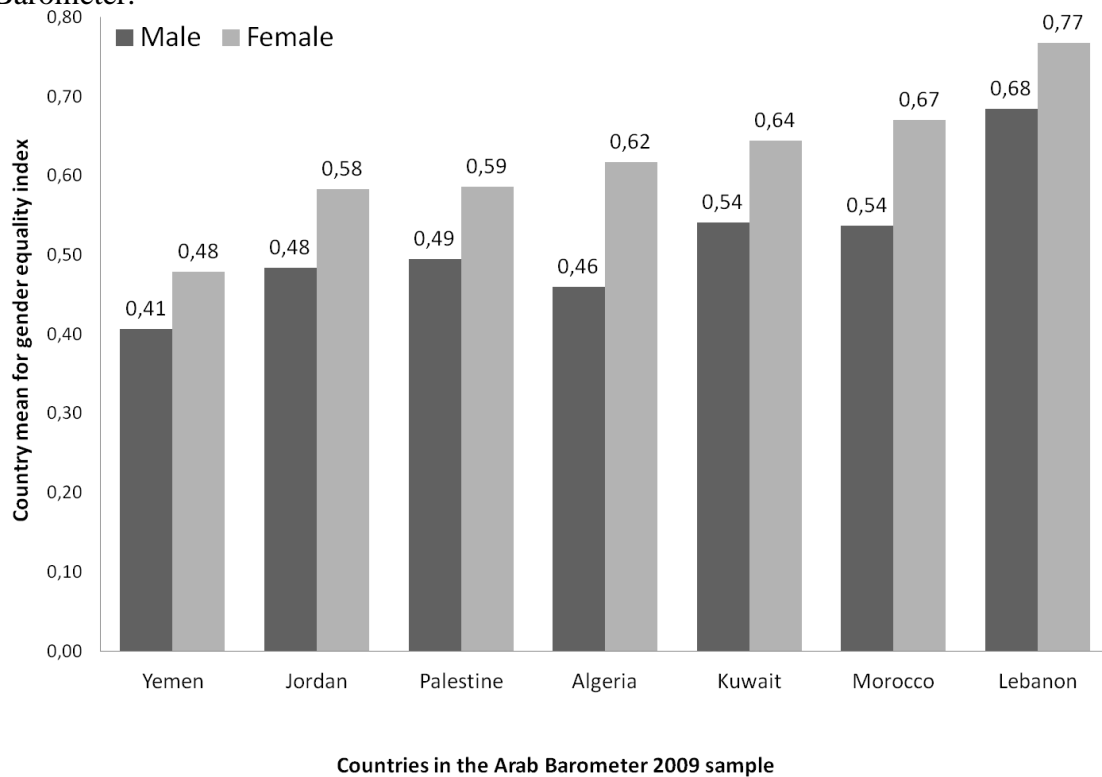
We find having a measure of religiosity in our analysis essential because religiosity is strongly associated with conservative values and gender attitudes in particular (Scheepers, Te Grotenhuis and Van Der Slik 2002; Adamczyk and Pitt 2009). While there are several measures of religiosity in the dataset, the answers to the question ‘How often do you read the Quran?’ is closest to a normally distributed variable. Other questions, such as ‘Do you pray?’ or ‘Would you describe yourself as a religious person?’ yield highly skewed responses or result in very low variation. We find that reading the Quran, the main book of Islam, is a good indicator of practicing religion. We recode this variable from the five original categories into three, which are ‘daily’ (equivalent to ‘everyday or almost everyday’ in original data), ‘sometimes’ (combining the original ‘several times a week’ and ‘sometimes’) or ‘rarely/never’ (from categories 4 and 5 in the original coding).

We also modified age categories of the original dataset. The last (seventh) category of age, 75 and older, has too few cases in the sample, therefore we united it with the ‘65–74’ age group. This resulted in a new age variable with six categories, the last one being ‘65+’.

## **4 Insights from Country-Level and Individual Variation of Gender Equality Support in the Middle East**

First, we calculated some descriptive statistics and found substantial cross-country variation in gender equality support in the Middle East. Furthermore, we found significant and large gender gaps in all the countries included in the analysis, especially in the societies with moderate levels of gender equality support.

Figure 1: Mean gender equality index for seven Arab countries by gender in the Arab Barometer.

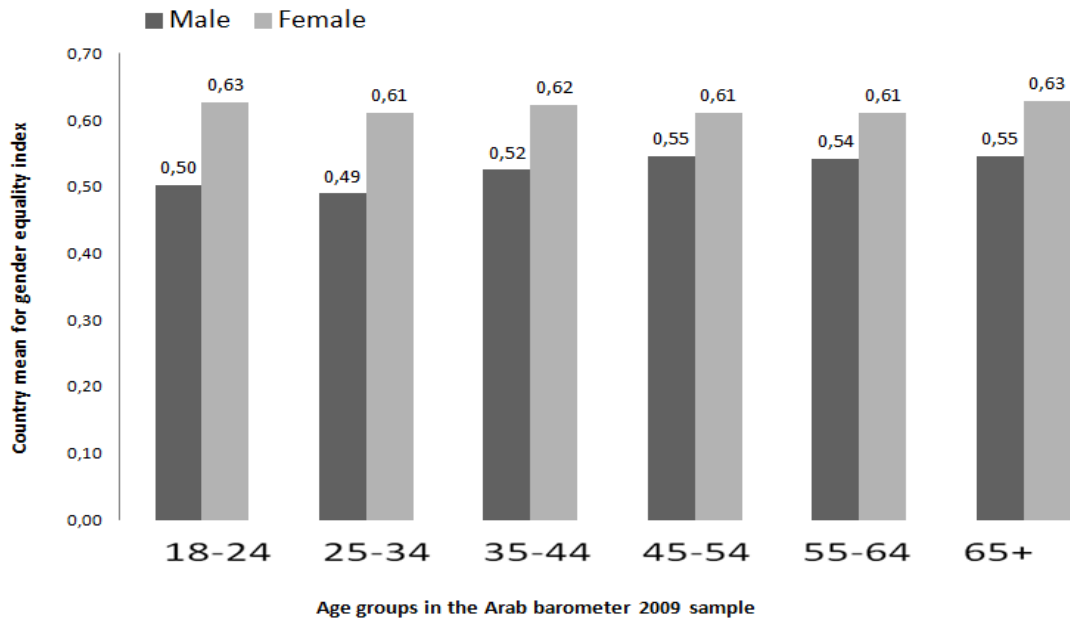


As Figure 1 shows, Lebanon's population is the most liberal, whereas the population of Yemen is the most conservative with respect to gender equality. Democracy support does not differ much from this distribution. Yemen, Algeria, Jordan and Palestine show patterns similar to each other (with the mean of 0.55 to 0.58 on a scale from 0 to 1), while Kuwait (0.61), Lebanon (0.66) and especially Morocco (0.74) are more supportive of democracy. Lebanon has the highest score in gender equality index, although it comes second after Morocco on democracy support.

Considering individual-level variation, we investigated the effects of gender, age, education, and religiosity. We observed an unexpected effect of age on gender equality attitudes: gender equality support is weaker among younger males, especially those of 25–34 years of age, compared to the older cohorts. This effect is not very large (about 3% lower among young people than among older people and 10% lower for young males compared to older males), but is very significant. The logic of modernization suggests that younger people should be more liberal than are the older people, but this is not the case in the Arab Barometer data. Surprisingly, females keep their attitudes towards gender equality at around the same level across all age groups.

Figure 2: Mean gender equality index for age groups by gender on pooled data of seven Arab countries in the Arab Barometer 2009.





The effect of age on democracy support is counter-intuitive and even more salient: older generations are more pro-democratic. The age category of 25–34 is, again, the most conservative and education has the least effect on this particular age group. To the contrary, education has a stronger positive effect on the gender equality index in the older age groups, especially in the group of people aged 65 or older.

## 5 Impact of Education and Religiosity on Gender Egalitarianism in the Arab World

For a more rigorous test of the trends observed in descriptive statistics, we regressed the gender equality index on gender, education, religiosity, and country. As there were not enough cases for multilevel modeling, we used dummy variables for each country, taking Yemen (the most conservative society) as a baseline category. Three regression models are shown in Table 5. The first model includes only six of the seven countries because the Kuwait sample was of poor quality; later versions of the published data omitted the country altogether (for details see the final report on data at <http://www.arabbarometer.org/>).

However, the shortcomings of the Kuwait sample had to do with problems other than gender issues. Therefore, we kept these data for further analysis, although we checked the validity of the sample for our purposes by comparing a model without the Kuwait sample (Model 1) with the same model including Kuwait (Model 2). Model 3 shows a regression model on full data with clustered standard errors because the distribution of errors may depend on country. The regression coefficients across models did not differ much and confirmed the basic findings of descriptive statistics. Females, predictably, are more likely to support gender equality. The effect of education is quite straightforward; more educated people are more likely to support gender equality. The population of Lebanon is the most supportive of gender equality. However, compared to the result shown on Figure 1, Kuwait and Morocco swap places, so that Kuwait becomes the second most liberal country. Other countries keep the order shown on Figure 1.

Table 1: OLS Regressions. Dependent variable is gender equality index.

	1. Without Kuwait	2. With Kuwait	3. With robust errors
Gender ( <i>female</i> )	0.118*** (0.004)	0.116*** (0.004)	0.116*** (0.004)
Age 18–24		<i>baseline</i>	
Age 25–34	−0.005 (0.006)	−0.008 (0.006)	−0.008 (0.005)
Age 35–44	0.014** (0.006)	0.010* (0.006)	0.010* (0.006)
Age 45–54	0.023*** (0.007)	0.015** (0.007)	0.015** (0.007)
Age 55–64	0.040*** (0.010)	0.036*** (0.009)	0.036*** (0.009)
Age 65 +	0.049*** (0.011)	0.039*** (0.011)	0.039*** (0.011)
Illiterate		<i>baseline</i>	
Primary	0.055*** (0.008)	0.051*** (0.007)	0.051*** (0.008)
Secondary	0.089*** (0.009)	0.080*** (0.008)	0.080*** (0.009)
2-year college	0.115*** (0.010)	0.101*** (0.009)	0.101*** (0.010)
BA	0.130*** (0.009)	0.120*** (0.009)	0.120*** (0.009)
MA or higher	0.151*** (0.013)	0.143*** (0.012)	0.143*** (0.014)
Jordan	0.092*** (0.007)	0.092*** (0.007)	0.092*** (0.007)
Palestine	0.100*** (0.007)	0.100*** (0.007)	0.100*** (0.007)
Algeria	0.075*** (0.007)	0.075*** (0.007)	0.075*** (0.008)
Morocco	0.180*** (0.008)	0.177*** (0.008)	0.177*** (0.008)
Kuwait		0.162*** (0.008)	0.162*** (0.009)
Lebanon	0.263*** (0.008)	0.264*** (0.007)	0.264*** (0.008)
Yemen		<i>baseline</i>	
Quran (Sometimes)	0.018*** (0.005)	0.021*** (0.005)	0.021*** (0.005)
Quran (RareNo)	0.050*** (0.006)	0.048*** (0.005)	0.048*** (0.006)
Quran (Often)		<i>baseline</i>	
Observations	7,372	8,122	8,122
R <sup>2</sup>	0.27	0.26	0.26
Adjusted R <sup>2</sup>	0.27	0.25	0.25
Residual Std. Error	0.17 (df = 7353)	0.18 (df = 8102)	0.18 (df = 8102)
F Statistic	151.68*** (df = 18; 7353)	147.13*** (df = 19; 8102)	147.13*** (df = 19; 8102)

Note:

\*p&lt;0.1; \*\*p&lt;0.05; \*\*\*p&lt;0.01

Since we imputed the data with the Zelig package in the R environment (Owen, et al. 2013), we present the results of the full model based on the ten imputed datasets. The estimator here is maximum likelihood and thus it is impossible to estimate  $R^2$ . To get an idea of the amount of variance explained, we provided an  $R^2$  coefficient for the first of the imputed datasets, equal to 0.27.

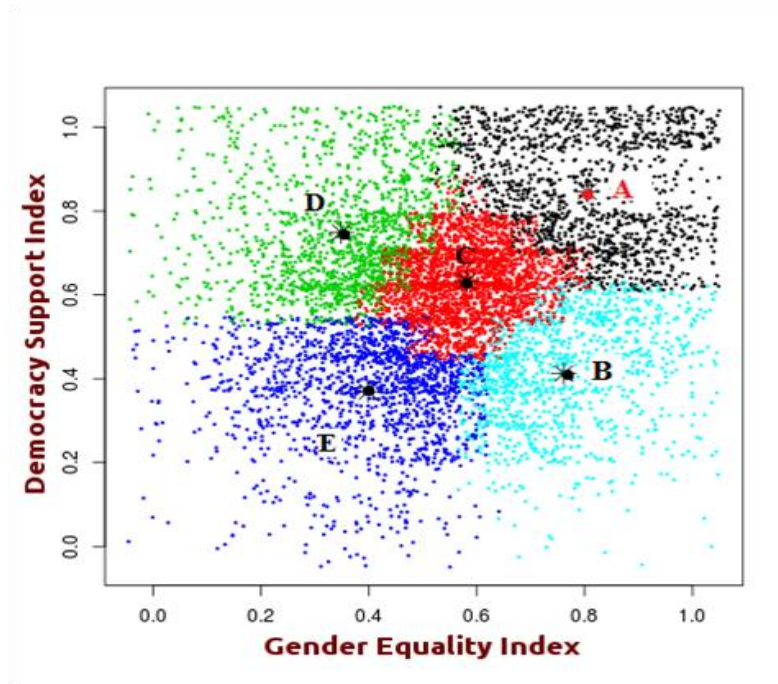
Multiple regression analysis confirmed that the older generations are more inclined to support gender equality, which is contrary to what the theory of modernization would predict. The 25–34 age group is still the least supportive of gender equality, whereas the oldest (65+) generation, taken as the baseline in the regression, is the most supportive. We find that reading the Quran is associated with weaker support of gender equality.

## 5.1 How Does Democracy Support Relate to Gender Egalitarianism among Muslim Publics?

In order to classify respondents by their preferences for gender equality and democracy, we used k-means cluster analysis. We set  $k$  at 5 and fixed the parameter of random starts at 100 to ensure stable results. Essentially, we obtained a two-dimensional space where we identified five clusters of approximately equal size as shown on Figure 3. Cluster C represents those respondents who have no strong preference on either dimension. People in other clusters have a strong preference either way for at least one dimension. People in clusters D and B either support democracy but not gender equality or the other way around.

The existence of a large group of people (over 30% of the sample) with inconsistent attitudes is interesting and may explain some of the findings shown in the previous section.

Figure 3: Distribution of cluster centers.



## 5.2 Who are the People who Support both Democracy and Gender Egalitarianism in the Arab World?

To further elucidate the distribution of respondents as shown on Figure 3, we used negative binomial regressions to estimate the effects of some factors which make it more or less likely for people to belong to a particular cluster. First, we tabulated cluster by gender, age and education. We received 5 (clusters) \* 2 (genders) \* 6 (age groups) \* 6 (education levels) = 360 combinations. In other words, we assigned 8,122 cases to 360 cells of a four-way contingency table. We did not include country as a factor in this table because it would have created too many empty cells. Instead, we made another two-way table for cluster by country.

Next, we applied the negative binomial model to these two tables (Hilbe 2011: 185–221). In the first table, we took the number of people in each cell as the response variable with age group, level of education, gender, and cluster as factors. In this case, the negative binomial model was preferable to the standard log-linear model because of over-dispersion (Fienberg 2007: 27-29). We started with the saturated model and then arrived at a better model via a stepwise procedure. The regression results of the first regression model, for the four-way table, are presented in Table **Ошибка! Источник ссылки не найден.** in Appendix A. Of particular interest to us were the interactions between demographic variables and the clusters. Significant positive coefficients of the interaction effects mean that there are significantly more people belonging to the denoted demographic group in the cluster.

Negative significant coefficient means that there are fewer such people in the cluster. Similar results on distribution of clusters by country are presented in Table **Ошибка! Источник ссылки не найден.** in Appendix A.

Cluster A (N=1384) in the upper right corner of Figure 3 is the most ‘progressive’. These people support both gender equality and democracy. The cluster is predominantly female and not so young, the best represented age group being older than 45 with relatively few people aged 25–34. These people are more likely to have received the highest level of education – Master’s degree or higher. Significantly more people with such attitudes live in Lebanon and Morocco.

People belonging to Cluster B (N=1084) in the lower right corner of Figure 3 have high support for gender egalitarianism and low support for democracy. This is a predominantly female group. Educational attainment of these people is not so high as in Cluster A. Age is non-significant for this cluster, which means that people of all age groups have an approximately equal chance to belong here. This cluster is well represented in Jordan, whereas people from Morocco, Lebanon and Yemen are less likely to belong here.

Cluster C (N=2615) at the center of the graph is filled with people who are not sure about their perceptions in either dimension. Males aged 25–35 are particularly likely to belong to this cluster. Educational and country characteristics of this cluster are similar to Cluster B as few of these people have higher education, many respondents coming from Jordan and a few from Morocco, Lebanon or Yemen.

The upper left Cluster D (N=1468) unites people who are supportive of democracy, but not of gender egalitarianism. This case was the most unexpected from the perspective of the theory of modernization. There are many young males here (18–34 years old), and very few of these people are from the 45–65 age groups. Education of this group is the lowest of all clusters, many of them being illiterate. They are distributed evenly between Yemen and Kuwait, with very few people coming from Lebanon, Morocco, Palestine or Algeria.

Cluster E (N=1468) in the lower left corner of Figure 3 can be named ‘the least progressive’ as these people support neither gender equality, nor democracy. Young males aged 18–34 are most likely to be here, with few people older than 55. Their education is not very high, but it is better than of those in Cluster D; these people typically have completed high school or a 2-year college, but there are very few people with a Master’s degree here. Morocco, Kuwait, and especially Lebanon have few representatives in this cluster.

Some interactive effects are found in the model. Women appear to be more liberal than men in more developed countries and more conservative than men in less developed societies.

It is possible to categorize countries by their distribution between different clusters. Two countries show similar patterns, namely Morocco and Lebanon, with a heavy presence in the upper-right corner of Figure 3, that is, the ‘progressive’ cluster A. Morocco is represented in the upper-left, middle and bottom-right clusters. Most of the Lebanese are in the center and bottom-right clusters. The population of Kuwait is similar to Lebanon but the coefficients are smaller, which means that the odds of finding a Kuwaiti in those clusters are somewhat smaller than for a Lebanese.

The other two countries, Palestine and Yemen, are very similar to each other, but lie in opposition to Lebanon and Morocco; that is, they are particularly numerous in the bottom left, ‘least progressive’, cluster. Palestine is represented in the central cluster and Yemen in the upper-left cluster. Finally, Algeria shows an interesting pattern: it is represented equally in the bottom-left and the upper-right clusters, showing an interesting case of possible polarization in that society.

## 6 Discussion and possible explanations

Although democracy and human rights are very popular topics in Islamic studies (Bielefeldt 2000), the relationship between the two in the Arab world is still an unsolved puzzle. None of the Arab countries enjoy electoral democracy, whereas studies of the Arab publics have shown that there is very high popular support for democracy. This paradox may be related to a particular understanding of democracy in Arab countries.

In this paper, we have explored gender egalitarianism among the populations of seven Arab countries using preferences for democracy and degree of religiosity as predictors and controlling for age, gender, and education. Some of the effects were quite predictable, and the hypotheses about the emancipating effects of education (H2) and patriarchal influence of religiosity (H3) were supported by the empirics. However, our hypotheses about age (H1) and support of democracy (H4) have found no support in the data.

The age effect (H1) is completely counter-intuitive, possibly making this region an outlier for the revised theory of modernization proposed by Inglehart and Welzel. The older people in the Arab world are more likely to support gender equality; whereas people aged 25–35 in 2007 (when the data were collected) are the most conservative. The analysis of the World Values Survey data, conducted by numerous scholars, shows the opposite trend all around the globe. This puzzle needs to be further explored, but in the meantime, we can suggest several explanations based on both theoretical and historical assumptions.

A possible explanation of this phenomenon has to do with the region's recent history. The formative period of the older people in the Middle East dates back to the 1950–1960s, which was the peak of the anti-colonial movement. The leaders of the movement were predominantly secular, with the ideology of pan-Arabism and nationalism being more salient than the Muslim identity. Some of those movements got ideological, financial and political support from the Soviet Union, which had made gender equality an essential part of its ideology (Halliday 1987). These ideas could have been internalized by those people who were aged 15–25 back then. As the theory of formative period predicts, the attitudes and social norms inculcated at this age may be quite stable throughout the life cycle (Alwin, Cohen and Newcomb 1991).

Considering the most conservative generation, those who were 25–34 years old in 2007, we hypothesize that there could be at least two historical reasons that led to conservation of their values and gender attitudes at rather low levels. One of them is the collapse of the Soviet Union and its sphere of influence that led to a certain retrogression of social values in some countries of the Middle East, in particular Yemen (Meneley 2000; Colton 2010). Simultaneously, the international prestige of the US and its conservative allies in the Middle East rose dramatically. The proliferation of conservative ideologies sponsored by the Persian Gulf monarchies built up speed via schools, TV channels and other media. However, we cannot rule out that this might have occurred because of a certain age effect. To find out for sure, we need to wait until the time-series data becomes available.

Female respondents in all the societies included in the survey articulated a higher demand for more egalitarian roles both in public and private life. On the other hand, women and men in every country of the Arab world show similar levels of democracy support.

The effect of education on gender equality issues was very predictable, but fairly non-trivial with respect to attitudes towards democracy. Those respondents who only received high school-level education or less tended to exhibit the most conservative gender attitudes. University graduates tended to have egalitarian perceptions of female roles both at home and in the public domain. This relation is stable, positive, and linear (H2). The situation

is quite different with respect to support of democracy. Both most- and least-educated people tended to support the idea of democracy, whereas those who completed a high school or 2-year college did not tend to value democracy; this effect was true for all age cohorts of the Arab world populations (Ponarin and Kostenko 2013).

Religiosity (H3) in our analysis was measured as the frequency of reading the Quran. More religious people (those who read the Quran more often) were found to be less gender egalitarian. This finding is fully in line with the theoretical framework of our study, as higher levels of religiosity are associated with conservative attitudes in all domains.

Democracy support (H4) in the Arab societies included into the sample was associated with gender egalitarianism at a rather low level (correlation coefficient is 0.19). Moreover, whereas in some countries the correlation was positive, it was negative in others. Cluster analysis and negative binomial modeling showed that there were many people, over 30% of the sample, who support democracy and oppose gender equality or vice versa. This could lead to a tentative conclusion that the perception of the term ‘democracy’ in the Arab world might differ from that in the West. If equal rights are not considered to be a part of the democratic system, we should be very suspicious about the claim that the majority of the Arab population strives for democracy. We argue that the 80% of democracy supporters claimed by some researchers of public opinion in the Middle East equals only about 17% of those who understand, value, and support democracy as they do in the Western world. Such people (belonging to Cluster A of Figure 3) are particularly numerous in Lebanon and Morocco; middle-aged (45+) women with higher levels of education (MA+) are especially well-represented here.

Other people, the overwhelming majority of the population, are either simply very conservative and happy or, if they demand some changes, may call their ideal target ‘democracy’, even though it may have very little to do with a ‘Western-style’ democracy. This is probably why the Arab Spring revolutions did not lead to a real democratic transition in any country involved. As emancipative values are shared by only a small minority, we cannot expect a shift towards liberal democracy in the Arab world in the near future.

When we first started to explore the dataset, we found that the more educated people in the Arab world are more conservative in their gender attitudes. This is a striking counter-intuitive result that has to do with age effects: younger people tend to be both better educated and more conservative. Controlling for age, education still has a positive effect on gender equality attitudes. Nevertheless, this striking phenomenon probably means that there are two simultaneous processes going on in the Middle East. On the one hand, people are becoming more educated, urbanized etc., which means the continuation of modernization. On the other hand, we observe a certain retrogression of social values, which is unexpected from the perspective of the theory of modernization. Younger people, especially belonging to the 25–34 age group, tend to be the most patriarchal in their gender attitudes.

## **Funding**

This research was funded by LCSR Russian Government Grant #11.G34.31.0024 from November 28, 2010.

## Bibliography

- Abu Lughod, Lila. "Do Muslim women really need saving? Anthropological reflections on cultural relativism and its others." *American Anthropologist* 104, no. 3 (2002): 783-790.
- Abu-Habib, Lina. *Gender and Disability: Women's Experiences in the Middle East*. Oxford: Oxfam, 1997.
- Adamczyk, Amy, and Cassady Pitt. "Shaping Attitudes about Homosexuality: The Role of Religion and Cultural Context." *Social Science Research* 38, no. 2 (2009): 338-351.
- Afary, Janet. "The human rights of Middle Eastern and Muslim women: a project for the 21st century." *Human Rights Quarterly* 26, no. 1 (2004): 106-125.
- Ahmed, Leila. *Women and gender in Islam: Historical roots of a modern debate*. New Haven: Yale University Press, 1992.
- Al-Ali, Nadjie. "Gendering the Arab Spring." *Middle East Journal of Culture and Communication* 5, no. 1 (2012): 26-31.
- Alexander, Amy, and Christian Welzel. "Empowering women: the role of eman-." *European Sociological Review* 27, no. 3 (2011): 364-384.
- Alexander, Amy, and Christian Welzel. "Islam and patriarchy: how robust is Muslim support for patriarchal values?" *International Review of Sociology* 21, no. 2 (2011): 249-276.
- Alwin, Duane, Ronald Cohen, and Theodore Newcomb. *Political Attitudes over the Life Span: The Bennington Women After Fifty Years*. University of Wisconsin Press, 1991.
- Bellin, Eva. "Reconsidering the robustness of authoritarianism in the Middle East: Lessons from the Arab Spring." *Comparative Politics* 42, no. 2 (2012): 127-149.
- Bergh, Johannes. "Gender attitudes and modernization processes." *International Journal of Public Opinion Research* 19, no. 1 (2007): 5-23.
- Bielefeldt, Heiner. "'Western' versus 'Islamic' Human Rights Conceptions?: A Critique of Cultural Essentialism in the Discussion on Human Rights." *Political Theory* 28, no. 1 (2000): 90-121.
- Blaydes, Lisa, and Drew Linzer. "The political economy of women's support for fundamentalist Islam." *World Politics* 60, no. 4 (2008): 576-609.
- Charrad, Mounira. "Gender in the Middle East: Islam, state, agency." *Annual Review of Sociology* 37 (2011): 417-437.
- Charrad, Mounira. "Kinship, Islam, or Oil: Culprits of Gender Inequality?" *Politics and Gender* 5, no. 4 (2009): 546-553.

- Cherif, Feryal. "Culture, rights, and norms. Women's rights reform in Muslim countries." *The Journal of Politics* 72, no. 4 (2010): 1144-1160.
- Ciftci, Sabri. "Modernization, Islam, or social capital: what explains attitudes toward democracy in the Muslim world?" *Comparative Political Studies* 43, no. 11 (2010): 1442-1470.
- Colton, Nora Ann. "Yemen: A collapsed economy." *The Middle East Journal* 64, no. 3 (2010): 410-426.
- Cooke, Miriam. "Women, religion, and the postcolonial Arab world." *Cultural Critique* 45 (2000): 150-184.
- Ehteshami, Anoushiravan. "Is the Middle East Democratizing?" *British Journal of Middle Eastern Studies* 26, no. 2 (1999): 199-217.
- Fienberg, Stephen. *The Analysis of Cross-Classified Categorical Data*. 2nd edition. Springer, 2007.
- Filali-Ansary, Abdou. "The Languages of the Arab Revolution." *Journal of Democracy* 23, no. 2 (2012): 5-18.
- Golley, Nawar Al-Hassan. "Is Feminism Relevant to Arab Women?" *Third World Quarterly* 25, no. 3 (2004): 521-536.
- Halliday, Fred. "Gorbachev and the "Arab Syndrome": Soviet policy in the Middle East." *World Policy Journal* 4, no. 3 (1987): 415-442.
- Hassan, Riffat. "Feminist theology: The challenges for Muslim women." *Critique: Journal for Critical Studies of the Middle East* 5, no. 9 (1996): 53-65.
- Hilbe, Joseph. *Negative Binomial Regression*. Cambridge: Cambridge University Press, 2011.
- Hilsdon, Anne-Marie, and Santi Rozario. "Special Issue on Islam, Gender and Human Rights." *Women's Studies International Forum* 29, no. 4 (2006): 331-338.
- Honaker, James, Gary King, Matthew Blackwell, and et al. "Amelia II: A Program for Missing Data." *Journal of Statistical Software* 45, no. 7 (2011): 1-47.
- Huntington, Samuel. *The clash of civilizations and the remaking of world order*. Penguin Books India, 1996.
- Inglehart, Ronald. *Islam, gender, culture, and democracy: Findings from the World Values Survey and the European Values Survey*. Ontario: De Sitter Publications, 2003.
- . *Modernization and postmodernization: Cultural, economic, and political change in 43 societies*. Cambridge: Cambridge University Press, 1997.



Inglehart, Ronald, and Christian Welzel. "Liberalism, Post-materialism, and the Growth of Freedom: the Human Development Perspective." *International Review of Sociology* 15, no. 1 (2005): 81-108.

—. *Modernization, cultural change, and democracy: The human development sequence*. Cambridge: Cambridge University Press, 2005.

Inglehart, Ronald, and Pippa Norris. *Rising Tide: Gender equality and cultural change around the world*. Cambridge: Cambridge University Press, 2003.

Inglehart, Ronald, and Pippa Norris. "The true clash of civilizations." *Foreign Policy*, no. 135 (2003): 63-70.

Jamal, Amaney. "Reassessing Support for Islam and Democracy in the Arab World: Evidence from Egypt and Jordan." *World Affairs* 169, no. 2 (2006): 51-63.

Jamal, Amaney, and Mark Tessler. "Attitudes in the Arab world." *Journal of Democracy* 19, no. 1 (2008): 97-110.

Kandiyoti, Deniz. *Women, Islam, and the state*. Temple University Press, 1991.

Keddie, Nikki. *Women in the Middle East: Past and Present*. Princeton University Press, 2007.

Kuhn, Randall. "On the Role of Human Development in the Arab Spring." *Population and Development Review* 38, no. 4 (2012): 649-683.

Luong, Pauline Jones, and Erika Weintal. *Oil is not a curse: ownership structure and institutions in Soviet successor states*. Cambridge: Cambridge University Press, 2010.

Meneley, Anne. "Living Hierarchy in Yemen." *Anthropologica*, 2000: 61-73.

Moghadam, Valentine. *Globalization and social movements: Islamism, feminism, and the global justice movement*. Rowman and Little, 2012.

—. *Modernizing women: Gender and social change in the Middle East*. Lynne Rienner Publishers, 2003.

Moghadam, Valentine. "The Women's Movement in the Middle East and North Africa: Responding to Restructuring and Fundamentalism." *Women's Studies Quarterly* 26, no. 3 (1998): 57-67.

Mule, Pat, and Diane Barthel. "The return to the veil. Individual autonomy vs. social esteem." *Sociological Forum* (Sociological Forum) 7, no. 2 (1992): 323-332.

Norris, Pippa, and Ronald Inglehart. *Sacred and secular. Religion and politics worldwide*. Cambridge: Cambridge University Press, 2011 [2004].

- Owen, Matt, Imai Kosuke, Gary King, and et al. "Zelig: Everyone's Statistical Software." *R package version*, no. 1 (2013): 4-100.
- Paxton, Pamela, and Sheri Kunovich. "Women's Political Representation: The Importance of Ideology." *Social Forces* 82, no. 1 (2003): 87-113.
- Ponarin, Eduard, and Veronica Kostenko. "Attitude to Gender Equality in the Arab East." *Journal of Siberian Federal University. Humanities and Social Sciences* 6, no. 12 (2013): 1838-1846.
- Read, Jennan Ghazal. "The sources of gender role attitudes among Christian and Muslim Arab-American women." *Sociology of Religion* 64, no. 2 (2003): 207-222.
- Rizzo, Helen, Abdel-Hamid Abdel-Latif, and Katherine Meyer. "The relation-ship between gender equality and democracy. A comparison of Arab versus non-Arab Muslim societies." *Sociology* 41, no. 6 (2007): 1151-1170.
- Ross, Michael. "Oil, Islam, and Women." *American Political Science Review* 102, no. 1 (2008): 107-123.
- Rowley, Charles, and Nathaniel Smith. "Islam democracy paradox. Muslims claim to like democracy, so why do they have so little?" *Public Choice* 139, no. 3-4 (2009): 273-299.
- Scheepers, Peer, Manfred Te Grotenhuis, and Frans Van Der Slik. "Education, religiosity and moral attitudes: explaining cross-national effect differences." *Sociology of Religion* 63, no. 2 (2002): 157-176.
- Spierings, Niels, Jeroen Smits, and Mieke Verloo. "Micro- and Macro-level Determinants of Women's Employment in Six Arab Countries." *Journal of Marriage and Family* 72, no. 5 (2010): 1391-1407.
- Spierings, Niels, Jeroen Smits, and Mieke Verloo. "On the Compatibility of Islam and Gender Equality." *Social Indicators Research* 90, no. 3 (2009): 503-522.
- Stockemer, Daniel. "Women's descriptive representation in developed and developing countries." *International Political Science Review*, 2014: doi: 10.1177/0192512113513966.
- Tessler, Mark. "Islam and democracy in the Middle East: The impact of religious orientations on attitudes toward democracy in four Arab countries." *Comparative politics* 34, no. 3 (2002): 337-354.
- Tessler, Mark, and Amaney Jamal. "Political attitude research in the Arab world: Emerging opportunities." *Political Science and Politics* 39, no. 3 (2006): 433-447.
- Tessler, Mark, and Ina Warriner. "Gender, feminism, and attitudes toward international conflict: Exploring relationships with survey data from the Middle East." *World Politics* 49, no. 2 (1997): 250-281.

Yeganeh, Hamid, and Diane May. "Cultural values and gender gap: A cross-national analysis." *Gender in Management: An International Journal* 26, no. 2 (2011): 106-121.

## Appendix A. Regression tables

Table 2: Negative binomial regression of counts on gender, age, education, and clusters

	<i>Dependent variable:</i>
	<i>Number of respondents in each category</i>
cluster A	-0.167 (0.204)
cluster B	-1.224*** (0.225)
cluster C	0.004 (0.202)
cluster D	0.593*** (0.200)
gender(female)	0.722*** (0.199)
age 25-34	1.122*** (0.265)
age 35-44	1.618*** (0.259)
age 45-54	2.062*** (0.257)
age 55-64	2.208*** (0.262)
age 65+	1.965*** (0.270)
educ(Primary)	2.866*** (0.296)
educ(Secondary)	3.173*** (0.300)
educ(2-year college)	1.915*** (0.317)
educ(BA)	2.712*** (0.306)
educ(MA or higher)	0.736** (0.364)
gender(female): age 25-34	-0.095 (0.159)
gender(female): age 35-44	-0.218 (0.162)
gender(female): age 45-54	-0.534*** (0.169)
gender(female): age 55-64	-0.991*** (0.192)
gender(female): age 65+	-1.207*** (0.219)
cluster A: gender(female)	0.595*** (0.159)
cluster A: educ(Primary)	-0.275 (0.249)
cluster A: educ(Secondary)	-0.497* (0.262)
cluster A: educ(2-year college)	-0.608** (0.281)
cluster A: educ(BA)	0.063 (0.268)
cluster A: educ(MA or higher)	0.576* (0.319)
cluster A: age 25-34	-0.284 (0.210)
cluster A: age 35-44	0.143 (0.213)
cluster A: age 45-54	0.332 (0.221)
cluster A: age 55-64	0.451 (0.260)
cluster A: age 65 +	0.630 * (0.291)
cluster B: gender(female)	0.949*** (0.166)
cluster B: educ(Primary)	0.336 (0.265)
cluster B: educ(Secondary)	0.394 (0.275)
cluster B: educ(2-year college)	0.258 (0.294)
cluster B: educ(BA)	0.748*** (0.283)
cluster B: educ(MA or higher)	0.376 (0.364)
cluster B: age 25-34	-0.070 (0.220)

Table continues on the next page

<i>Independent Variables</i>	<i><math>\beta</math> (St.errors)</i>
cluster B: age 35–44	0.052 (0.221)
cluster B: age 45–54	0.193 (0.242)
cluster B: age 55–64	0.554* (0.280)
cluster B: age 65 +	0.623* (0.311)
cluster C: gender(female)	0.366** (0.155)
cluster C: educ(Primary)	0.301 (0.246)
cluster C: educ(Secondary)	0.348 (0.254)
cluster C: educ(2-year college)	0.121 (0.270)
cluster C: educ(BA)	0.567** (0.263)
cluster C: educ(MA or higher)	0.312 (0.322)
cluster C: age 25–34	0.060 (0.201)
cluster C: age 35–44	0.204 (0.210)
cluster C: age 45–54	0.413 (0.222)
cluster C: age 55–64	0.689 ** (0.250)
cluster C: age 65 +	0.467 (0.291)
cluster D: gender(female)	–0.572*** (0.163)
cluster D: educ(Primary)	–0.516** (0.248)
cluster D: educ(Secondary)	–0.680*** (0.260)
cluster D: educ(2-year college)	–0.930*** (0.282)
cluster D: educ(BA)	–0.476* (0.270)
cluster D: educ(MA or higher)	–0.657* (0.346)
cluster D: age 25–34	0.120 (0.210)
cluster D: age 35–44	0.082 (0.222)
cluster D: age 45–54	0.083 (0.233)
cluster D: age 55–64	–0.043 (0.271)
cluster D: age 65 +	–0.271 (0.321)
gender(female): educ(Primary)	–0.621*** (0.162)
gender(female): educ(Secondary)	–0.829*** (0.171)
gender(female): educ(2-year college)	–0.872*** (0.186)
gender(female): educ(BA)	–1.060*** (0.177)
gender(female): educ(MA or higher)	–1.530*** (0.222)
age 25–34: educ(Primary)	–0.706** (0.302)
age 35–44: educ(Primary)	–1.306*** (0.297)
age 45–54: educ(Primary)	–2.018*** (0.296)
age 55–64: educ(Primary)	–2.682*** (0.302)
age 65+: educ(Primary)	–2.743*** (0.311)
age 25–34: educ(Secondary)	–1.278*** (0.303)
age 35–44: educ(Secondary)	–1.886*** (0.298)
age 45–54: educ(Secondary)	–2.830*** (0.300)
age 55–64: educ(Secondary)	–3.994*** (0.322)
age 65+: educ(Secondary)	–4.401*** (0.352)
age 25–34: educ(2-year college)	–0.299 (0.314)
age 35–44: educ(2-year college)	–1.106*** (0.312)

Table continues on the next page

<i>Independent Variables</i>	<i><math>\beta</math> (St.errors)</i>
age 45–54: educ(2-year college)	–2.226*** (0.320)
age 55–64: educ(2-year college)	–3.616*** (0.373)
age 65+: educ(2-year college)	–4.532*** (0.496)
age 25–34: educ(BA)	–0.694** (0.303)
age 35–44: educ(BA)	–1.771*** (0.301)
age 45–54: educ(BA)	–3.027*** (0.307)
age 55–64: educ(BA)	–4.023*** (0.333)
age 65+: educ(BA)	–5.077*** (0.419)
age 25–34: educ(MA or higher)	–0.097 (0.347)
age 35–44: educ(MA or higher)	–1.216*** (0.354)
age 45–54: educ(MA or higher)	–2.304*** (0.378)
age 55–64: educ(MA or higher)	–3.722*** (0.493)
age 65+: educ(MA or higher)	–3.897*** (0.567)
Log Likelihood	–4,710.137
$\theta$	1.081*** (0.053)
Akaike Inf. Crit.	9,570.275
<i>Note:</i>	*p<0.1; **p<0.05; ***p<0.01

Table 3: Negative binomial regression of counts on countries and clusters

	<i>Dependent variable:</i>
	<i>Number of respondents in each category</i>
cluster A	-0.910*** (0.339)
cluster B	-0.364 (0.333)
cluster C	0.545* (0.327)
cluster D	0.021 (0.330)
Palestine	0.350 (0.328)
Algeria	0.442 (0.328)
Morocco	-1.069*** (0.342)
Kuwait	-0.849** (0.338)
Lebanon	-1.009*** (0.341)
Yemen	0.518 (0.327)
cluster A: Palestine	-0.438 (0.480)
cluster A: Algeria	0.098 (0.474)
cluster A: Morocco	2.611*** (0.480)
cluster A: Kuwait	1.082** (0.483)
cluster A: Lebanon	2.493*** (0.479)
cluster A: Yemen	-1.064** (0.486)
cluster B: Palestine	-0.303 (0.469)
cluster B: Algeria	-0.316 (0.468)
cluster B: Morocco	0.585 (0.483)
cluster B: Kuwait	0.601 (0.478)
cluster B: Lebanon	1.478*** (0.476)
cluster B: Yemen	-1.118** (0.474)
cluster C: Palestine	-0.109 (0.461)
cluster C: Algeria	-0.578 (0.461)
cluster C: Morocco	0.947 ** (0.472)
cluster C: Kuwait	0.446 (0.470)
cluster C: Lebanon	0.870* (0.471)
cluster C: Yemen	-0.826* (0.462)
cluster D: Palestine	-0.773* (0.467)
cluster D: Algeria	-0.493 (0.465)
cluster D: Morocco	1.258*** (0.474)
cluster D: Kuwait	0.224 (0.476)
cluster D: Lebanon	-0.106 (0.483)
cluster D: Yemen	-0.168 (0.463)
Log Likelihood	-342.946
$\theta$	9.966*** (1.920)
Akaike Inf. Crit.	755.892
Note:	*p<0.1; **p<0.05; ***p<0.01

## **Appendix B. Items for Index Construction**

### **Gender equality index (all items have the same weight)**

- A woman can be a president or prime minister of a Muslim country.
- A married woman can work outside the home if she wishes.
- On the whole, men make better political leaders than women. (inverse)
- A university education is more important for a boy than a girl. (inverse)
- Men and women should have equal job opportunities and wages.
- Men and women should receive equal wages and salaries.
- A woman can travel abroad by herself if she wishes.

### **Perception of democracy index (all items have the same weight)**

- In a democracy, the economy runs badly. (inverse)
- Democracies are indecisive and have too much quibbling. (inverse)
- Democracies are not good at maintaining order. (inverse)
- Democracy may have its problems but is better than any other form of government.

### **Veronica Kostenko**

National Research University Higher School of Economics, Research Fellow of the Laboratory for Comparative Social Research; E-mail: [vykostenko@hse.ru](mailto:vykostenko@hse.ru)

**Any opinions or claims contained in this Working Paper do not necessarily reflect the views of HSE.**

© Kostenko, Kuzmichev, Ponarin, 2014