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**HISTORICAL LEGACIES AND GENDER ATTITUDES
IN THE MIDDLE EAST**

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Abstract

This paper focuses on transformations of gender attitudes in a set of Arab societies covered by the Arab Barometer. We analyze age and cohort differences in thirteen countries using generalized additive modeling (GAM). We argue that stagnation or even retrogression of gender attitudes in some societies may be caused in part by an ideological shift of the 1970s–1980s, from largely secular and socialist-oriented national movements of the 1950s–1960s to the more conservative period often associated with the rise of political Islam. On the other hand, the youngest cohorts in those societies that have always promoted conservative gender attitudes are getting somewhat more liberal, although they remain slightly less gender egalitarian compared to other societies. We test our assumptions using the example of Yemen that was divided into two parts between 1967 and 1990: The South supported by the Soviet Union and the North influenced by Saudi Arabia and the Western bloc. We trace the support for gender egalitarianism across generations in the two parts of Yemen and show that the secular socialist ideology made a profound imprint on the attitudes of a whole generation and made those who were in their twenties back in the 1960s more egalitarian than the young people these days. The same is true for the other countries of the region that had some socialist experience.

JEL Classification: J1

Keywords: gender egalitarianism; gender attitudes; cohort effects; GAM; Arab Barometer; Yemen; Saudi Arabia

ملخص

تركز هذه الورقة على تحولات المواقف النوعية في مجموعة من المجتمعات العربية التي يغطيها البارومتر العربي. نحلل الاختلافات العمرية في ثلاثة عشر بلداً باستخدام النمذجة المضافة المعممة (غام). ونجادل بأن الركود أو حتى التراجع في المواقف النوعية في بعض المجتمعات قد يكون ناجماً جزئياً عن تحول أيديولوجي في السبعينات والثمانينات من الحركات القومية العلمانية والاشتراكية الموجهة نحو الخمسينيات والستينيات إلى الفترة الأكثر تحفظاً التي ترتبط غالباً بصعود الإسلام السياسي. ومن ناحية أخرى، فإن المجموعات الأصغر سناً في تلك المجتمعات التي دأبت دائماً على تعزيز المواقف النوعية المحافظة أصبحت أكثر ليبرالية إلى حد ما، على الرغم من أنها لا تزال أقل بقليل من المساواة بين الجنسين مقارنة بالمجتمعات الأخرى. نختبر افتراضاتنا باستخدام مثال اليمن الذي تم تقسيمه إلى جزأين بين 1967 و1990: الجنوب بدعم من الاتحاد السوفياتي والشمال متأثراً بالمملكة العربية السعودية والكتلة الغربية. نتبع الدعم للمساواة بين الجنسين عبر الأجيال في جزأين من اليمن، ونبين أن الإيديولوجية الاشتراكية العلمانية جعلت بصمة عميقة على مواقف جيل كامل وجعلت أولئك الذين كانوا في العشرينات من العمر في 1960s أكثر مساواة من الشباب الناس هذه الأيام. وينطبق الشيء نفسه على بلدان المنطقة الأخرى التي شهدت بعض الخبرة الاشتراكية.

1. Introduction

The Muslim public's opinions, attitudes, and values have received a lot of international attention in the past decade. The gender issue is a popular topic as the Arab countries are farther away from gender equality than are other societies (Inglehart and Norris 2003a). Arab women are at higher risks of mortality, have lower chances for professional training and, sometimes, even for basic school education, even though Arab girls are better learners than boys, and are limited in their access to the labor market (UNDP 2006:7-8).

Feminist scholars argue that there is nothing specifically Islamic about gender disparities in the Arab countries; rather, they have to do with economy's structure and political utility (Moghadam 2003:10-14; Abu-Lughod 2009). All around the world, women's roles in politics, economy, family, and religion have been redefined multiple times due to local needs and global upheavals (Connell 1987: 63-64).

Gender equality in the region has been changing as various processes, both pro- and counter-egalitarian, occurred in the Arab countries in post-colonial times. Relatively secular pan-Arabist nationalist movements of the 1950s and 1960s (some backed by the more egalitarian Soviet Union) promoted westernization of dresses and mores (Esposito 1998). As Moghadam shows, there is a great deal of cross-country variation in government policies toward female education and labor force participation. Some regimes, looking for a larger labor force and greater political support, encouraged mass school attendance by girls. For example, Iraq in the 1960s and 1970s, Egypt under Nasser and Sadat, Syria under Hafez al-Asad, Tunisia in the 1960s–1980s, and the Democratic Republic of Yemen included female education and employment in their development programs. Meanwhile, Saudi Arabia, Jordan, Morocco, and Algeria under Boumeddiene opted for pronatalist policies. (Moghadam 1995:12-13).

The conservative turn associated with the rise of political Islam that happened in a number of Middle Eastern and North African (MENA) countries in the 1970s reinforced the patriarchal gender role division (Dalacoura 2007). Later in the 1980s, the change was visually marked by the veil prevalence and return to the rhetoric of women's homemaking role. Sadiqi points out three main reasons of that shift: "Political Islam is the result of the combination of three events [...]: the success of the Iranian Revolution, the downfall of the Soviet Union, and the emergence of the US as the sole superpower" (Sadiqi 2008: 451). Some scholars add the role of petroleum money to that list as conservative monarchies of the Gulf were wealthy enough to promote their lifestyle in the region (Ross 2012).

Thus Arab women's rights, positions, and life chances were conditional on global issues, regional economies, and official discourses that reflected the Cold War ideological clash (Fawcett 2013: 66). We believe that we can trace the old ideological struggle by looking at the survey data gathered decades after the Cold War as it continues to have an impact on the generations brought up in those distant years.

In our earlier article we found stagnating, or even diminishing support for gender equality among younger generations in some Arab countries (which is inconsistent with the modernization theory), while other countries only had a slow intergenerational change toward egalitarianism. We adduced some post hoc arguments to explain our findings from historical and geopolitical perspectives (Kostenko et al. 2016). We now test those assumptions using more data and rigorous statistical techniques. Relying on the impressionable years theory, we trace back gender attitudes of many generations to find out what historical events or environment in their youth might have shaped their values along with modernization.

The Arab Barometer project provides high-quality nationally representative samples, which makes it possible to analyze attitudes and values across Arab countries and time (Arab Barometer 2007-2013). Data limitations allow for time comparisons across five countries:

Algeria, Jordan, Lebanon, Palestine, and Yemen. We use this sub-sample to show that cohort differences aggregated by countries persist across the three waves and may be interpreted as true cohort differences indicative of social change in some of those countries or lack thereof in the others.

We also use a broader sample of 13 Arab societies, namely Algeria, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Morocco, Palestine, Saudi Arabia, Sudan, Tunisia, and Yemen (for some analyses disaggregated into the former Northern and Southern parts) fielded in late 2012–2014 to show the current gender attitudes in the region.

To substantiate our point about the Cold War imprint, we focus on the natural experiment in Yemen that divided the country from 1967 to 1990, the Southern part experiencing a strong communist influence (Fawcett and Sayigh 2000: 200). We compare gender attitudes across generations in the two parts of Yemen and in Saudi Arabia and find that socialism is associated with more egalitarian gender attitudes in the older generations of Southern Yemenis.

2. Theoretical Background

2.1 Revised modernization theory

Our theoretical approach draws mostly on the revised modernization theory that argues that "economic development is linked with coherent and, to some extent, predictable changes in culture and social and political life" (Inglehart and Baker 2000, p. 21). Urbanization, growing occupational specialization, industrialization, and the spread of higher education constitute modernization (Inkeles and D. Smith 1974; Roxborough 1988). Inglehart and Welzel use a two-dimensional space to position every society on their cultural map. The first dimension is called the survival—self-expression values (2005). Those societies where survival is not guaranteed (because risks of starvation, poverty, and violent death remain high) tend to constrain personal independence for the sake of group security. They are intolerant to alternative opinions and lifestyles, any of which (from homosexuality to religious dissent) is perceived as a threat. People in such societies demonstrate low levels of out-group trust and higher in-group trust; gender roles are traditionally fixed and stable. Their governments are typically authoritarian because people are ready to pay for social security, order, and control with their freedoms.

On the contrary, tolerance, human rights, out-group trust, and the interest in ethnic and religious diversity grow in those societies where self-expression values dominate. People become less religious, traditional family ties get weaker, women enjoy more rights and gender equality. Such countries eventually become democratic. Before such transition becomes possible, it is essential that most people in those societies never experience starvation or a real danger. Inglehart and Welzel believe that all societies will eventually advance towards self-expression due to economic growth and generational replacement.

The other dimension is the traditional vs. secular-rational values. Societies with traditional values that emphasize family and religiosity demonstrate higher national pride, more respect for authorities, greater support of protectionism in economy, and lower levels of political activism. People in such societies are explicitly negative about abortion, divorce, suicide, and euthanasia. The ideal of a large extended family with traditionally distributed gender roles is proclaimed and supported.

The majority of post-industrial and many industrial societies belong to the secular-rational type, where personal aspirations are considered more important than traditional norms or religious commandments. In particular, attitudes to contraception, abortion, divorce, and prostitution liberalize. Family plays a lesser role, fertility declines, and the society becomes more atomized. Women get more freedom in both private and public spheres. People become

more critical of authorities, powers that be face severe criticism, public scrutiny of their decisions, and various forms of political activism.

Modernization results in greater gender equality and less rigid sexual norms (Inglehart, Baker 2000). As the authors of the human development approach argue, all the macro-processes are reflected in everyday individual practices, attitudes and beliefs (J. Alexander 1987). For example, the macro-trend of declining fertility in industrialized societies can be seen in the changes in everyday lives of the families when they move to cities. As new opportunities open to women, they get better education, build careers, and postpone childbearing. These changes undermine the traditional gender pattern of male breadwinner and female housewife as the woman's new role changes her and her partner's values. Their children take more egalitarian attitudes as a norm and, when the change involves many families, mass surveys register it at the macro-level.

The core explanatory idea of value change in the revised modernization theory is that the new generations living in more secure conditions are more likely to support self-expression values in all spheres of life (Inglehart 1997). However, the populations of agrarian societies do not show such dramatic value shifts as do post-industrial and industrial countries. As Schuman and Scott argue, each generation has its own set of collective memories that shape their worldviews in younger years and make them similar and relatively stable (1989). Thus, attitudinal change proceeds by generational replacement, as every succeeding generation is getting more liberal than their predecessors in post-industrial and (to lesser extent) in industrial societies (Inglehart and Baker 2000, p. 42).

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. Men, according to numerous findings from both quantitative research and feminist literature, are more likely to support status quo, whereas women (especially young, college-educated, and working) are more likely to have higher levels of support for gender equality (Blumberg 1984; Chafetz 1988).

2.2 Impressionable years

We augment the revised modernization theory with the impressionable years approach that helps one understand the psychological mechanisms behind generational replacement. It argues that attitudes form in early adulthood and then calcify and remain stable with only moderate, if any, change (Alwin et al.1991). This approach assumes that people within cohorts share similar experience due to certain economic and political situation during their socialization. In their early years people remain very perceptive and the environment that surrounds them in their youth leaves a profound imprint on their values, positions, and attitudes (Sears 1983).

Theodore Newcomb launched his survey of students in the liberal Bennington college back in the 1930s. The students were young women mostly from conservative American families. At their freshmen and sophomore years, those women conformed to the dominant liberal mindset of the college for practical reasons as many found it hard to "be reactionary and be intellectually respectable" (Newcomb 1943, p. 134). The same women were surveyed 25 and 50 years later in follow-up studies and most of them remained liberal. They chose a new reference group beyond their parental family's circle and found liberal friends and husbands who informed and supported their views. However, those women who married conservative men tended to revert to conservative views in the long run.

Krocnick and Alwin's analysis of electoral panel data showed that political attitudes tend to be quite stable between 25 and 65 years of age. People aged 66 and older seemed to have

decreasing stability of attitudes, but this was due to the growing measurement error rather than to a real attitudinal shift (Krosnick and Alwin 1991).

Drawing on these findings, we argue that people's attitudes do not change much after their formative years. If so, each cohort remains relatively stable in its value profile throughout most of its lifespan. Thus, we assume that age differences aggregated by countries may be interpreted as cohort differences, indicative of social change in some of the countries in our sample or lack thereof in the others.

3. Explanations of Arab Patriarchy

Gender equality is still a goal to be achieved worldwide. No country can boast absolute equity in wages, political representation or household duties. However, some societies have shown significant progress toward more equitable situation, while others lag behind (Dorius and Firebaugh 2010). Generally, more affluent countries provide better opportunities for women, but the oil-rich Arab countries are an exception to this rule.

Gender equality is an important step forward in transition from the traditional to modern society (Sen 1999). Value changes that accompany the process of modernization involve, inter alia, perceptions of gender roles and family behavior. Bread-winning vs. home-caring roles that define gender in traditional societies give way to gender equality in modern societies (Scott 1995). These changes are coming from women's participation in the labor market, the spread of higher education, increasing tolerance, and secularization.

Many comparative social scientists and feminist theorists argue that there is strong and pervasive gender inequality in the Middle East (Abu-Habib 1997; A. Alexander and Welzel 2011). There still is pervasive disproportion in perceptions of women and men as family actors. As Shaaban puts it, girls in many Arab societies live in fear, their virginity is a matter of family honor, their will is not determinant for the choice of the future husband, and their professional development is secondary to family duties, if at all possible (Shaaban 1988).

There are several avenues of research in this field. Some scholars argue that economy and labor market structures in the Arab world prevent female participation and lead to less powerful positions of women. Others say there is something intrinsically patriarchal in the Islamic legacy. Some works on gender equality in Arab world connect the Islamic ideology with gender attitudes and highlight the strong link between religion and everyday practices (e.g. Kandiyoti 1991; Hassan 1996; Spierings et al. 2009).

Feminist Arab scholars remonstrate about the impropriety of generalizing the experience of all Arab, or even all Muslim, women while excluding them from the discussion of their problems.

Historic and political dimensions can complement these approaches and elucidate major shifts in the dominant discourses on gender issues in the Arab world in the past fifty years. We believe that the struggle of nationalism and religious traditionalism contributed to the slower pace of advancement of gender egalitarianism in the region.

3.1 Cultural explanations: Islamic legacy and religiosity

Some empirical studies find Islam to be an obstacle for gender egalitarianism (Norris and Inglehart 2011). Theoretical support for Muslim intransigence on gender egalitarianism can be found in Samuel Huntington's book, which posits that the post-Cold war era results in a cleavage between the Christian civilization on the one hand and the Muslim and Eastern Orthodox on the other hand (Huntington 1997). Huntington believes that Muslim societies prefer strong leaders and are unlikely to develop Western-type democracies. He finds the major reason for this in the Muslims' traditional collectivism as opposed to individualism of

the Western civilization where it has led to the development of proprietary rights, liberal democracy, and human rights (including gender equity).

Inglehart and Norris challenge Huntington's manifest arguing that Muslim publics actually strive for democracy; these authors emphasize the value structure instead. They show that a major difference in the Muslims' values is their negative attitude to new lifestyles, including such issues as abortion, divorce, homosexuality, and gender equality (Inglehart and Norris 2003b).

Ciftci studied the factors of individual-level support of democracy in ten Muslim-majority countries, both Arab and non-Arab, using the fourth wave of the World Values Survey. He found gender equality attitudes to be the strongest predictor of democracy support (Ciftci 2010).

Hoffman and Jamal demonstrate that the Arab youth tend to define themselves primarily as Muslims rather than as Arabs and support political Islam and Shari'a law more than do the older people. Adherence to religion remains strong among the youth. Moreover, tolerance toward other religions is less likely among the youth than among the older cohorts. The importance of Islam in public life remains a distinctive feature of Arab populations and Arab youth in particular (Hoffman and Jamal 2012).

3.2 Institutional explanations: Resource curse and labor market

Hisham Sharabi argues that due to a constellation of economic, political, and social processes, the 20th century ended up in neopatriarchy, rather than modernization of gender attitudes, throughout the region (Sharabi1992). He shows that patriarchal family finds support in the neopatriarchal state, as they both emphasize the role of religion, over-utilize control over its members, and practice violence.

One of the strongest alternative explanations of gender inequality and lack of democracy in the Middle East is known as "the oil curse" discourse. Not only does Muslim culture affect gender inequality, but the labor market structure and economic underdevelopment of the region affect on women's subaltern positions in Muslim, and particularly Arab, societies (Spierings et al. 2010).

Michael Ross believes that 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 opportunities in the labor market and political representation for women in the Arab countries.

On the other hand, there are some counterarguments against the "oil curse" discourse. Pauline Jones Luong and Erika Weintal 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 (Luong and Weintal2010). They find some examples of oil-rich Muslim countries where mineral trade has led to better societal outcome.

Valentine Moghadam employs structural economic characteristics, such as type and depth of industrialization, to explain low levels of female labor force participation in Arab countries (Moghadam 1995). As she puts it in her other work, "[w]hy Muslim women lag behind Western women in legal rights, mobility, autonomy, and so forth, has more to do with developmental issues—the extent of urbanization, industrialization, and proletarianization, as well as political ploys of the state managers—than with religious and cultural factors" (Moghadam 2003: 6).

Moghadam engages the historical dimension to explain gender orders in various Arab societies. She mentions the malign role of clans and tribes on gender equity: "Other countries formulated family laws that were extremely controlling of women; these included Jordan,

Morocco, and Saudi Arabia, where tribal customs and the most patriarchal interpretations of Islamic law shaped the family law and therefore the legal status of women and girls." (Ibid: 146)

Kruks and co-authors show that socialist revolutions in the Third World articulated the Women Question, as it was a part of their development program, and addressed it institutionally (mainly by providing education and family rights) (Kruks et al. 1989).

Some scholars find solid structural reasons that actually drive the Arab countries toward greater gender equality. Fargues shows that gender equality is advancing, albeit slowly, across the whole MENA region. This process is inexorably leading to profound demographic changes with the median number of children dropping to two, due to growing educational attainment of girls now exceeding that of their mothers, and, more importantly, of their fathers (Fargues 2005).

3.3 Feminist critique: Do Muslim women really need saving?

Many scholars believe that both cultural and institutional explanations of slow advancement of gender equality in the Arab world are compromised by the eurocentric bias. Criticized by Edward Said in his "Orientalism", the essentialist approach still remains evident in many works on the topic (Charrad 2009). As Said put it, "[o]rientalism is a Western style for dominating, restructuring, and having authority over the Orient" (Said 1979, p.3). Little shows that the orientalist way of thinking still defines international politics and global discourse on women's rights in Islam (Little 2008).

Feminist scholars started rethinking the colonial discourse of female subordination in the Middle East in the late 1980s (Abu-Lughod 1989). They criticized the "harem theories" premised on paternalist attitudes to Arab women who were portrayed as if they had to be saved from their men (Abu-Lughod 2002). Muslim feminists argue that the perceptions of Islamic women as oppressed and deprived of rights is exaggerated and outdated (Ahmed 2014). They point out that this discourse is linked to the colonial consciousness, does not take into account the latest changes, and excludes women themselves from the fight for their rights (Cherif 2010). Meanwhile, female movements have led to important structural changes in, for example, Tunisia and Morocco to greater representation of women in parliament (Moghadam 1998).

Many women take every opportunity to defy arranged marriages, continue their education, and help to empower others by those limited means that they have in spite of personal constraints and resistance from their families and societies (Jabre et al. 1997). Koblitz argues that thousands of Arab female professionals work currently in STEM research, medicine, and education (Koblitz 2016). As Mounira Charrad claims, Muslim women keep challenging the existing systems of subordination and start shaping their own future (Charrad 2009).

4. Historical Legacies and *Ressentiment* Explanation

At least as early as in the nineteenth century, the elites of some Muslim societies realized a need to respond to the challenge of Western expansion. According to Anthony Smith, the challenge of modernization presented to a traditional society may result in assimilation, that is, when people try and become a part of the West (A. Smith 1995). Most times such reaction is only short-term and turns into one of the other two responses.

The first is a traditionalist reaction that manifests itself in negation or conscious ignoring of modernization, calls for seclusion in the traditional religious community, and longing for the time when Islam was on the cutting edge of the world civilization. According to this view, the current problems should be resolved by going back to the religious practices of the golden age. Religion has to be restored to its original form by purification from later distortion. This is the path to victory that in the Weberian sense would mean the restoration of status and

prestige to one's community. Incidentally, it is because of the difficulties of retaining community's prestige that the assimilationist response is typically short-lived.

A reformist reaction is another response and can be described as an attempt to beat the West in its own game. On the one hand, reformists recognize that they have to learn from the West to make their societies more competitive (and learning involves not only technology, but also social and political institutions). In particular, the Western idea of nation was contemplated by some Muslim intellectuals in the 19th century. On the other hand, the West is still counterposed against one's native society as a competitor in this approach. From this perspective the reformist reaction differs from the traditionalis primarily in the means, but not in the ends.

These reactions are only ideal types that in reality co-exist not only in one and the same society but often even in one and the same person. Nevertheless, one can discern countries and periods in which one or the other type of reaction is dominant. Religion and nationalism could behave like connected vessels; once in a while the system is tipped one way or the other.

This is probably because at the heart of both the reformist and the traditionalist reaction is what Liah Greenfeld calls *ressentiment*, which she defines after Frederic Nietzsche as a state of existential envy and frustration that proceeds from one's incapability to gratify the feeling (Greenfeld 1993). A softer definition, in the spirit of Ernest Gellner is that resentment comes from an acutely felt inequality of one's own community and culture with a dominant foreign one (Gellner and Breuilly 2008). This feeling can be cast in either religious or nationalist form.

The Islamic secular nationalisms peaked in the middle of the 20th century when a number of secular (and often pan-Arab) regimes tried various versions of accelerated modernization in order to catch up with the West (oftentimes these efforts had a socialist tinge under the influence of the USSR). At the same time, the religious reaction was also present; secular countries were also the cradle of such organizations as the Muslim Brothers, which were strictly prosecuted by the secular regimes. And even at the heyday of secular nationalism in the region, there were countries where religious traditionalism was dominant, such as Saudi Arabia and, later, Iran and Afghanistan. High oil prices in the 1970s were a factor that helped the export of the Islamist ideas.

As Sullivan puts it, "by 1955 the Arab World was clearly ordering itself along bipolar lines, with Nasser's Egypt leading the revolutionary Arab nationalists, and Nuri's Iraq leading the conservative Arabs." (Sullivan 1970, p. 437). Yemen in that scenery requires special attention as it can be thought of as a natural experiment that happened during the Cold War.

The country split in two parts in 1967 and stayed separated until 1990. One of those parts, the People's Democratic Republic of Yemen (PDRY) or South Yemen, adopted Marxist ideology and was supported by the Soviet Union financially, militarily (virtually all weapons came from the USSR), and ideologically (Cigar 1985, p.777). The other one, the Yemen Democratic Republic (YAR) or North Yemen, followed the conservative ideology of the Gulf monarchies and was backed up by the Western bloc.

Although immense poverty led to mass emigration from PDRY to the neighboring countries of North Yemen, Saudi Arabia, and Oman, they did manage to raise the number of teachers and pupils five-fold in nine years. They also introduced legal gender equality and women were encouraged to enter the labor market (which was economically meaningful given the shortage of labor force due to emigration and low life expectancy).

Of importance for this society were gradual governmental efforts to abate clan and family swaddle, as Molyneux put it, "Kin, class, and tribal control over women were outlawed and

to some degree delegitimized" (Molyneux 1989:210). Polygamy, child marriages, and arranged marriages were prohibited, conditions of divorce were made almost equal for men and women. Erosion of traditional values among women became visible in the 1970s when increasingly fewer women appeared covered with their headscarves outside (Halliday, 1990).

Still, women faced family hostility as the Family law of 1974 was considered unacceptable and repugnant to Islam, and the proportion of girls before 12 at schools was at meager 38% compared to 94% of boys. Despite those shortcomings, female rights by 1980 had been ensured in South Yemen better than in any other Peninsula society (Halliday, 1979, pp. 8-10).

The decline and fall of the Soviet Union became an additional factor that tipped the balance between Islamism and secularism: the socialist ideas that many secular regimes espoused were discredited and at the same time Islamists took credit for the Soviet collapse.

Thus since about the 1970s the old global trend has been reversed: religious fundamentalism has been on the counteroffensive against secular nationalism. It is probable that the reversal can be explained by the secular regimes' failures in their competition with the West in terms of delivering better lives to people and resolving the symbolically important Arab-Israeli conflict. In other words, secularism did not help Muslims to get rid of the acutely felt inequality of their society and culture vis-a-vis the West. Our considerations in this section are in line with the findings of Spierings who shows that the Islamist traditionalism is a product of "othering" and the resulting anti-Western sentiment. He claims therefore that "Islam's influence on gender equality and democracy is partly spurious" (Spierings 2014, p. 427).

Basing on the historical trends briefly outlined in this section as well as on conceptual framework of the revised modernization theory and impressionable years approach, we develop the following hypotheses.

1. We expect older cohorts to be more gender egalitarian in those countries that promoted secular nationalism back in the 1950s and 1960s.
2. We predict lower levels and little inter-generational change of gender equality support in the traditionally conservative countries.
3. Education, labor market engagement, and religiosity levels will affect gender attitudes as predicted by the modernization theory (i.e. more religious, not working, and less educated people will be more patriarchal).

5. Data and Methods

Our data was collected in three currently available waves of the Arab Barometer project. The datasets provide nationally representative samples for a number of MENA countries. These high-quality data allow to compare attitudes and values on several dimensions, including political preferences, social and religious identities, and gender issues across nations and generations. We employ generalized additive regression modeling (GAM) for non-parametrical estimation of age differences in gender attitudes while parametrically controlling for other variables (Wood et al.2015).

Descriptive statistics indicate that people in the region are getting somewhat more gender egalitarian (see Figure 1). However, this effect is only observed in some countries, but not, for instance, in Iraq. To examine the changes in more detail, we regress year of birth on an index of gender egalitarianism. The index is based on three questions asked in all the three waves of the project:

- A married woman can work outside 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);

The index is constructed as a simple additive composite of the three variables transformed to a scale from zero to one; the index itself is then transformed to the same scale. The index components represent three basic domains of human empowerment: educational opportunities, labor force participation, and political leadership; the index is theoretically grounded and has been empirically tested (Welzel 2013).

Our explanatory variables are education (a six-category variable, where 1 stands for illiterate and 6 for higher education) and religiosity (frequency of reading the Qur'an recoded in three categories: 1—often, 2—sometimes, and 3—rare or never); we assume linear effects of these predictors on our response variable. We control for gender, country of residence, and a binary indicator of employment status.

We use generalized additive models (GAM) for non-parametric estimation of year of birth (interpreted as cohort) effects on gender egalitarianism. The method uses a smoother function and simultaneously allows to control for parametric effects of other variables (Hastie and Tibshirani 1990).

GAM is a useful tool to analyze the non-linear relationships that may only be very roughly approximated by the conventional parametric regression; it uses smoothers and splines instead. GAM combines the adjustability of non-parametric models with the facility of interpretation of linear models. GAM also allows to measure the parametric effects of covariates and interaction terms.

Our computations were performed in the R statistical environment using the *mgecv* package (Wood 2001). We used a cubic spline with four degrees of freedom in all models. The results are presented twofold: the non-parametric part is given in a graphic form, whereas parametric coefficient estimates are presented in Tables 1 and 2 in Appendix.

6. Results

We start with the five countries included in all the three waves of Arab Barometer to show that cohort effects are stable across waves and therefore age differences in other countries can be interpreted as cohort differences. Fluctuations are seen predominantly at the margins of the graphs, representing the less numerous age categories in the sample.

Figure 2 presents the non-parametric part of GAM modeling. The vertical axis stands for the index of gender egalitarianism (higher values correspond to more egalitarian responses) and the average mean is at zero because GAM standardizes the dependent variable. The horizontal axis is the year of birth; gender, education, employment status, and religiosity are controlled for (see Table 2). Let us consider Wave 1 of the Arab Barometer project that was fielded in 2006–2007 (red lines).

The effect of age on gender equality support is almost negligible in Lebanon and Jordan, whereas people born in the 1940s are somewhat more egalitarian in Palestine. Older people are far more liberal gender-wise than their younger compatriots in Algeria and especially in Yemen. The level of gender equality support varies significantly across those societies, Lebanon being the most egalitarian, followed by Algeria and Palestine (with similar levels), Jordan, and then Yemen as the most conservative country. Considering the parameters shown in Table 2, gender and education show theoretically predictable patterns, so that males and people with lower levels of education are prone to more conservative gender attitudes. Those who do not read the Qur'an are significantly more egalitarian in gender attitudes than those who read it. Employment status has no effect in this wave.

The blue lines representing Wave 2 have more narrow confidence intervals for the older ages. This is due to the rising life expectancy in the region, as, for instance, in Yemen it is currently at about 65 years (CIA Factbook 2016), whereas it was around 45 back in the 1980s. Apart

from that we see a very modest rise of gender egalitarian attitudes of youth in Jordan and no apparent trend in Algeria. Retrogression of egalitarianism in younger cohorts is observed in Palestine and Lebanon in this wave. Yemenis show more egalitarian attitudes across all generations compared to Wave 1, but the cohort differences stay exactly the same: people born in the late 1930s–1940s remain the most gender egalitarian group controlling for gender, education, employment, and religiosity. All the parametric effects stay similar to Wave 1.

In Wave 3 (green lines) we observe no effect in Jordan and Lebanon. There is a slight positive trend for younger cohorts in Algeria. Palestine's youngest generation shows some movement from negative to no effect. Yemen is an interesting special case that can be treated in more accurate way if divided into two parts: the former Northern and Southern Yemens as follows underneath. Parametric effects, as shown in Model 3 (Table 2) differ from the previous waves in two aspects. First, the religiosity effect vanishes. Second, working women are significantly more gender egalitarian as shown by the interaction effect.

The two parts of Yemen had different gender orders between 1967 and 1990 and we find it useful to analyze them separately. Saudi Arabia is shown on the same graph for comparative purposes as a country that experienced no socialist period and exemplifies the conservative Islamic paradigm.

As can be seen from Figure 3, people born in Northern Yemen before 1950s report the most conservative gender attitudes across all country samples. However, the generations born after 1960 form a value profile similar to the Saudi public. In Southern (former socialist) part of Yemen, where gender egalitarian values were proclaimed, the people born between 1940 and 1960 disrupt the common stereotype of Yemeni extreme conservatism in gender issues. Most interestingly, starting from the generation born in the 1970s, North Yemeni show more (but still not much) progress towards gender egalitarianism, while the inhabitants of the former PDRY become extremely patriarchal, preferring even more conservative gender attitudes than in Saudi Arabia.

In order to show a broader picture of the gender attitudes in the region, we run similar analysis on 13 societies covered by Wave 3 of the Arab Barometer project (see Figure 4). They can be roughly divided into three groups according to the pattern of generational change in gender equality support.

The first group is made of the societies that have less patriarchal values among younger generations. Controlling for gender, education, employment status, and religiosity, we see that the younger cohorts in Algeria, Kuwait, and Sudan are more likely than their parents and grandparents to agree that married women can work, university education is equally important, and women are as good politicians as men. Saudi Arabia is also a part of this group; however, the Saudis born before 1940 are a bit more liberal gender-wise and are almost as supportive of female rights as people born after 1985. Morocco demonstrates a generally positive, although a non-linear, trend; the relatively egalitarian older cohorts are followed by far more conservative cohorts born in the 1950s. Then there are more ups and downs ending up in a growth of gender equality support in the youngest cohorts.

The trend is the opposite in Egypt, Tunisia, South Yemen, and Palestine: younger people show more conservative attitudes than their older compatriots. Iraq, Lebanon, and Libya are similar to this group except that the most egalitarian cohorts are those of the 1950s, while the youngest cohorts do not differ from their predecessors. Gender egalitarianism in Jordan is pretty much a constant.

The parametric part of this model (Table 1 in Appendix) shows a positive and linear effect of education on gender equality support and no effect of religiosity. Employment status interacts with gender, indicating that working women are substantially more gender egalitarian.

Rating the societies according to their level of gender equality support, we see that Lebanon, Tunisia, and Algeria would rank the highest, followed by Morocco, Egypt, and Palestine. The lowest results are shown (in descending order) by Jordan, Saudi Arabia, Kuwait, Libya, Yemen, Sudan, and Iraq with no significant differences between them.

7. Discussion

This paper aims at showing that ideological shift of the second half of the 20th century have left a profound imprint on gender attitudes in Arab countries. Along with economic and institutional factors, the impact of official propaganda can be traced decades after those governments and their policies are gone.

Although the global modernization processes that accelerate gender equality worldwide, Arab countries lag behind. We used the Arab Barometer data and analyzed gender attitudes of Arab publics across several countries at three time points. Starting with the five countries that participated in all three waves, we found out that the cohort trends are very close across waves. Therefore we interpret age differences as cohort effects throughout the paper.

The Arab countries have experienced major ups and downs, both economically and politically, in the post-colonial period (Yousef 2004). The struggle for independence and desire to catch up with the Western world led to the emergence of secular (often socialist) regimes that revolutionized the public sphere, developed better health care and education, and recruited women to the labor force. Their efforts encountered resistance of conservatives within their societies, as well as disillusion of its proponents due to inevitable pitfalls. In some socialist-oriented countries such as Iraq, the dictatorial regimes usurped power and put those grass-root organizations that had fought for freedoms and rights (including gender) under governmental control (Al-Ali and Pratt 2008).

The reversal of the trend towards political Islam coincided with the oil-boom of the 1970s, when some conservative societies that had no socialist experience found themselves rich and able to promote their own ideology in the rest of the Arab world. Some scholars argue that it was only in 1962 when Saudi Arabia replaced Iraq as the regional leader of the conservative and anti-communist allies of the United States (Sullivan, 1970, p.437-438). It also remains a lighthouse for millions of Muslims around the world as the Custodian of the two holy cities. The oil boom of the 1970s led to discrepant consequences in the "coupon-clipper" countries (Richards and Waterbury 1990), simultaneously stimulating positive changes in health protection, education, female labor force participation and stagnation in political development. Saudi Arabia, Bahrain, Kuwait, Oman, Qatar, and UAE have quickly developed into technologically advanced and rich nations from poor and isolated desert monarchies during 1970 - 1980s without much value change (Foley 2010: 3).

Conservation of status quo lasted for two decades, but by the 2000–2010s the modernization processes and challenges of the outer world called for change even in the conservative Gulf monarchies. For example, King Abdullah of Saudi Arabia declared labor feminization and appointed 30 women to the royal advisory committee in 2011 and the government started offering incentives for putting women on the payroll (UNDP 2014).

Interestingly, those policy fluctuations can be traced in surveys taken generations after they took place. Considering the thirteen Arab societies surveyed in Wave 3 of Arab Barometer, we observe a stable growth of gender egalitarianism in Kuwait, Algeria, and Sudan, controlling for gender, education, and religiosity. These societies had no socialist experience and their elites preferred to support patriarchy, which got challenged only recently due to modernization, globalization, and feminist movements.

In Morocco, Jordan, Northern Yemen and Saudi Arabia where "family laws were extremely controlling of women" (Moghadam 2004:146), the oldest cohorts in Morocco and Saudi

Arabia are about as egalitarian as the youngest, but the middle cohorts are more conservative. There is practically no trend visible in Jordan, which may be due to a large number of Palestinian refugees who are perhaps more progressive than native Jordanians. If these two components of the Jordanian society have in fact opposing trends, pooling them may cancel the effects out.

The Moroccan case is vividly discussed as the story of feminist success in the Arab world. Departing from pronatalist and gender conservative policies in 1960–1970s, they evolved established women organizations that shape policies and influence governmental decisions and laws (Skalli 2007).

In accordance with feminist scholars' claims, Arab women do change the agenda even in the most patriarchal societies where they receive education, find jobs, provide support for others in their aspirations for better opportunities for themselves and their children. The data shows that the support for gender egalitarianism grows in the youngest generations of the conservative states.

The countries that had secular nationalist regimes, on the other hand, show decline of egalitarian attitudes in younger cohorts. This is true for Egypt, former South Yemen, Palestine, and Tunisia. Some of these countries, however, are still higher on gender equality support than the sample average.

The case of Iraq is of interest as it had socialist experience, but now ranks the lowest among all the countries sampled in Wave 3 of Arab Barometer. Nadjé Al-Ali explains that women's movement was very strong in Iraq in the post-revolutionary early 1960s. The dictatorial regime of Saddam Hussein ruined most NGOs, which prevented further progress (Al-Ali and Pratt 2008). Gender issues became even more acute after his fall due to growth of violence, poverty and lasting instability (Al Jawaheri 2008).

Female-supportive policies in the areas of education and employment in light manufacturing led to the boost of the middle-class and to sustainable economic growth in Tunisia (Coleman 2004). It ranks very high on gender equality support, but still shows a negative trend in younger generations. South Yemen, on the other hand, started from a higher level and went down lower than Saudi Arabia's level.

We could not measure the effect of wars on equality support, whereas some formerly socialist societies used to rank high on egalitarianism and lost their position. This change might in part come because these countries were exposed to military conflicts. From the modernization theory perspective, existential danger makes self-expression values recede and yield to survival values. Libya, Yemen, Sudan, and Iraq rank the lowest on index while two of them used to promote gender equality. Moghadam shows that war-battered Palestine is losing its position in gender equality that used to be quite strong. In Palestine "family size did not decrease, fertility rates did not decline, and women's status did not improve" (Moghadam 2004).

We see that modernization in some Arab countries was hindered by very conservative regimes, whereas in other societies it was forcefully shoved forward. Nowadays those two groups of countries seem to be converging. This convergence reminds us of regression to the mean (Tversky and Kahneman 1975).

We have argued that, along with economic and cultural factors, the history of socialist modernization sheds additional light on attitudinal change across generations and helps explain as to why older people are more likely to support gender egalitarianism in some countries but not the others. The difference between North and South Yemen is the most poignant example of this effect.

References

- Abu-Habib, Lina (1997). *Gender and disability: women's experiences in the Middle East*. Oxfam.
- Abu-Lughod, Lila (1989). "Zones of Theory in the Anthropology of the Arab World". In: *Annual Review of Anthropology* 18, pp. 267–306.
- (2002). "Do Muslim women really need saving? Anthropological reflections on cultural relativism and its others". In: *American anthropologist* 104.3, pp. 783–790.
- (2009). "Dialects of women's empowerment: The international circuitry of the Arab Human Development Report 2005". In: *International Journal of Middle East Studies* 41.01, pp. 83–103.
- Ahmed, Leila (2014). *A quiet revolution: The veil's resurgence, from the Middle East to America*. Yale University Press.
- Al Jawaheri, Yasmin Husein (2008). *Women in Iraq: The gender impact of international sanctions*. IB Tauris.
- Alexander, Amy and Christian Welzel (2011). "Islam and patriarchy: how robust is Muslim support for patriarchal values?" In: *International Review of Sociology* 21.2, pp. 249–276.
- Alexander, Jeffrey (1987). *The micro-macro link*. University of California Press.
- Al-Ali, Nadjie and Nicola Pratt (2008). "Women's organizing and the conflict in Iraq since 2003". In: *Feminist review* 88.1, pp. 74–85.
- Alwin, Duane, Ronald Cohen, and Theodore Newcomb (1991). *Political attitudes over the life span: The Bennington women after fifty years*. University of Wisconsin Press.
- Arab Barometer (2007-2013). <http://www.arabbarometer.org/instruments-and-data-files>. Accessed: 2016-01-30.
- Blumberg, Rae Lesser (1984). "A general theory of gender stratification". In: *Sociological theory* 2.3, pp. 23–101.
- Chafetz, Janet Saltzman (1988). "The gender division of labor and the reproduction of female disadvantage toward an integrated theory". In: *Journal of Family Issues* 9.1, pp. 108–131.
- Charrad, Mounira (2009). "Kinship, Islam, or Oil: Culprits of Gender Inequality?" In: *Politics and Gender* 5 (4), pp. 546–553.
- Cherif, Feryal (2010). "Culture, rights, and norms. Women's rights reform in Muslim countries". In: *The Journal of Politics* 72.4, pp. 1144–1160.
- Ciftci, Sabri (2010). "Modernization, Islam, or social capital: what explains attitudes toward democracy in the Muslim world?" In: *Comparative Political Studies*.
- Cigar, Norman (1985). "South Yemen and the USSR: Prospects for the Relationship". In: *Middle East Journal* 39.4, pp. 775–795.
- Coleman, Isobel (2004). "The payoff from women's rights". In: *Foreign Affairs*, pp. 80–95.
- Connell, Raewyn (1987). *Gender and power: Society, the person and sexual politics*. Stanford University Press.
- Dalacoura, Katerina (2007). *Islam, liberalism and human rights*. IB Tauris.

- Dorius, Shawn and Glenn Firebaugh (2010). “ Trends in Global Gender Inequality”. In: *Social Forces* 88.5, pp. 1941–1968.
- Esposito, John (1998). “ Women in Islam and Muslim societies”. In: *Islam, gender, and social change*. Ed. by Yvonne Haddad and John Esposito. Oxford: Oxford University Press, pp. 9–28.
- Fargues, Philippe (2005). “ Women in Arab countries: challenging the patriarchal system?” In: *Reproductive Health Matters* 13.25, pp. 43–48.
- Fawcett, Louise (2013). *International relations of the Middle East*. Oxford University Press.
- Fawcett, Louise and Yezid Sayigh (2000). *The Third World beyond the Cold War: continuity and change*. Oxford University Press.
- Foley, Sean (2010). *The Arab gulf states: Beyond oil and Islam*. Lynne Rienner Publishers London.
- Gellner, Ernest and John Breuilly (2008). *Nations and nationalism*. Cornell University Press.
- Greenfeld, Liah (1993). *Nationalism: Five roads to modernity*. Harvard University Press.
- Hassan, Riffat (1996). “Feminist theology: The challenges for Muslim women”. In: *Critique: Journal for Critical Studies of the Middle East* 5.9, pp. 53–65.
- Hastie, Trevor and Robert Tibshirani (1990). *Generalized additive models*. Vol. 43. CRC Press.
- Hoffman, Michael and Amaney Jamal (2012). “ The youth and the Arab spring: Cohort differences and similarities”. In: *Middle East Law and Governance* 4.1, pp. 168–188.
- Huntington, Samuel (1997). *The clash of civilizations and the remaking of world order*. Penguin Books India.
- Inglehart, Ronald (1997). *Modernization and postmodernization: Cultural, economic, and political change in 43 societies*. Vol. 19. Cambridge University Press.
- Inglehart, Ronald and Wayne Baker (2000). “ Modernization, cultural change, and the persistence of traditional values”. In: *American sociological review*, pp. 19–51.
- Inglehart, Ronald and Pippa Norris (2003a). *Rising Tide: Gender equality and cultural change around the world*. Cambridge University Press.
- (2003b). “ The true clash of civilizations”. In: *Foreign policy*, pp. 63–70.
- Inglehart, Ronald and Christian Welzel (2005). *Modernization, cultural change, and democracy: The human development sequence*. Cambridge University Press.
- Inkeles, Alex and David Smith (1974). *Becoming modern: Individual changes in six developing societies*. Cambridge, MA: Harvard University Press.
- Jabre, Bushra, Carol Underwood, and Lauren Goodsmith (1997). *Arab women speak out: Profiles of self-empowerment*. Johns Hopkins Center for Communication Programs.
- Kandiyoti, Deniz (1991). *Women, Islam, and the state*. Temple University Press.
- Koblitz, Ann Hibner (2016). “Life in the Fast Lane: Arab Women in Science and Technology”. In: *Bulletin of Science, Technology and Society*. doi: 10.1177/0270467616658745.
- [url:http://bst.sagepub.com/content/early/2016/07/09/0270467616658745](http://bst.sagepub.com/content/early/2016/07/09/0270467616658745). abstract.

- Kostenko, Veronica, Pavel Kuzmuchev, and Eduard Ponarin (2016). “Attitudes towards gender equality and perception of democracy in the Arab world”. In: *Democratization* 23.5, pp. 862–891.
- Krosnick, Jon and Duane Alwin (1991). “Aging, cohorts, and the stability of sociopolitical orientations over the life span”. In: *American Journal of Sociology*, pp. 169–195.
- Kruks, Sonia, Rayna Rapp, and Marilyn Blatt Young (1989). *Promissory Notes*. NYU Press.
- Little, Douglas (2008). *American orientalism: the United States and the Middle East since 1945*. Univ of North Carolina Press.
- Luong, Pauline Jones and Erika Weinthal (2010). *Oil is not a curse: ownership structure and institutions in Soviet successor states*. Cambridge University Press.
- Moghadam, Valentine (1995). “The political economy of female employment in the Arab region”. In: *Gender and Development in the Arab World: Women’s Economic Participation, Patterns and Policies* (London: Zed Books, 1995), pp. 6–34.
- (1998). “The women’s movement in the Middle East and North Africa: responding to restructuring and fundamentalism”. In: *Women’s Studies Quarterly* 26.3/4, pp. 57–67.
- (2003). *Modernizing women: Gender and social change in the Middle East*. Lynne Rienner Publishers.
- (2004). “Patriarchy in transition: Women and the changing family in the Middle East”. In: *Journal of Comparative Family Studies*, pp. 137–162.
- Molyneux, Maxine (1989). “Legal Reform and Socialist Revolution in South Yemen: Women and the Family”. In: *Promissory Notes*. Ed. by Sonia Kruks, Rayna Rapp, and Marilyn Blatt Young. New York: NYU Press, pp. 193–214.
- Newcomb, Theodore (1943). *Personality & social change: attitude formation in a student community*. Dryden Press.
- Norris, Pippa and Ronald Inglehart (2011). *Sacred and secular. Religion and politics worldwide*. Cambridge University Press.
- Richards, Alan and John Waterbury (1990). *A political economy of the Middle East: State, class, and economic development*. Westview Press.
- Ross, Michael (2008). “Oil, Islam, and women”. In: *American Political Science Review* 102.1, pp. 107–123.
- (2012). *The oil curse: how petroleum wealth shapes the development of nations*. Princeton University Press.
- Roxborough, Ian (1988). “Modernization theory revisited. A review article”. In: *Comparative Studies in Society and History* 30.4, pp. 753–761.
- Sadiqi, Fatima (2008). “Facing challenges and pioneering feminist and gender studies: women in post-colonial and today’s Maghrib”. In: *African and Asian Studies* 7.4, pp. 447–470.
- Said, Edward (1979). *Orientalism. Near eastern studies: Cultural history*. Vintage Books.
- Schuman, Howard and Jacqueline Scott (1989). “Generations and collective memories”. In: *American sociological review*, pp. 359–381.
- Sears, David (1983). “The persistence of early political predispositions: The roles of attitude object and life stage”. In: *Review of personality and social psychology* 4.1, pp. 79–116.

- Shaaban, Bouthaina (1988). *Both right and left handed: Arab women talk about their lives*. Indiana University Press.
- Sharabi, Hisham (1992). *Neopatriarchy: A theory of distorted change in Arab society*. Oxford University Press.
- Skalli, Loubna (2007). “Women, Communications, and Democratization in Morocco”. In: *From patriarchy to empowerment: Women’s participation, movements, and rights in the Middle East, North Africa, and South Asia*. Ed. by Valentine Moghadam. New York: Syracuse University Press, pp. 120–138.
- Smith, Anthony (1995). *Nations and Nationalism in a Global Era*. Cambridge: Polity.
- Spierings, Niels (2014). “Islamic attitudes and the support for Gender Equality and Democracy in Seven Arab Countries, and the role of anti-Western feelings”. In: *Multidisciplinary Journal of Gender Studies* 3.2, pp. 423–456.
- Spierings, Niels, Jeroen Smits, and Mieke Verloo (2009). “On the compatibility of Islam and gender equality”. In: *Social Indicators Research* 90.3, pp. 503–522.
- (2010). “Micro-and Macrolevel Determinants of Women’s Employment in Six Arab Countries”. In: *Journal of Marriage and Family* 72.5, pp. 1391–1407.
- Sullivan, Robert R (1970). “Saudi Arabia in international politics”. In: *The Review of Politics* 32.4, pp. 436–460.
- Tversky, Amos and Daniel Kahneman (1975). “Judgment under uncertainty: Heuristics and biases”. In: *Utility, probability, and human decision making*. Springer, pp. 141– 162.
- UNDP (2006). *Arab Human Development Report 2005. Towards a Rise of Women in the Arab World*.
- (2014). *Saudi women challenges and successes*. Tech. rep. UNDP. url: http://www.sa.undp.org/content/saudi_arabia/en/home/presscenter/articles/2014/03/09/saudi-women-challenges-and-success.html.
- Welzel, Christian (2013). *Freedom rising*. Cambridge University Press.
- Wood, Simon (2001). “mgcv: GAMs and generalized ridge regression for R”. In: *R news* 1.2, pp. 20–25.
- Wood, Simon, Yannig Goude, and Simon Shaw (2015). “Generalized additive models for large data sets”. In: *Journal of the Royal Statistical Society: Series C (Applied Statistics)* 64.1, pp. 139–155.
- Yousef, Tarik (2004). “Development, growth and policy reform in the Middle East and North Africa since 1950”. In: *The Journal of Economic Perspectives* 18.3, pp. 91– 115.

Figure 1: Distribution of Gender Egalitarianism Index by Country and Three Waves of Arab Barometer

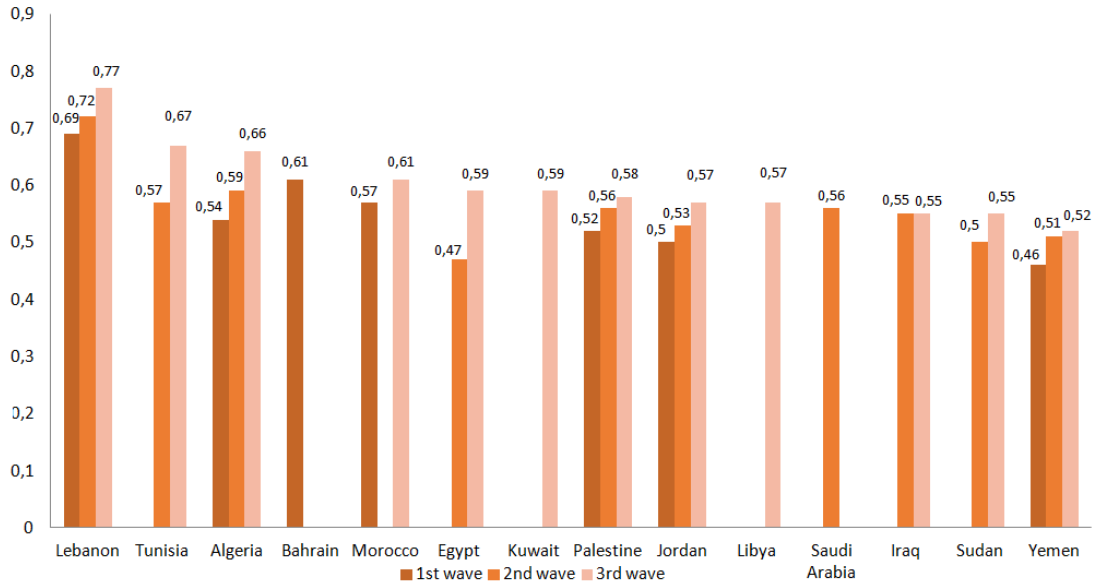


Figure 2: Year of Birth on Gender Egalitarianism by Wave in Five Arab Countries

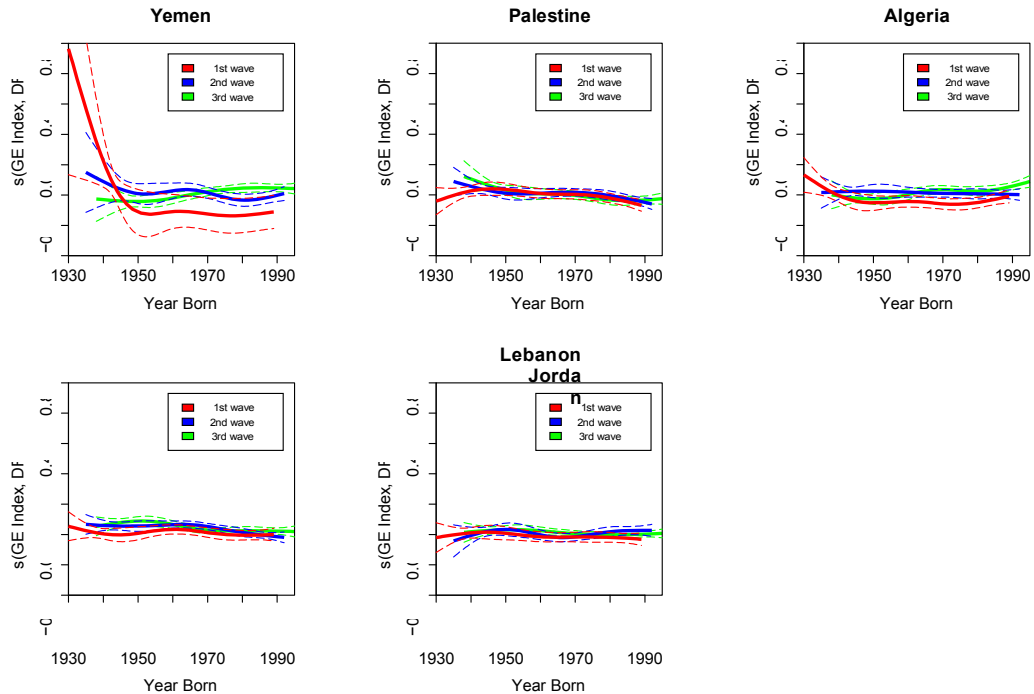


Figure 3: Gender Egalitarianism by Birth Cohort in North Yemen, South Yemen, and Saudi Arabia in Wave 2 of Arab Barometer

Arab Wave II (2010-2011)

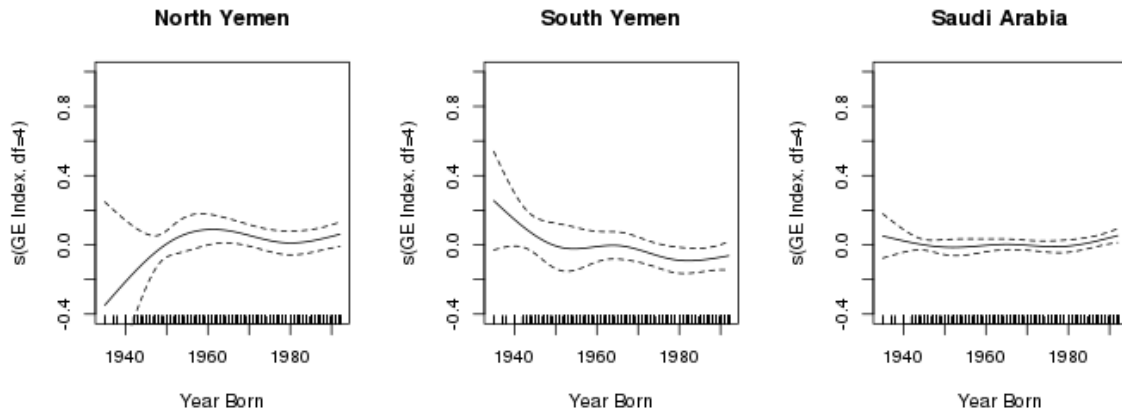
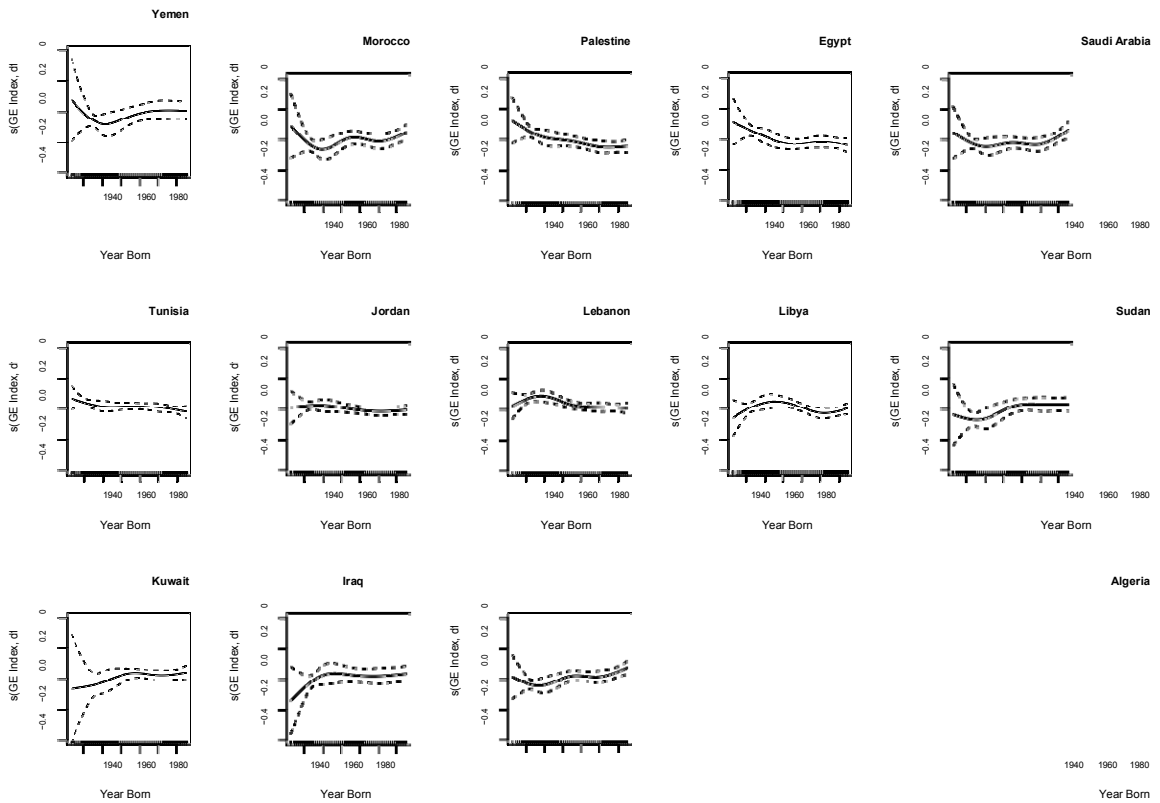


Figure 4: GAM Models for Gender Equality Support in 13 Countries of the Arab World: Arab Barometer, Wave 3



Appendix

Table 1: GAM Parametric effects for gender egalitarianism in 13 Arab societies (Arab Barometer III)

	Dependent variable:	
	(Yemen united)	(Yemen North and South)
Algeria	0.08*** (0.018)	0.083*** (0.018)
Egypt	0.047** (0.019)	0.048** (0.019)
Iraq	-0.024 (0.024)	-0.023 (0.024)
Jordan	0.018 (0.015)	0.019 (0.015)
Lebanon	0.173*** (0.014)	0.174*** (0.014)
Libya	-0.005 (0.016)	-0.004 (0.016)
Morocco	0.072*** (0.023)	0.072*** (0.023)
Palestine	0.042** (0.018)	0.042** (0.018)
Sudan	-0.020 (0.022)	-0.020 (0.022)
Tunisia	0.103*** (0.014)	0.103*** (0.014)
Saudi Arabia	0.011 (0.020)	0.11 (0.021)
Yemen	-0.014 (0.051)	
North Yemen		-0.030 (0.030)
South Yemen		-0.005 (0.088)
Kuwait		baseline
Gender (fem)	0.106*** (0.005)	0.106*** (0.005)
Education		
Illiterate		baseline
Elementary	0.008 (0.007)	0.008 (0.007)
Primary	0.018*** (0.007)	0.018*** (0.007)
Secondary	0.041*** (0.007)	0.041*** (0.007)
2-year college	0.045*** (0.008)	0.045*** (0.008)
BA or MA	0.080*** (0.007)	0.080*** (0.007)
Reading Qur'an		
Every day		baseline
Sometimes	-0.004 (0.004)	-0.004 (0.004)
Rare/No	0.008 (0.006)	0.008 (0.006)
Employment (paid job)	-0.005 (0.005)	-0.005 (0.005)
Gender (fem)*Empl (paid job)	0.022*** (0.008)	0.022*** (0.008)
Observations	15,297	15,297
Adjusted R2	0.16	0.16
Log Likelihood	2,649	2,649

Note: *p<0.1; **p<0.05; ***p<0.01

Table 2: GAM Parametric Effects for Gender Egalitarianism in 5 Arab Societies across 3 Waves

	Dependent variable: Gender Egalitarianism Index		
	Wave 1	Wave 2	Wave 3
Jordan	0.041 *** -0.009	0.024 *** -0.009	0.032 *** -0.009
Palestine	0.057 *** -0.009	0.058 *** -0.009	0.030 *** -0.009
Algeria	0.057 *** -0.01	0.080 *** -0.009	0.120 *** -0.009
Lebanon	0.214 *** -0.01	0.219 *** -0.008	0.221 *** -0.009
Yemen		<i>baseline</i>	
Gender (fem)	0.107 *** -0.008	0.119 *** -0.008	0.096 *** -0.008
<i>Education</i>		<i>baseline</i>	
Illiterate		<i>baseline</i>	
Elementary	0.029 ** -0.014	0.028 ** -0.013	0.026 ** -0.011
Primary	0.053 *** -0.014	0.048 *** -0.013	0.041 *** -0.01
Secondary	0.083 *** -0.013	0.063 *** -0.012	0.055 *** -0.01
2-year college	0.108 *** -0.015	0.072 *** -0.013	0.058 *** -0.012
BA or MA	0.134 *** -0.014	0.091 *** -0.013	0.100 *** -0.011
<i>Reading Qur'an</i>		<i>baseline</i>	
Every day		<i>baseline</i>	
Rare/No	0.040 *** -0.007	0.030 *** -0.006	0.001 -0.008
Sometimes	0.009 -0.006	0.023 *** -0.007	0.007 -0.006
Employment (paid job)	0.009 -0.008	0.015 * -0.009	-0.012 -0.008
Gender (fem)*Empl (paid job)	0.005 -0.011	-0.006 -0.012	0.036 *** -0.012
Observations	5,059	5,747	6,246
Adjusted R2	0.226	0.195	0.205
Log Likelihood	1,386	1,185	1,176

Note: *p<0.1; **p<0.05; ***p<0.01