



Fertility differences across the MENA region

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Motivation

Motivation

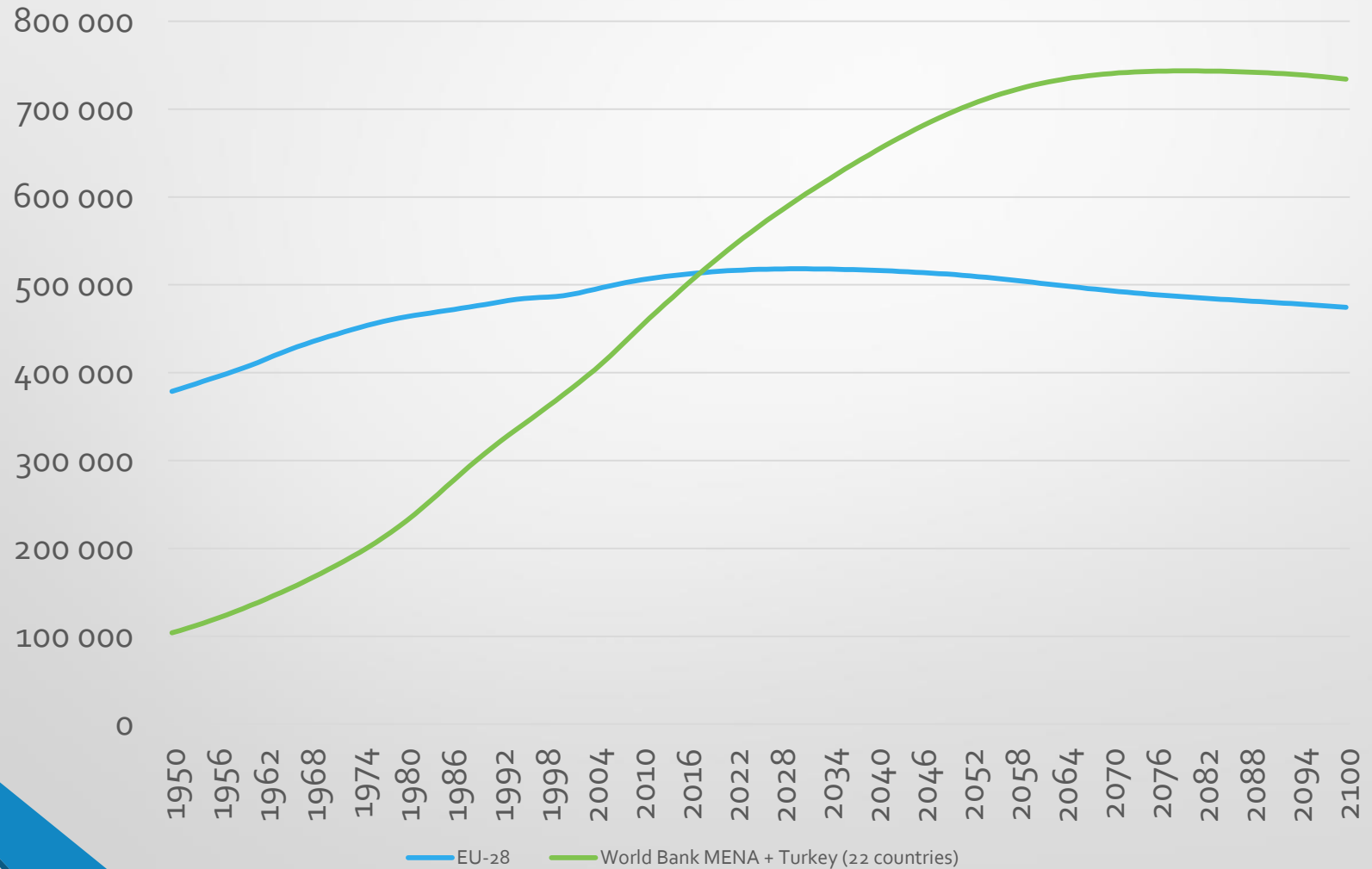
Different regions of the world have different history of fertility transition, every pattern eventually resulting in fertility decline. Countries of the MENA region, however, have their fertility stalled on a still moderately high level for about a decade, barely declining further. Exclusively for this region fertility decline got seriously slowed down, for reasons still disputed among researchers.

One can suggest that, obviously, dominating religion of this region – Islam – should have a decisive influence on the values and procreative attitudes of the population. In fact, Islam and religious values in general are not the defining factor of fertility levels and family structure in the Muslim world (Haghighat, 2014; Abbasi-Shavazi and Torabi, 2012).

The most striking phenomenon is the diversity in fertility levels across the MENA region (Eberstadt and Shah, 2012). For instance, average number of births per woman across the region varies from 1.5 in Lebanon and 1.9 in Iran to 4.0 in Iraq and Yemen according to the World Bank data of 2012

Motivation

UN population dynamics and projections (medium fertility scenario), thousands of inhabitants



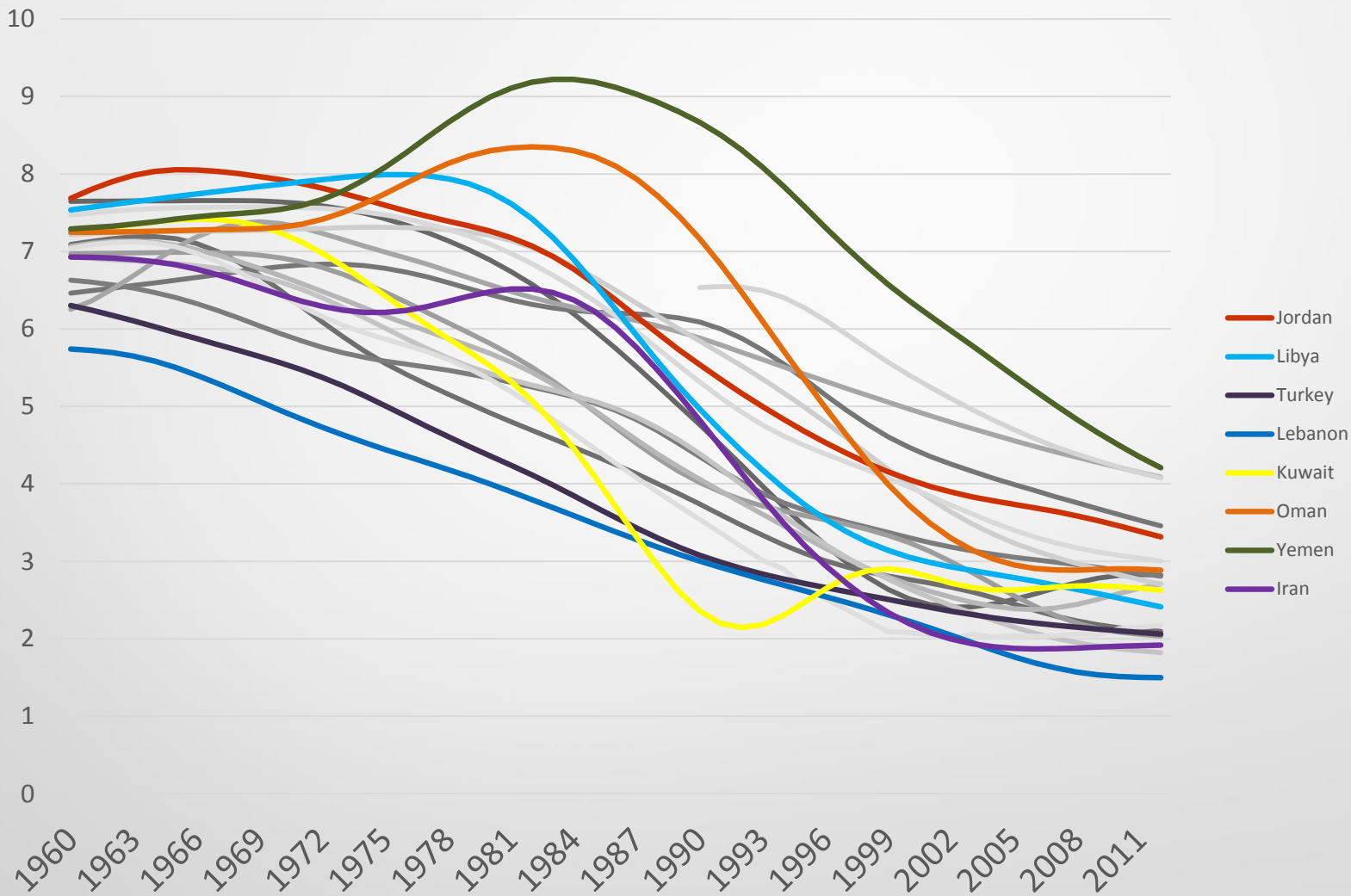
Motivation and goal

Moreover, some of muslim-majority countries are undergoing a tremendous fertility decline as well (Salehi-Isfahani et al, 2010). In particular, six of the ten largest fertility declines has taken place in Muslim-majority countries, four of which are part of the MENA region, which population is predominantly Arab (Eberstadt and Shah, 2012). Thus, Muslim societies seem to eventually undergo the same demographic transition, as Western societies do – however, with significant variation from country to country

The goal is to explain the differences in fertility patterns in MENA countries through the relationship between socio-economic factors and values

Research question: Why this diversity occurs in countries with similar traditional values and common dominating religion? MENA countries had almost the same fertility level just a half century ago - why then it differs now? If, as highlighted above, Islam and the level of religiosity cannot solely account for fertility levels in the MENA region, what are the main factors of such diversity nowadays?

Total fertility rate in MENA countries



Literature review

Previous studies mainly focused on the factors of demographic transition either in single countries (Hosseini-Chavoshi and Abbasi-Shavazi, 2012; Frini and Muller, 2012; Salam, 2013; Dinçer et al., 2014; Loeffler and Friedl, 2014), or in the whole region (Eberstadt and Shah, 2012), with no regard to fertility differences among MENA countries.

Studies that investigated fertility differentials on the cross-national level mostly focused on the fertility differences across developing or developed countries, or on the comparison between these two broad categories (Abeynayake et al., 2012; Jain and Ross, 2012). There are no studies examining the nature of fertility differences per se across the MENA region.

Conceptual scheme

Country level variables:

- Existential security
- Socio economic development
- Emancipative values, gender equality index, Postmaterialist values
- Institutions and Social policy

Socio-economic factors



Values and controls



Fertility
(Nchildren)

Hypotheses

- H1 In countries with more post materialistic values more females are employed in the labor market, more females getting higher education and having less children.
- H2 In countries where emancipative values and gender equality values are more spread females would be more engaged in the part-time employment and having more kids because of success in combining family and job roles
- H3 In countries with higher level of existential security (better economic and social development) the correlation of N children with female employment will be insignificant.

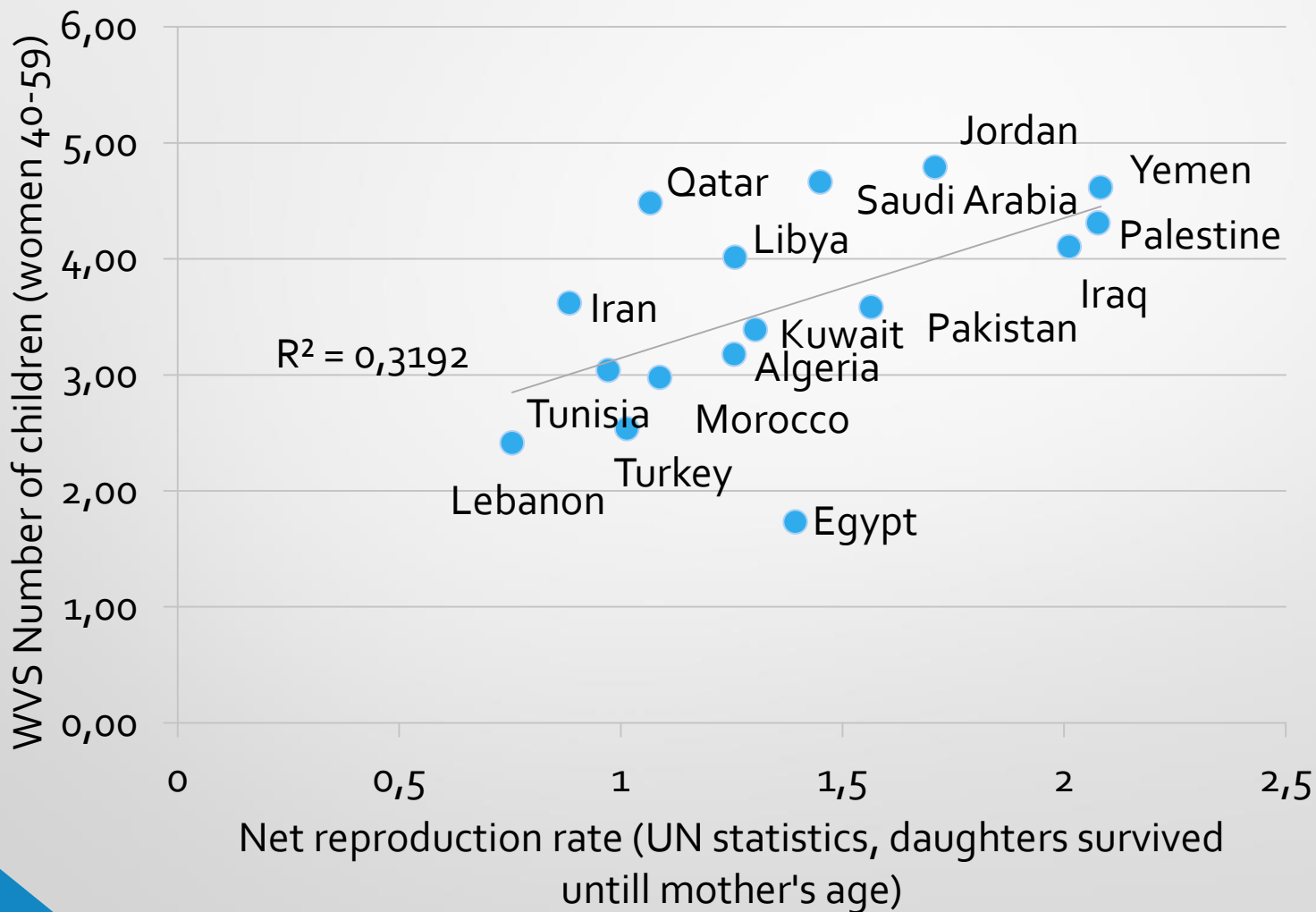
Data

Among 21 countries that belong to MENA region according to the World Bank definition (and plus Turkey and Pakistan as a countries with also strong Muslim culture and traditions and integration into MENA region) 16 participated in WVS at least once in last three waves, 13 of them – in most recent wave in 2010-2014.

Total list of MENA countries with available individual data consists of 16 countries: Algeria, Palestine, Iran, Iraq, Jordan, Kuwait, Lebanon, Libya, Morocco, Pakistan, Qatar, Saudi Arabia, Tunisia, Turkey, Egypt and Yemen.

Total population of these countries in 2013 was 538 mln., which is 7,5% of world population and was already bigger than population of EU (507 mln. in 2013). Total GDP (PPP) of the region is \$8 bln., which is 8% of world GDP and about 50% of EU GDP.

Completed Fertility WVS and Net Reproduction rate UN



Preliminary descriptive statistics, population of 15_65 years old

| | Nchildren | % males 15_65 | % high income group(subj ective) | % low income group(subj ective) | % married | % divorced | % high education | % manual work (among employed _15_65) | % never use computer (15_65) |
|-----------------|-----------|------------------|---|--|-----------|------------|---------------------|---|---------------------------------------|
| Jordan | 3,09 | 49,40% | 7,70% | 46,60% | 69,90% | 0,70% | 26,40% | 8,60% | 52,70% |
| Qatar | 3,02 | 45,80% | 21,60% | 10,20% | 68,90% | 2,30% | 46,30% | 0,00% | 12,00% |
| Yemen | 2,92 | 49,80% | 1,70% | 61,00% | 78,10% | 1,90% | 24,80% | 0,00% | 55,70% |
| Iraq | 2,89 | 49,10% | 1,30% | 36,50% | 71,60% | 1,00% | 21,30% | 12,40% | 48,40% |
| Palestine | 2,76 | 48,80% | 3,20% | 33,10% | 67,60% | 1,20% | 39,80% | 0,00% | 31,50% |
| Egypt | 2,41 | 51,00% | 5,60% | 41,00% | 71,30% | 0,90% | 26,60% | 15,30% | 73,60% |
| Kuwait | 2,29 | 63,70% | 13,20% | 14,70% | 62,60% | 6,20% | 43,00% | 0,00% | 12,70% |
| Algeria | 2,28 | 50,70% | 3,60% | 54,60% | 45,50% | 2,20% | 29,80% | 8,00% | 22,30% |
| Turkey | 2,25 | 50,30% | 3,00% | 56,10% | 71,90% | 1,20% | 11,30% | 19,90% | 48,10% |
| Saudi Arabia | 2,22 | 50,20% | 22,30% | 35,50% | 58,00% | 2,60% | 25,90% | 4,90% | 0,00% |
| Pakistan | 2,2 | 51,70% | 4,80% | 37,90% | 70,10% | 0,10% | 16,40% | 8,50% | 54,60% |
| Morocco | 2,01 | 49,50% | 0,70% | 39,70% | 54,50% | 3,50% | 11,50% | 30,70% | 60,30% |
| Libya | 1,89 | 52,30% | 9,30% | 25,30% | 55,00% | 1,60% | 42,10% | 0,00% | 33,70% |
| Iran | 1,73 | 51,90% | 2,70% | 25,40% | 58,80% | 0,60% | 27,50% | 6,20% | 46,50% |
| Tunisia | 1,67 | 52,60% | 1,40% | 33,30% | 50,50% | 1,00% | 17,60% | 0,00% | 43,90% |
| Lebanon | 1,53 | 49,00% | 9,00% | 18,90% | 48,80% | 3,10% | 40,90% | 0,00% | 17,60% |

Preliminary descriptive statistics

| | Nchildren | % importance of religion | average family importance in your life 15_65 | average work importance in your life 15_65 | ***average happiness 15_65 | **average life satisfaction 15_65 |
|--------------|-----------|--------------------------|--|--|----------------------------|-----------------------------------|
| Jordan | 3,09 | 99,50% | 1,04 | 1,52 | 3,03 | 6,45 |
| Qatar | 3,02 | 99,80% | 1,01 | 1,22 | 3,54 | 8 |
| Yemen | 2,92 | 98,60% | 1,04 | 1,49 | 2,87 | 5,89 |
| Iraq | 2,89 | 98,60% | 1,04 | 1,26 | 2,57 | 5,03 |
| Palestine | 2,76 | 96,90% | 1,05 | 1,51 | 2,8 | 5,62 |
| Egypt | 2,41 | 99,70% | 1,03 | 1,51 | 2,76 | 5,41 |
| Kuwait | 2,29 | 93,90% | 1,08 | 1,29 | 3,33 | 7,21 |
| Algeria | 2,28 | 97,70% | 1,08 | 1,23 | 2,95 | 5,97 |
| Turkey | 2,25 | 91,40% | 1,05 | 1,51 | 3,15 | 6,44 |
| Saudi Arabia | 2,22 | 97,50% | 1,05 | 1,52 | 3,35 | 7,28 |
| Pakistan | 2,2 | 95,60% | 1,11 | 1,43 | 3,06 | 5,97 |
| Morocco | 2,01 | 98,80% | 1,08 | 1,18 | 2,98 | 5,68 |
| Libya | 1,89 | 97,90% | 1,04 | 1,31 | 3,24 | 7,25 |
| Iran | 1,73 | 94,10% | 1,07 | 1,3 | 2,88 | 6,4 |
| Tunisia | 1,67 | 98,20% | 1,02 | 1,2 | 2,91 | 5,58 |
| Lebanon | 1,53 | 77,00% | 1,36 | 1,56 | 2,95 | 6,5 |

Methodology

- 1st step – OLS regression on individual variables for each country, comparison of determinants
- 2nd step – OLS regression with clustered errors on 16 pulled countries of MENA region with 15 dummy variables
- 3d step – OLS regression with clustered errors on 16 pulled countries of MENA region with tested macro level variables
- 4th step – multilevel modeling on broader region, may be Islamic countries or whole WVS sample???

Model for number of children determinants, pulled sample of 16 countries

Country level independent variables

- Existential security (GDP, life expectancy, infant mortality)
- Socio-economic factors: adjusted national income, share of natural resources in GDP, % of male unemployment, % female employment, average life satisfaction.
- Institutional factors: social policy, public expenditures on health, QoG, N reasons for abortion.
- Cultural factors: Individual choice norms/Pro-fertility norms (based on Inglehart theory), Post materialism index, Emancipative values, Gender equality

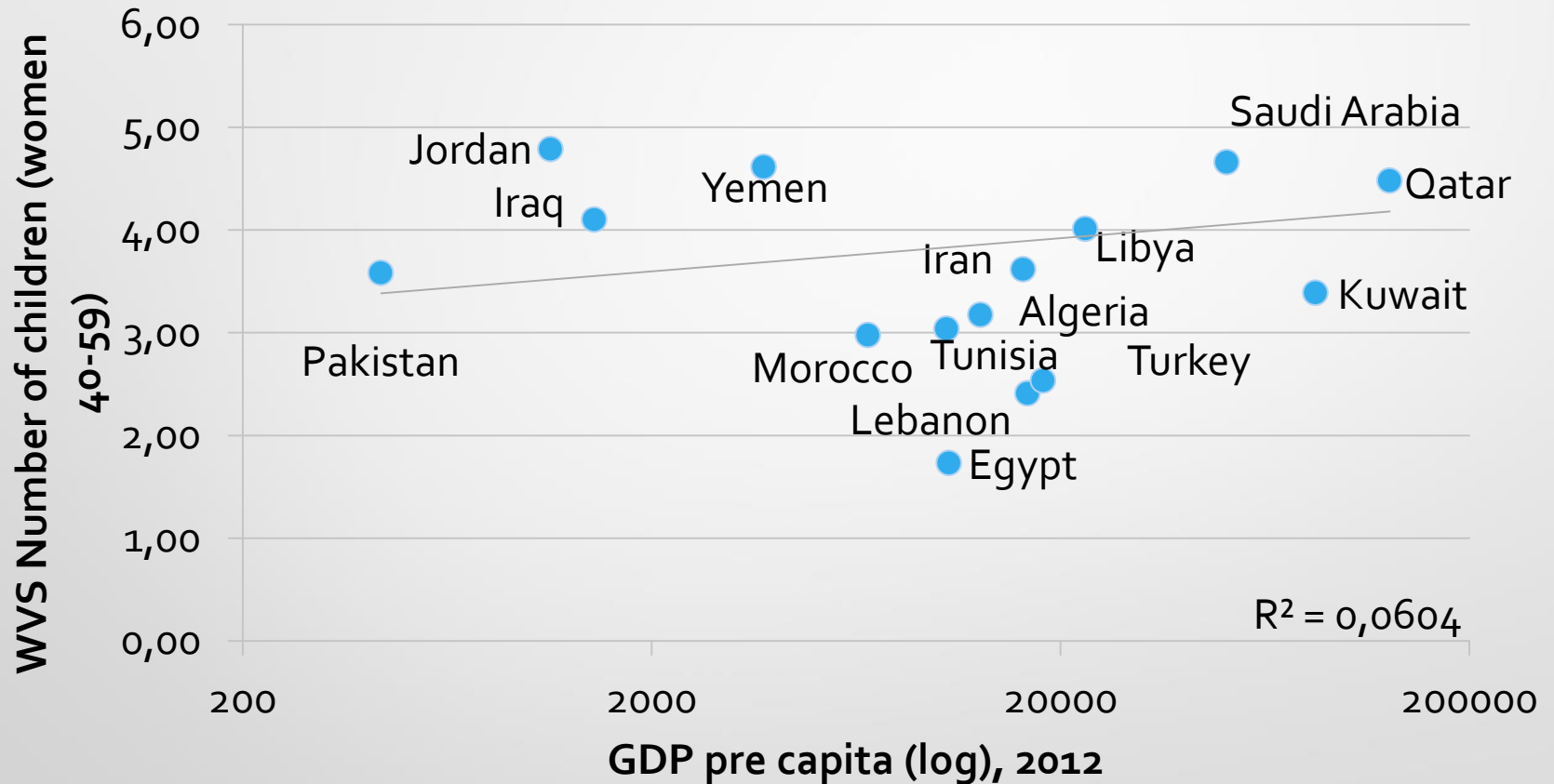
Individual level independent variables

- Age groups
- Marital status
- Family income
- Labour market status
- Religiosity

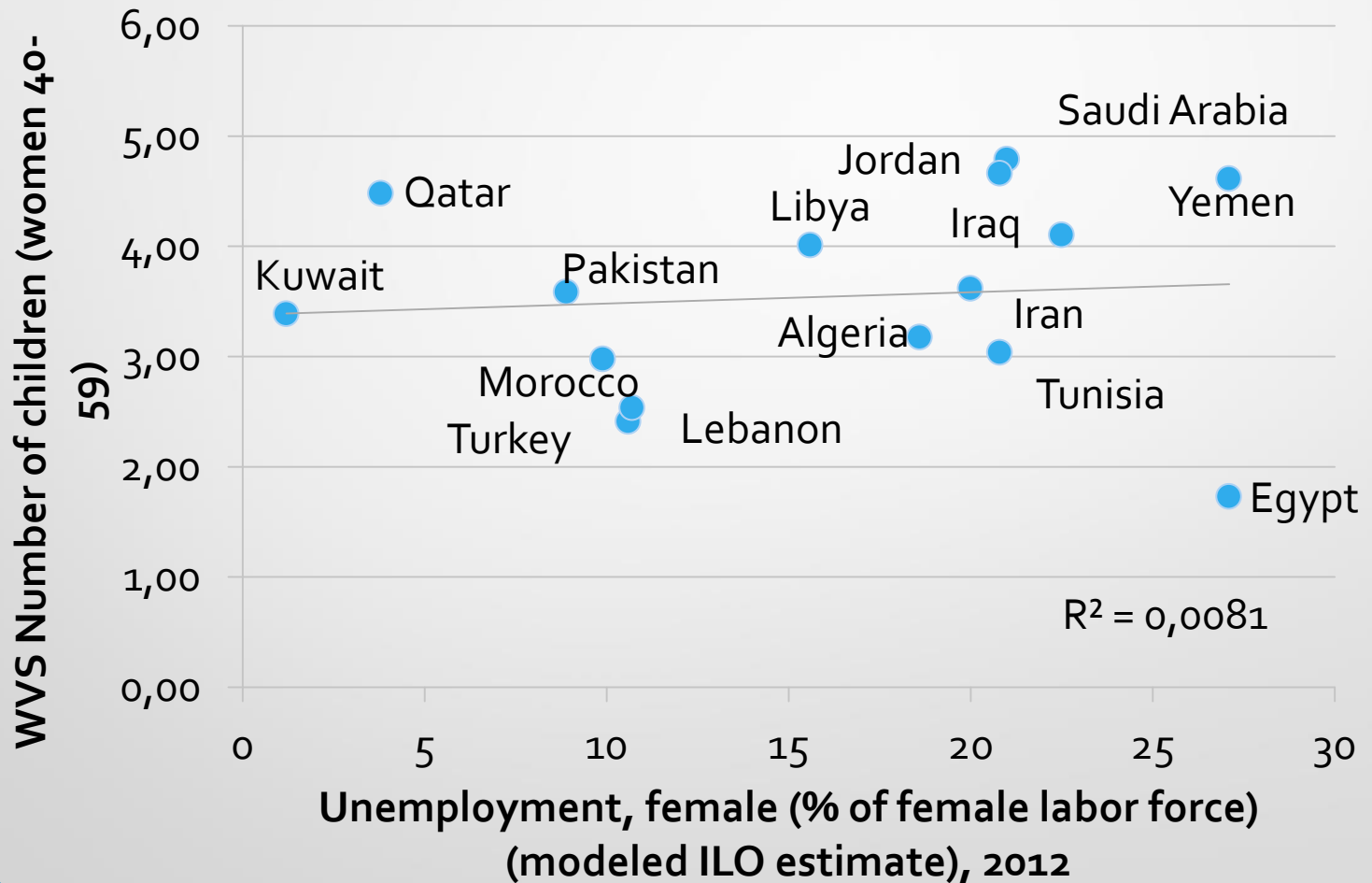
Values:

- Pro-fertility index
- Individual freedom
- Duties to society norms
- Gender equality
- Gender equality in household responsibilities
- Importance of family in life
- Importance of children in marriage

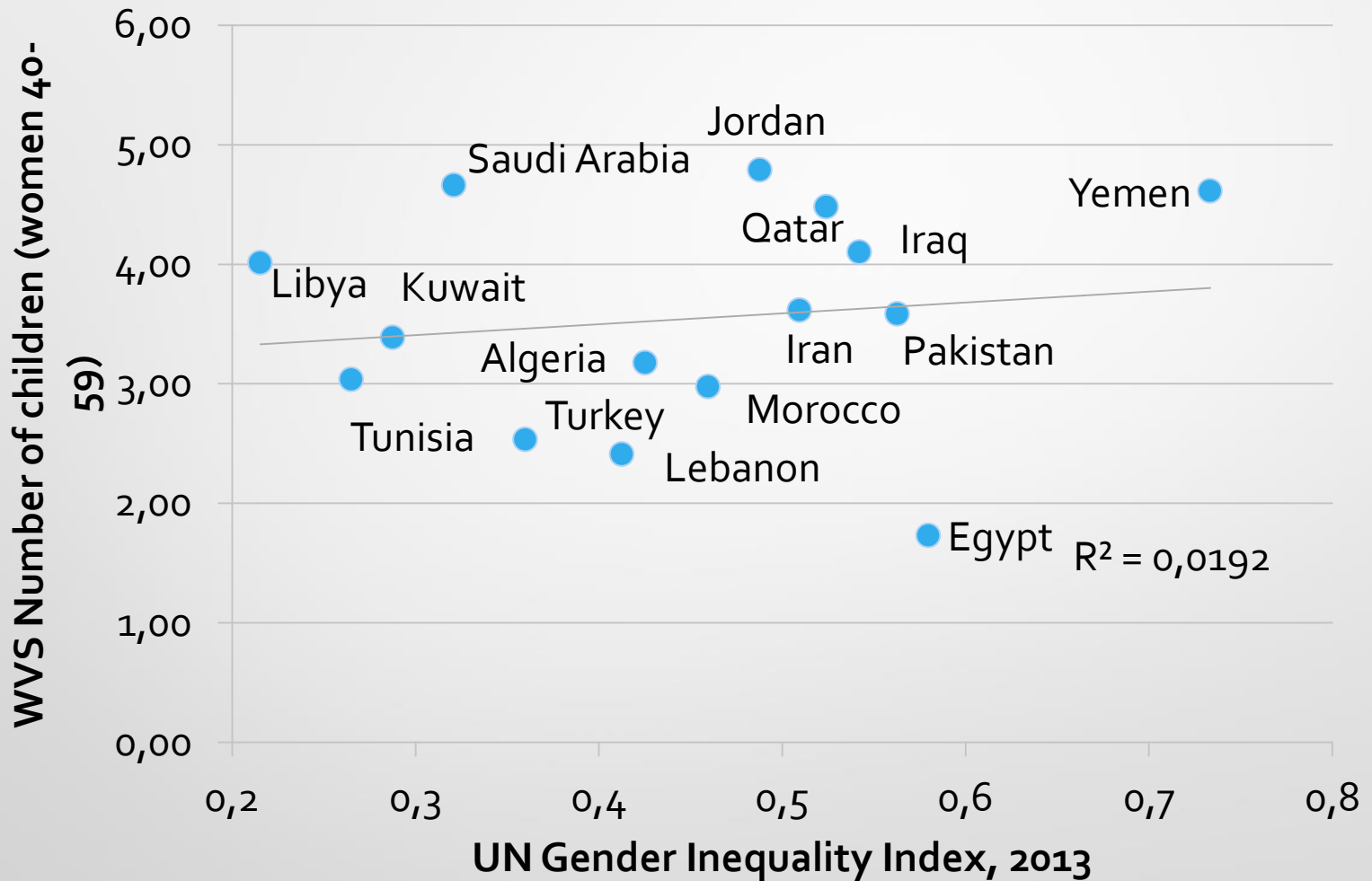
Number of children and GDP in MENA region



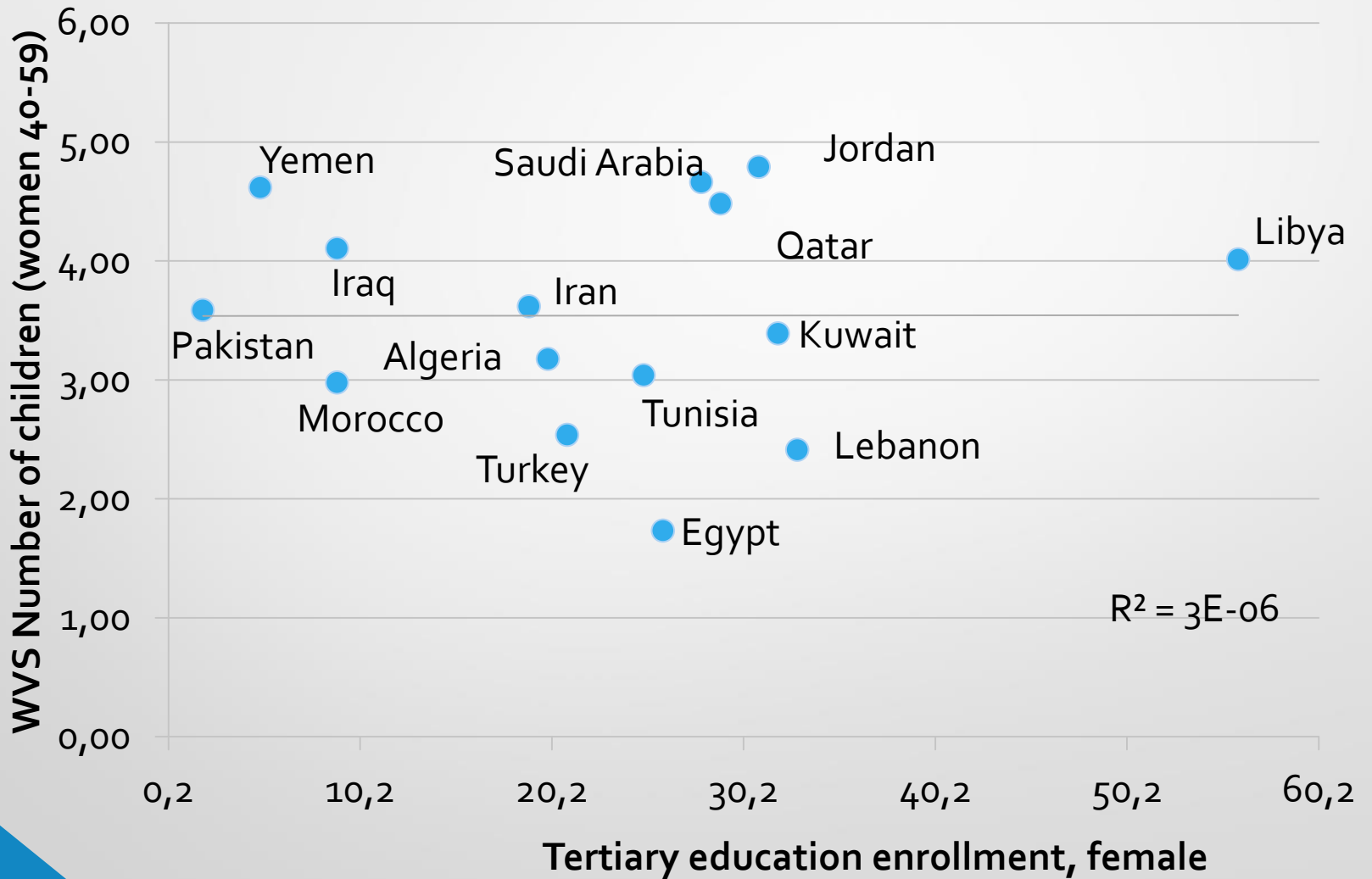
Number of children and female unemployment in MENA region



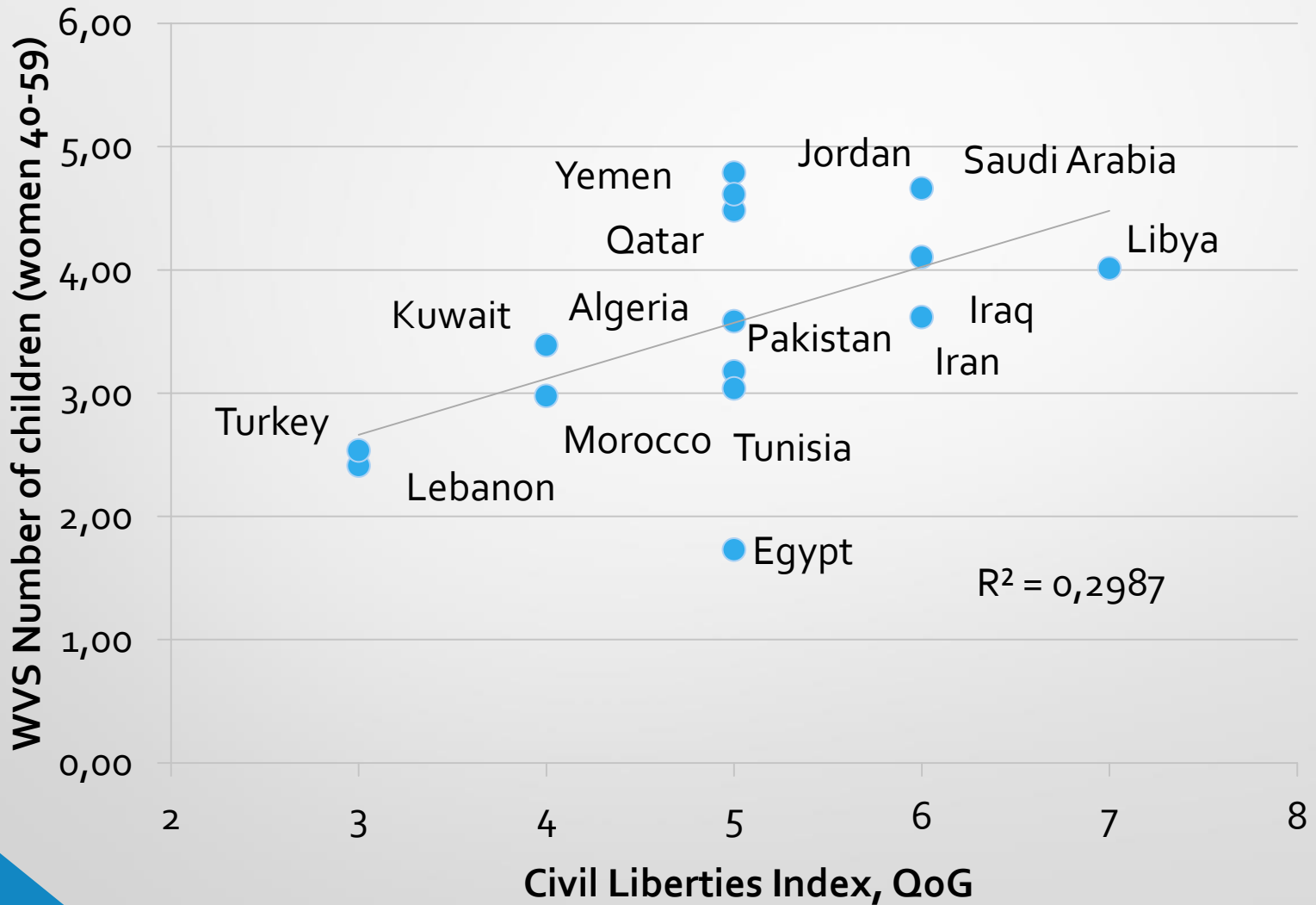
Number of children and gender inequality in MENA region



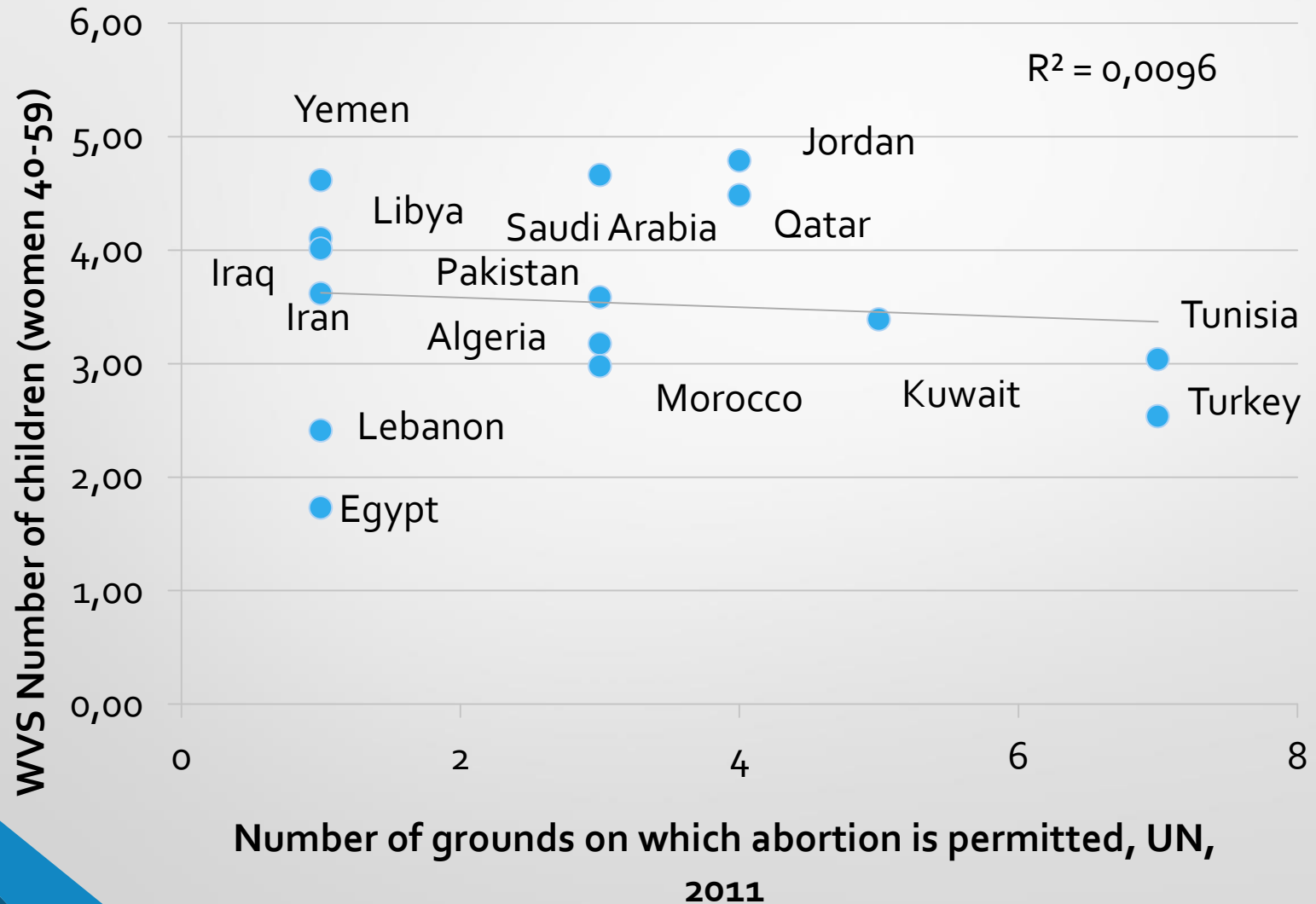
Number of children and females' education in MENA region



Number of children and civil liberties in MENA region



Number of children and abortion policy in MENA region



Questions for discussion

1. sample reduction – to females only?
2. Sample reduction of age for females – to capture finished fertility???
3. Macro level variables – for which year?
4. Methodology for 16 countries' differences analysis?



Thank you for your attention

This report was presented at the training methodological workshop
"Economic and Social Changes: values effects across Eurasia".

March 31 - April 6, 2015 – Turkey.

http://lcsr.hse.ru/en/seminar_m2015

Настоящий доклад был представлен на методологическом учебном семинаре
«Экономические и социальные изменения: оценка эффектов по всей Евразии».

31 марта – 6 апреля 2015 года – Турция.

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