

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

International Seminar



Impact of Changing Population Dynamics on the Arab Family

Doha

State of Qatar

*Fertility Transitions
in Arab's and Muslims Countries:
Timing and Determinants*

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Introduction

- *Demographic transition is a global process which its the most important component is declining trends of fertility levels and consequently family sizes*
- *When we compare fertility and family size transition experiences among Arab, Muslims and non-Muslim countries, important similarities and disparities can be observed.*
- *Starting times, trends, space, timing and causes of fertility declines are different. These differences come from cultural and social contexts of countries. Historically. Muslims countries have experienced more Fertility levels than other ones. However , the fertility levels in some Muslims countries have been transferred to low fertility levels.*
- *This study is an effort to analyze and explain of fertility changes in Muslims and Arab countries.*
- *this presentation is a section of greater research under title of (Demographic Transitions in Muslims countries) which has been done in population Studies and Research Center in Asia and Pacific.*

Aims and Questions

The main issues which are presented in our research are as follows :

- A. What are the patterns of fertility transition in Arab and Muslim countries (countries which have 50% Muslims population and over)?*
- B. Which the timing patterns of the fertility transitions in Arab and Muslim countries are ?*
- C. which determinates of fertility declines in Arab and Muslim countries are From a macro perspective?*

Conceptual Framework

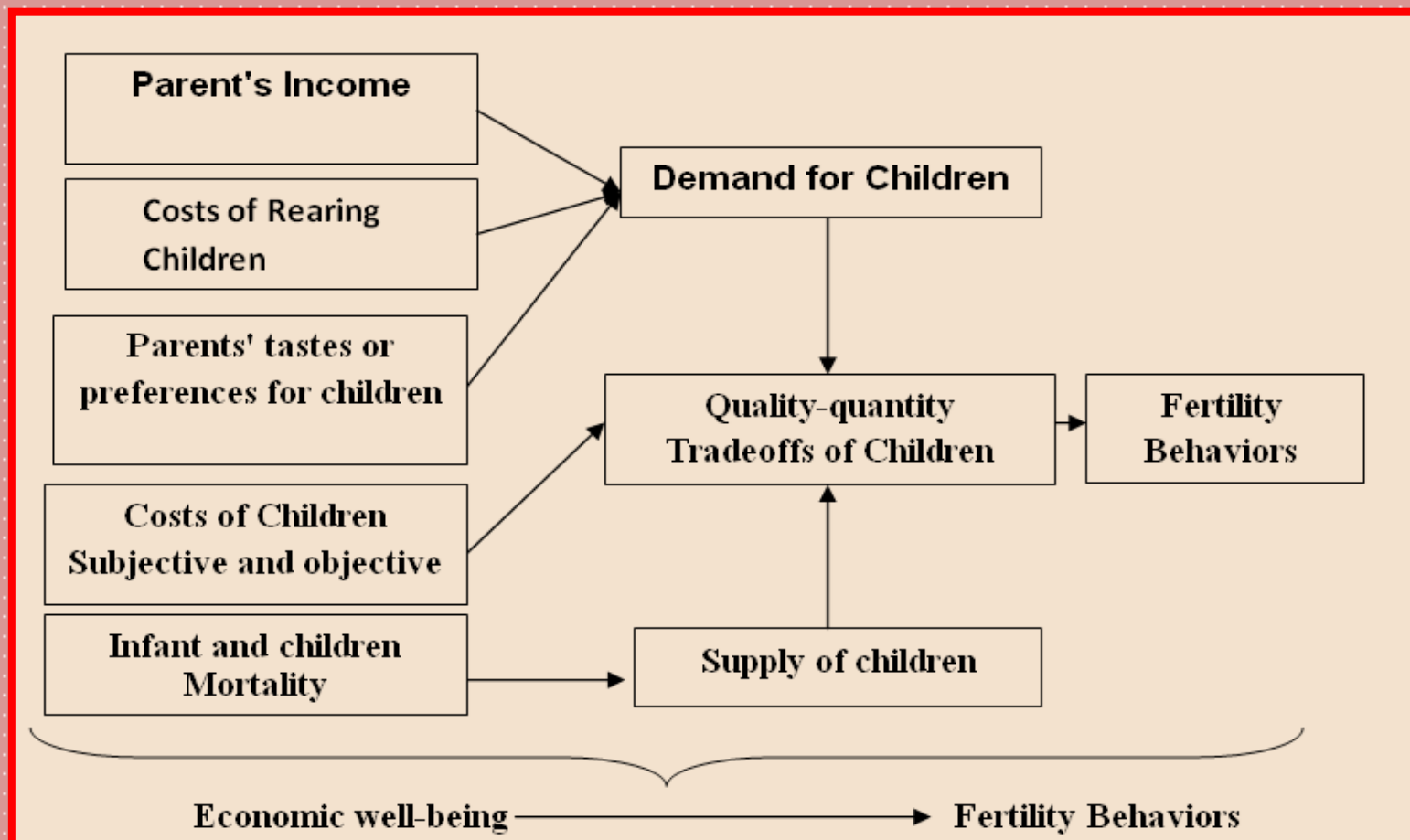
Explanations of Fertility Transition

- *Fertility Transition is the important component of demographic transition, and it can be defined as a demographic process by which high levels of fertility decrease to low fertility levels.*
- *Many theories are formulated for explanation of fertility declines during the demographic transition.*
- *Theories of fertility transition try to explain of fertility changes from different views.*
- *in this research, we tried to explain fertility reductions in three perspectives : economical, social and educational explanations.*
- *Thus, three conceptual frameworks has been applied for theoretical modeling in this research which are as follows:*

A) Theoretical Framework of Economic Model

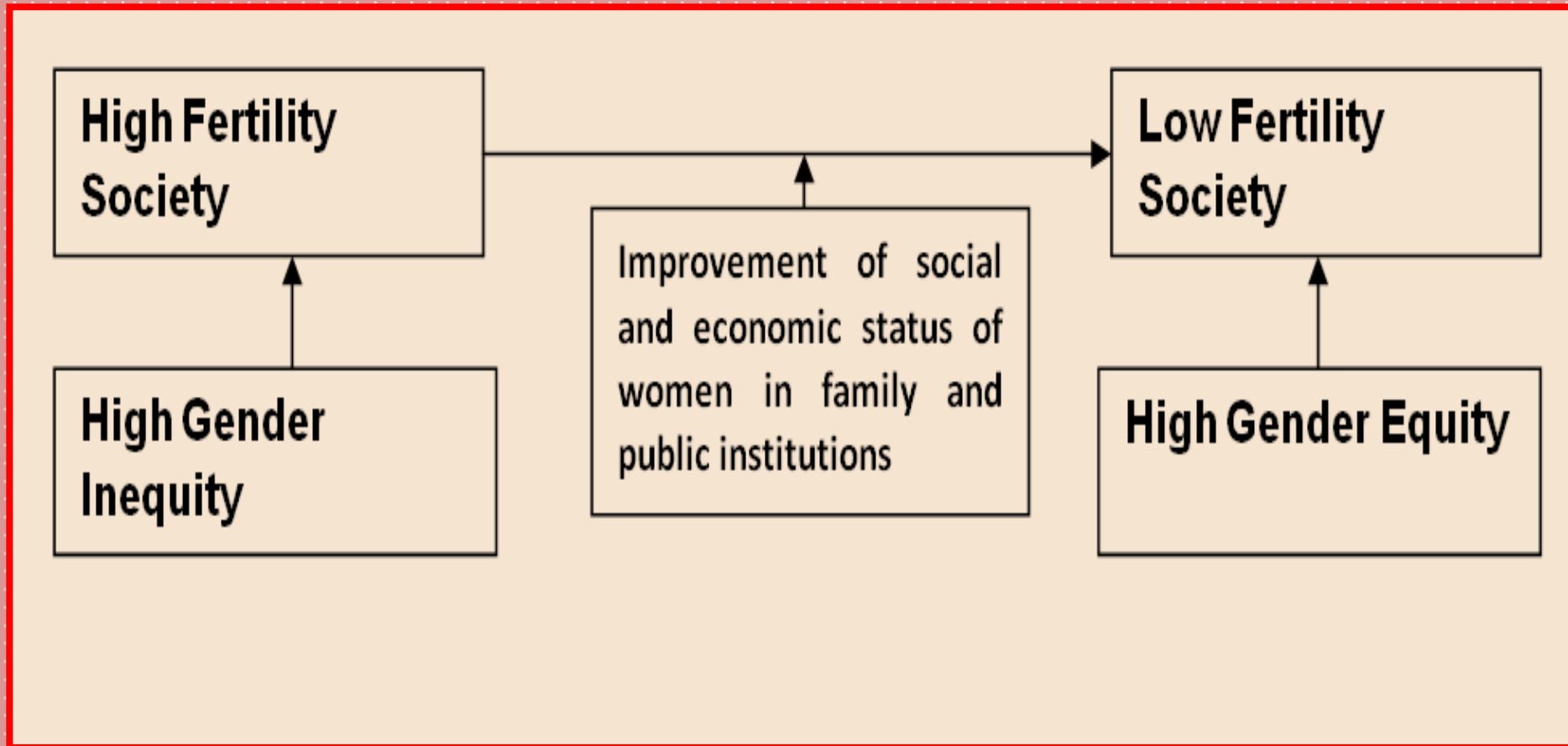
Figure(1). The Economic Approach to Fertility

Easterlin, 1973 & Becker, 1981



B) Theoretical Framework of Social Model

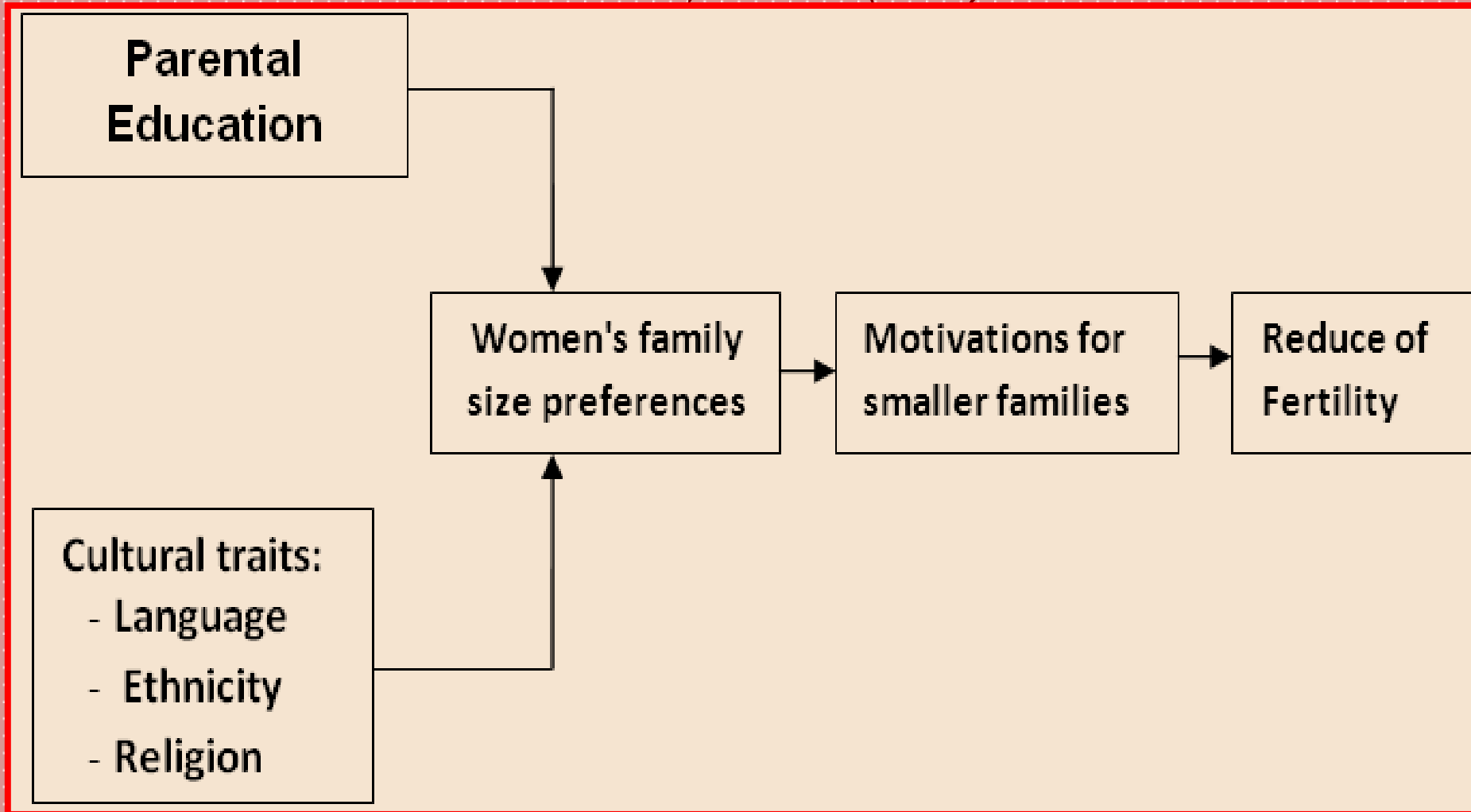
*Figure(2). Gender equity theory
(McDonald, 2000)*



Theoretical Framework of Educational and Social Model

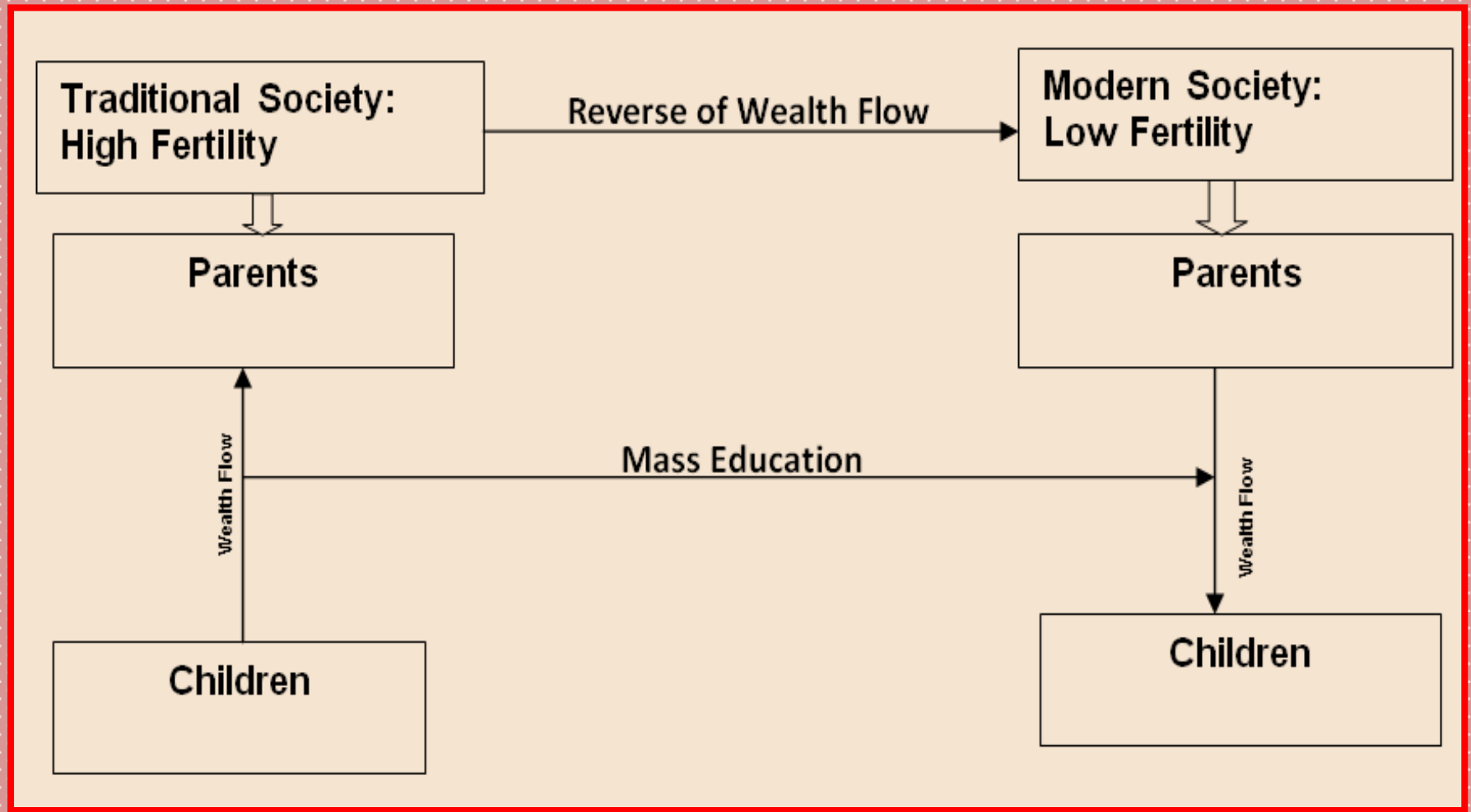
Figure(3). Institutional Theory

Cleland, John G. (1985)



C) Theoretical Framework for Educational Model

*Figure(4). Wealth Flows Theory
(Caldwell 1982)*

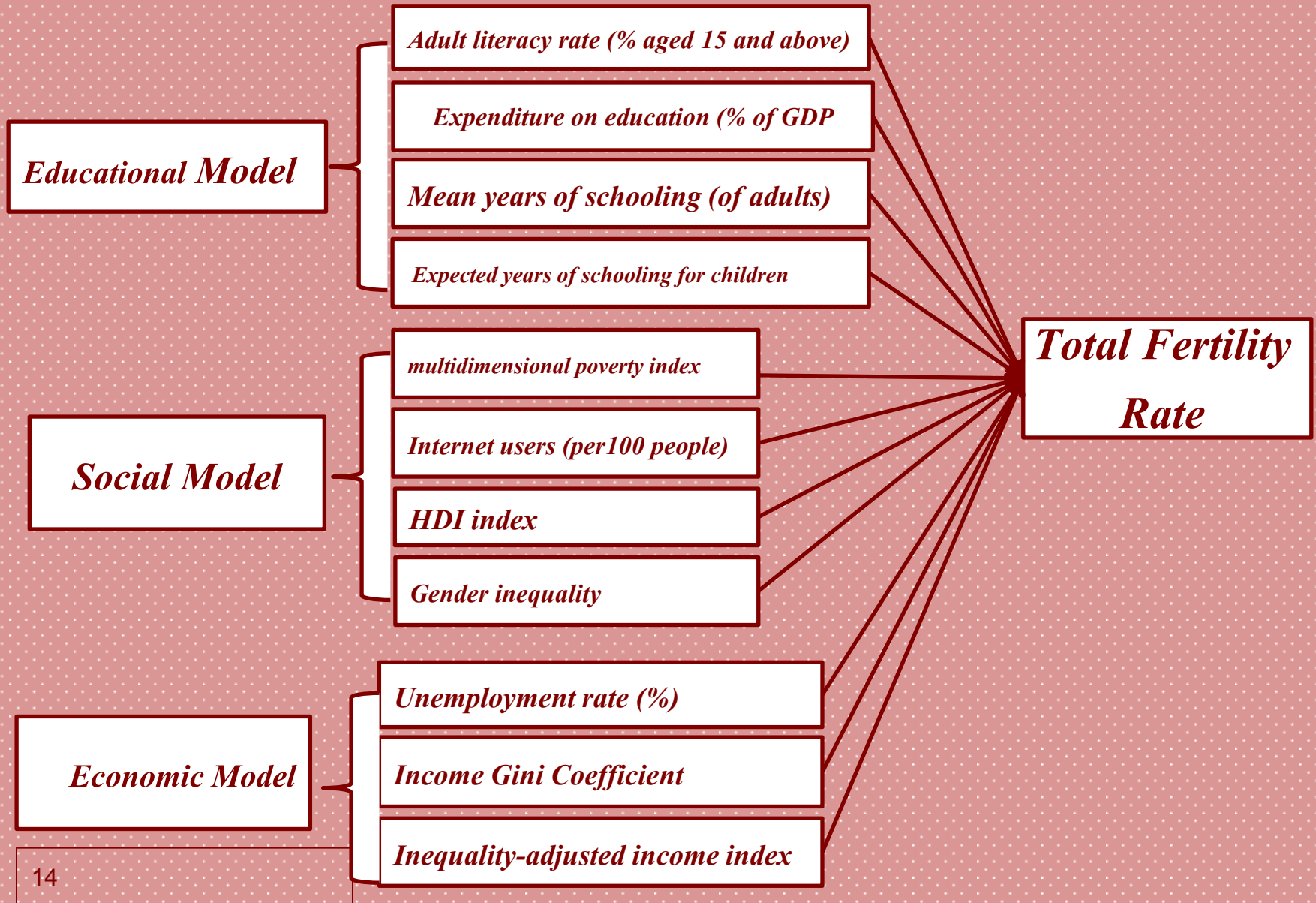


Literature of Review

- *Education and economic participations are two main determinants of women's status (Martin & Juarez, 1995; Mehryar et al, 2002).*
- *These two factors has been recognized as essential factors influencing women's childbearing patterns and are considered as direct causes of the postponement of marriage and childbearing age .*
- *Education of the mother is the most important driver for children ever born and desired family. Average education of women in the community substantially drives desired family size(Regina & Lutz, 2011).*

- *Since the International Conference on Population and Development held in Cairo in 1994 which stipulated that gender equality is a prerequisite for the achievement of fertility decline, gender issues became the subject of a public discussion particularly in developing countries where equity between the sexes is almost non-existent.*
- *The influence of the gender system on the fertility transition has been demonstrated by many studies especially during the last three decades (Mason 1987, 2001, Sathar et al. 2001, Abbasi-Shvazi et al. 2009),*
- *Increasing gender equity plays key role in recent revival of fertility in Europe (Myrskylä, Kohler & Billari 2011)*

Figure(5).Measurement Model



Data and Method

- *Source of data is population division of United Nations, population reference bureau (PRB) and other international data banks.*
- *We have reviewed, analyzed and explained trends and determinants of fertility in 52 Muslim countries and 22 Arab countries during 1950 to 2050.*
- *A variety of statistical methods such as cluster analysis and regression analysis is used to assess the process of transitions , classification of groups and detection of transitions causes.*

Findings

- *As the figure(1) shows, the range of TFR in world is fluctuated from at least in Europe continent (1.56) to the highest levels in African one (4.88) in the period of 2005 - 2010.*
- *projections indicate that Arabs countries will experience the fertility declines and their space of fertility declines are higher than Non – Arab Muslims ones.*

Graph (1). Comparing fertility transition in Arab and Non-Arab Muslims Counties (2005 – 2030)

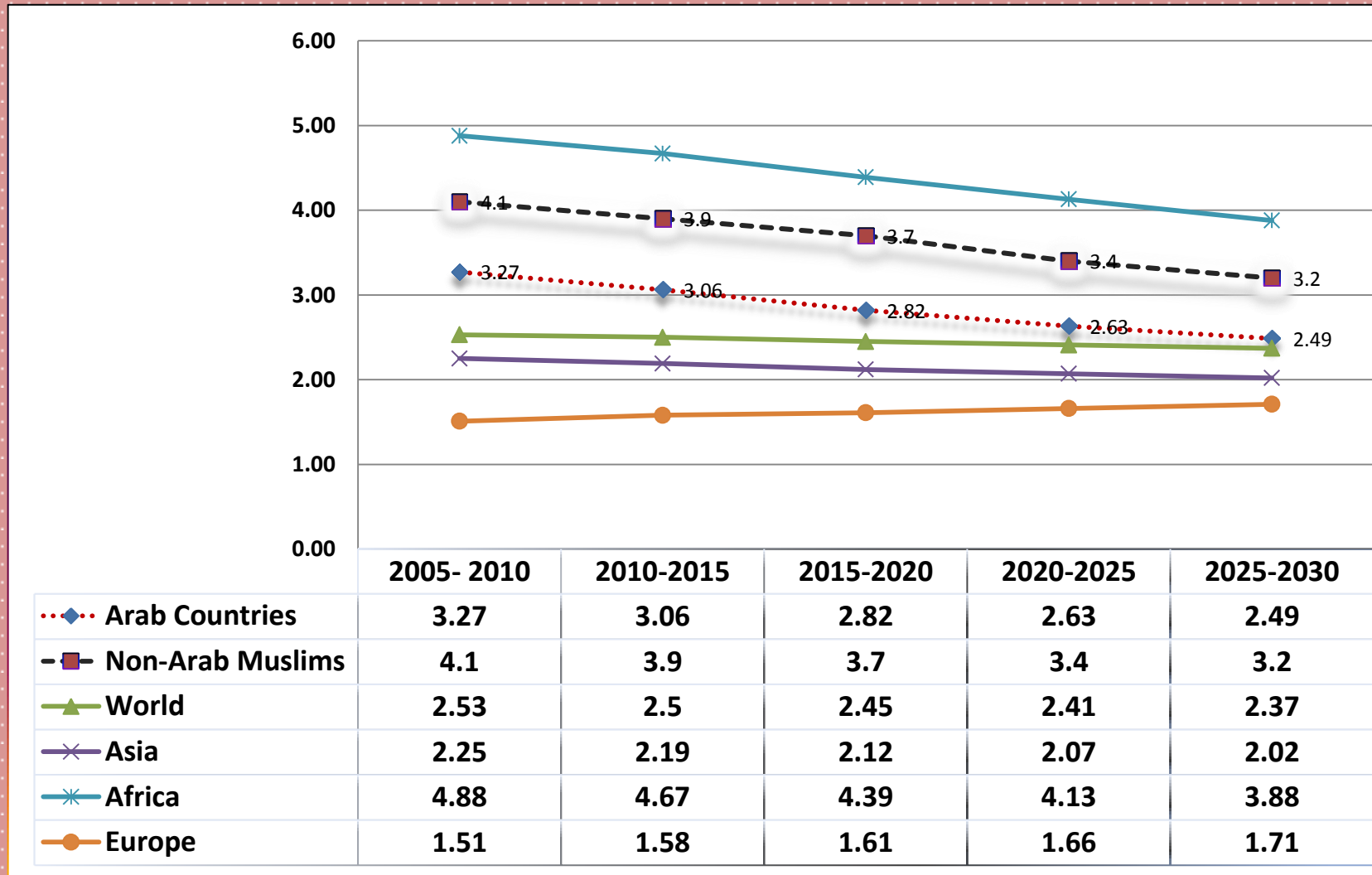


Table (1). Classification of Arab Countries by Patterns of Fertility Transitions

<i>Patterns</i>	<i>Countries</i>	<i>Number</i>	<i>TFR range</i>	<i>Descriptions</i>
<i>forerunners</i>	<i>Lebanon (1.58), United Arab Emirate (1.98), Qatar (2.21), Tunisia (2.05), Bahrain (2.2.23) and Morocco (2.38).</i>	<i>6</i>	<i>1.58 – 2.38</i>	<i>Below Replacement and nearly Replacement levels</i>
<i>followers</i>	<i>Libya (2.67), Kuwait (2.71), Algeria(2.72),Oman(2.89), Egypt(2.98),Saudi Arabia(3.03), Syria(3.19), Jordan(3.64) and Djibouti(3.8)</i>	<i>9</i>	<i>2.67 – 3.8</i>	<i>High Fertility levels</i>
<i>latecomers</i>	<i>Somalia(7.1),Comoros(5.08),Mauritania(4.96), Yemen(4.91), Sudan(4.83), Palestine (4.42) and Iraq (4.38).</i>	<i>7</i>	<i>4.38 – 7.1</i>	<i>Very High Fertility levels</i>

Table (2) , Graph (2). Trends of Fertility Transition in the forerunners Countries, 1950 - 2010

Period	Lebanon	United Arab Emirates	Tunisia	Qatar	Bahrain	Morocco
1950-1955	5.74	6.97	6.74	6.97	6.97	6.61
1955-1960	5.72	6.97	6.87	6.97	6.97	6.9
1960-1965	5.69	6.87	7.14	6.97	7.18	7.15
1965-1970	5.23	6.77	6.82	6.97	6.97	6.9
1970-1975	4.67	6.36	6.04	6.77	5.95	6.43
1975-1980	4.23	5.66	5.69	6.11	5.23	5.9
1980-1985	3.75	5.23	4.92	5.45	4.63	5.4
1985-1990	3.23	4.83	3.97	4.41	4.08	4.45
1990-1995	2.8	3.88	3.13	3.74	3.4	3.7
1995-2000	2.43	2.97	2.32	3.46	2.87	2.97
2000-2005	2.01	2.4	2.04	2.95	2.67	2.52
2005-2010	1.58	1.97	2.05	2.21	2.23	2.38

- *Lebanon is an exception*
- *the speed and the patterns of reducing fertility in these countries are alike.*
- *Speed reducing curves is soft and modest.*

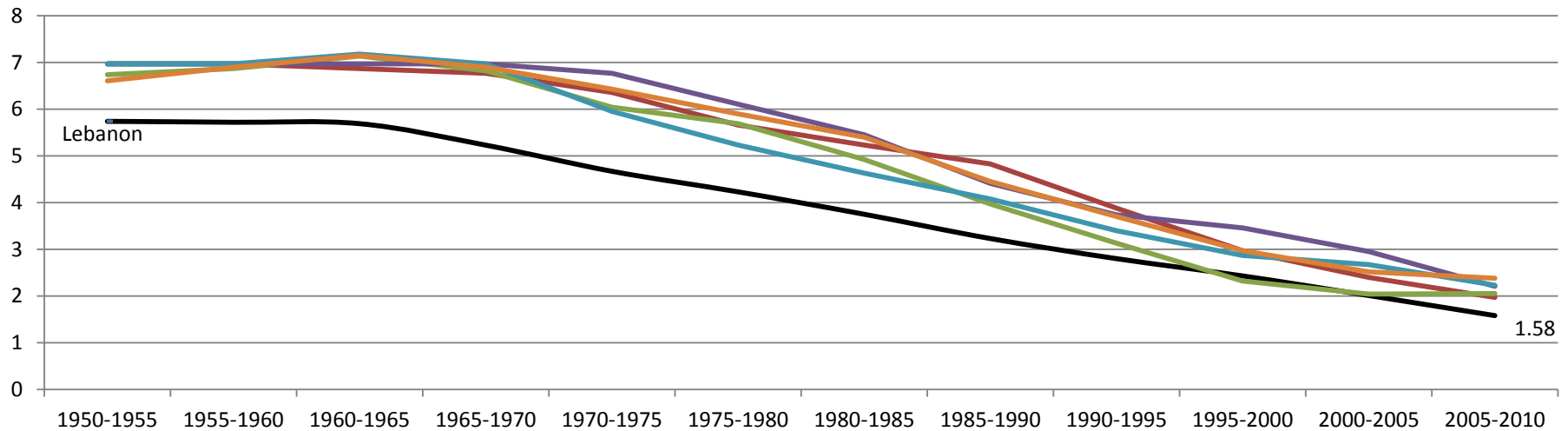


Table (3) , Graph(3). Trends of Fertility Transition in the follower Countries, 1950 - 2010

Period	Algeria	Kuwait	Libya	Oman	Egypt	Saudi Arabia	Syrian Arab Republic	Djibouti
1950-1955	7.65	7.21	7.27	7.25	6.62	7.18	7.23	6.31
1955-1960	7.65	7.21	7.45	7.25	6.65	7.18	7.38	6.39
1960-1965	7.65	7.31	7.62	7.25	6.55	7.26	7.54	6.55
1965-1970	7.65	7.41	7.79	7.31	6.2	7.26	7.56	6.71
1970-1975	7.57	6.9	7.92	7.41	5.7	7.3	7.54	6.85
1975-1980	7.18	5.89	7.94	8.1	5.5	7.28	7.32	6.64
1980-1985	6.49	5.03	7.34	8.32	5.2	7.02	6.77	6.26
1985-1990	5.37	3.13	5.7	7.85	4.8	6.22	5.87	6.18
1990-1995	4.13	2.02	4.32	6.27	3.9	5.45	4.8	5.85
1995-2000	2.89	3.03	3.3	4.46	3.5	4.51	4.26	4.81
2000-2005	2.38	2.58	2.92	3.21	3.15	3.54	3.67	4.22
2005-2010	2.72	2.71	2.67	2.89	2.98	3.03	3.19	3.8

- *the beginning of substantial decrease of fertility is between the years of 1975-1980.*
- *Kuwait is an exception.*
- *the countries of Aljazeera and Djibouti have the lowest and highest fertility level respectively.*

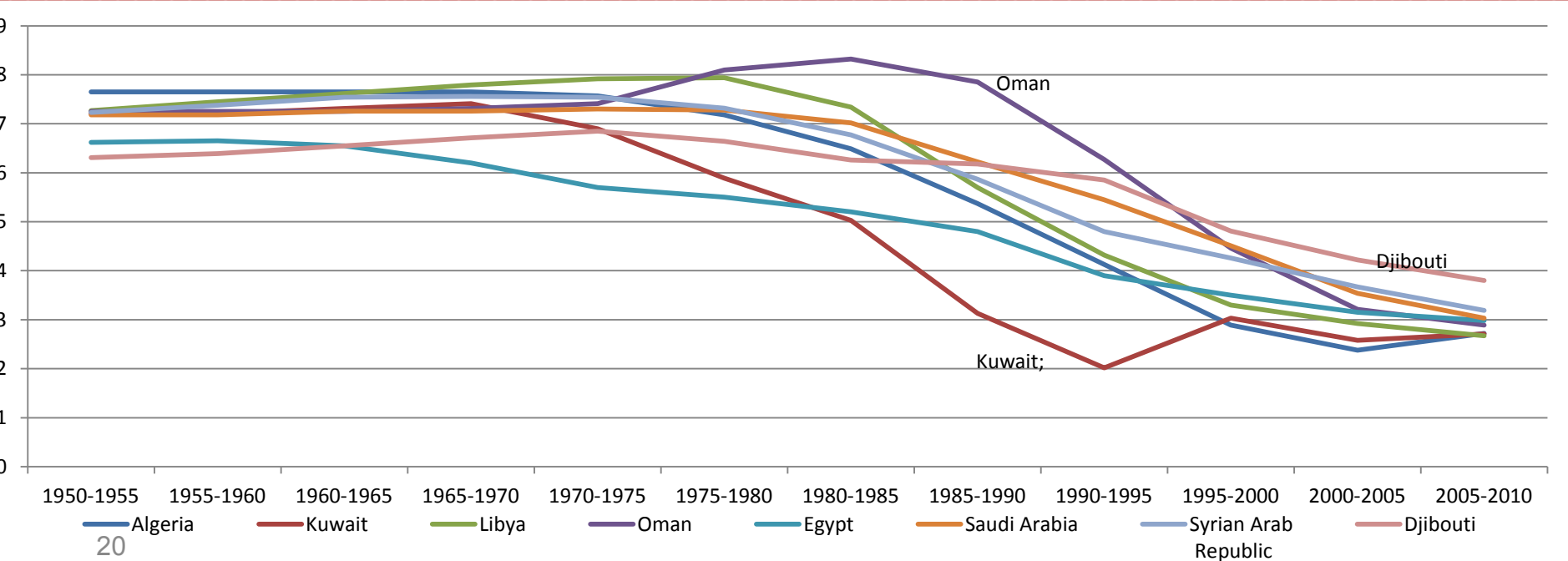
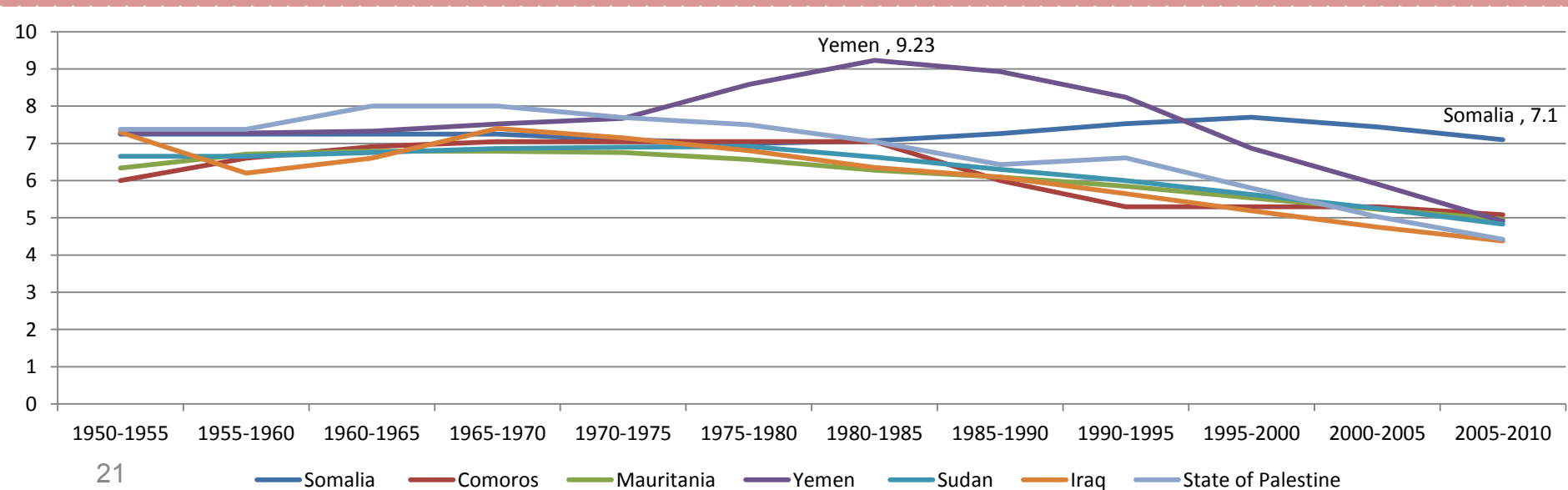


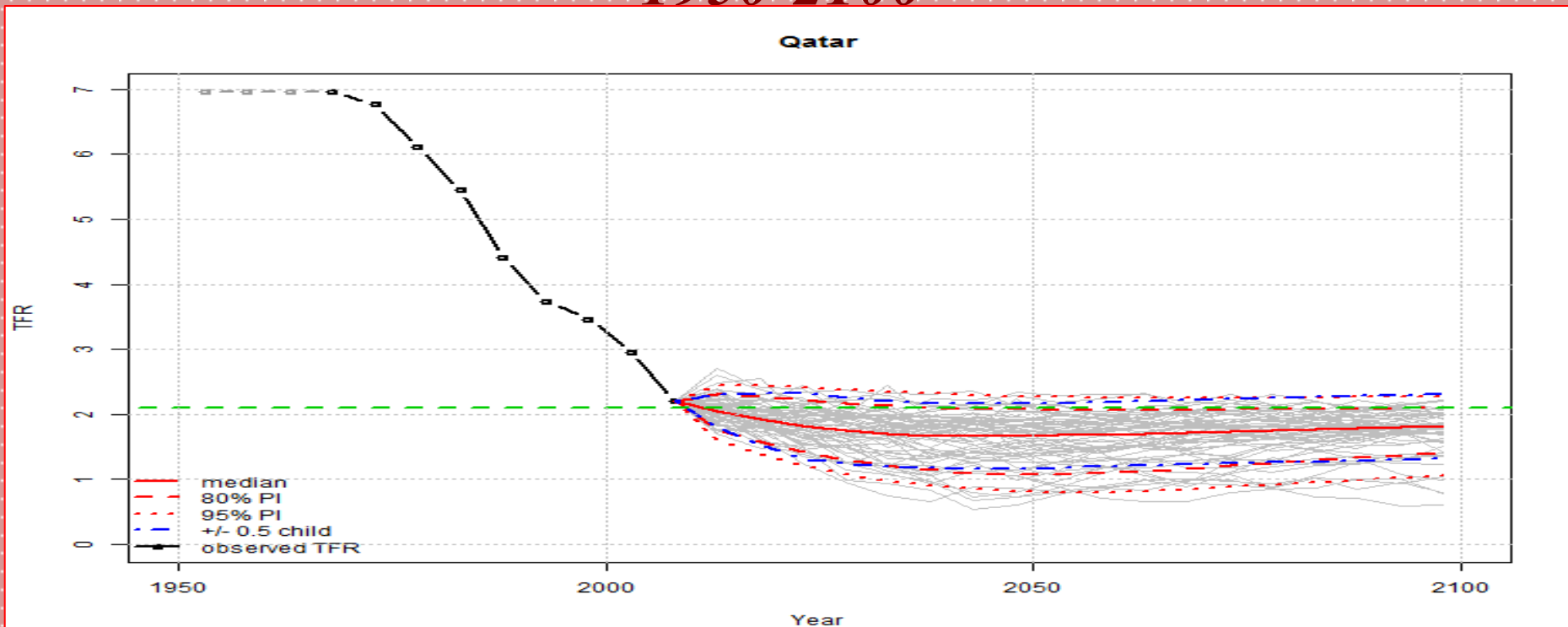
Table (4), Graph(4). Trends of Fertility Transition in the latecomer Countries, 1950 - 2010

Period	Somalia	Comoros	Mauritania	Yemen	Sudan	Iraq	State of Palestine
1950-1955	7.25	6	6.34	7.27	6.65	7.3	7.38
1955-1960	7.25	6.6	6.71	7.28	6.65	6.2	7.38
1960-1965	7.25	6.91	6.79	7.33	6.75	6.6	8
1965-1970	7.25	7.05	6.79	7.52	6.86	7.4	8
1970-1975	7.1	7.05	6.75	7.67	6.9	7.15	7.69
1975-1980	7	7.05	6.57	8.58	6.92	6.8	7.5
1980-1985	7.07	7.05	6.28	9.23	6.63	6.35	7.05
1985-1990	7.26	6	6.09	8.93	6.3	6.09	6.43
1990-1995	7.53	5.3	5.85	8.24	6	5.65	6.61
1995-2000	7.7	5.3	5.53	6.87	5.63	5.19	5.8
2000-2005	7.44	5.3	5.23	5.91	5.25	4.75	5.03
2005-2010	7.1	5.08	4.96	4.91	4.83	4.38	4.42

- *The substantial decrease of fertility is from 1985- 1990.*
- *Somalia, Mauritania and Yemen : the highest fertility.*
- *Yemen's country is an exception*



Graph(5).fertility changes in Qatar's country during 1950-2100



- *World Population Prospects: The 2012 Revision: Probabilistic Projections of Total Fertility: Based on WPP2012 fertility estimates, Projections of Total Fertility: Median, 80% / 95% prediction intervals and high / low WPP fertility variant*
- *Qatar experienced reducing fertility in the late of 1970s.*
- *In 2010 : substantial decrease in fertility rate ,reached near to replacement level.*
- *projections : the fertility level will continue (1.8 births per mother) and the fertility rate will be between 1 to 2.2 births per mother.*

Table (5). Selected Characteristics of Timing of Fertility Transition in Arab and Muslims Countries

Indices	forerunners	followers	latecomers
Onset of fertility declines	Before 1965	1965 - 1980	After 1985
TFR decline(in pre 10 Years) (1950 – 2010)	.389	.687	.186
Time to 50% decline 1950	Nearly 40 - 45 years	Nearly 50 -55 years	Nearly 85 -100 years
Time to Replacement level From 1960	Nearly 45 -55 years	Nearly 70 - 80 years	Over than 130 years
TFR in 2010	2.15	3.0	4.2

Source: calculated based on world population prospects: the 2012 revision(Medium variant)

Table (6). Multiple Correlation and R- Square of the three Regression Models of fertility Declines in Arab Countries

Regression Models	Multiple Correlation		R- Square	
	Coefficient	Correlation Degree	Value	Determinant Degree
Educational Model¹	.766	High	.552	High
Social Model²	.725	medium	.470	medium
Economic Model³	.661	Low	.395	Low

1. Unemployment rate (%), Income Gini coefficient, Inequality-adjusted income index,

2. Internet users (per100 people), HDI value index, Gender inequality, multidimensional poverty index.

3. Mean years of schooling (of adults), Expenditure on education (% of GDP), Adult literacy rate (% aged 15 and above), Expected years of schooling for children.

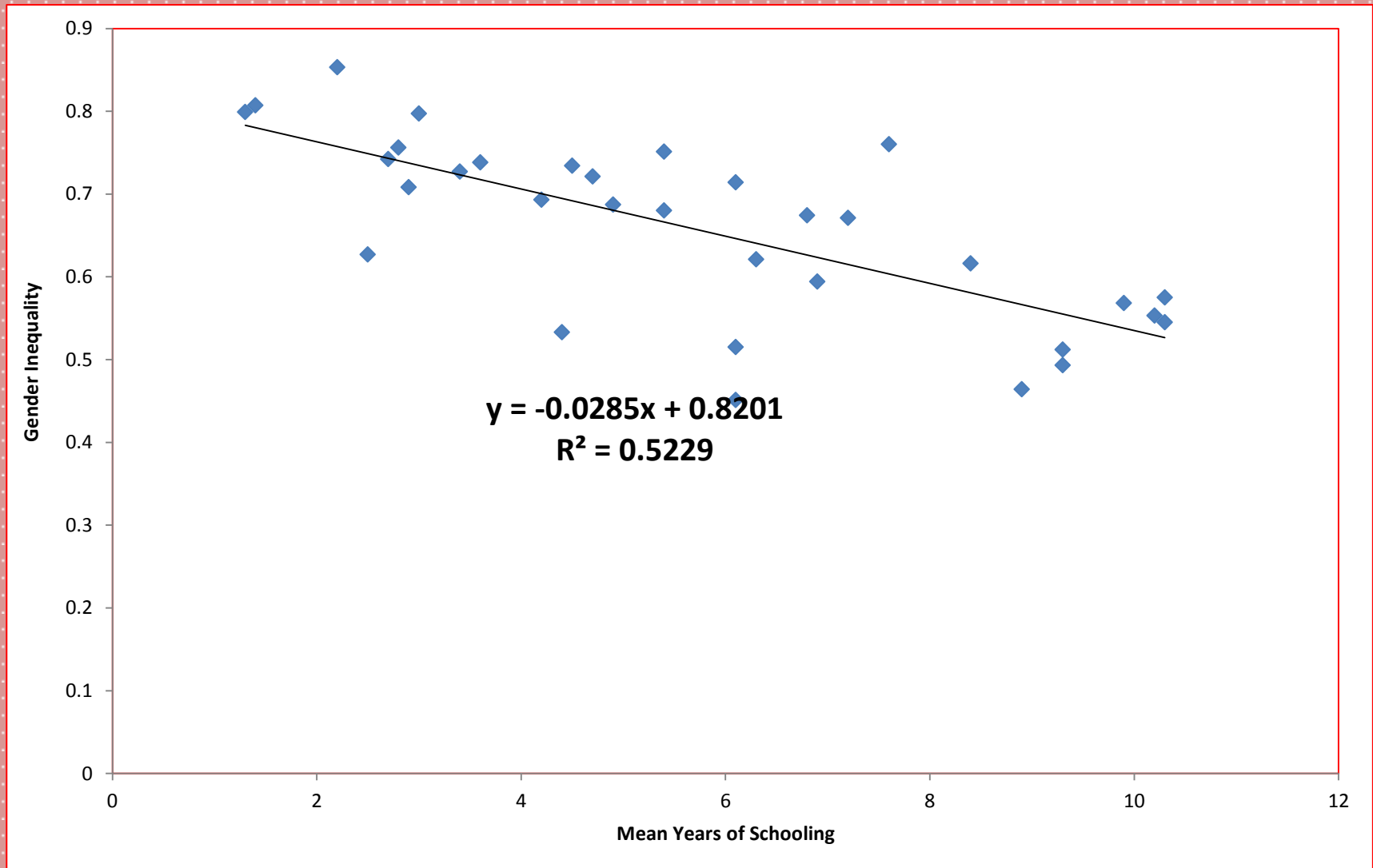
Table (7). Regression coefficients of independent variable of three models

Models	Variable	Beta	T-Test	Sig.
Educational Model	Adult literacy rate (% aged 15 and above)	.062	.357	.723
	Expenditure on education (% of GDP)	-.019	-.191	.849
	Mean years of schooling (of adults)	-.611	-3.85	0.00
	Expected years of schooling for children	-.257	-1.635	.109
Social Model	multidimensional poverty index	.250	1.07	.291
	Internet users (per100 people)	-.261	-1.484	.146
	HDI index	-.287	-.498	.498
	Gender inequality	0.916	1.779	.050
Economic Model	Unemployment rate (%)	-.128	-1.07	.291
	Income Gini coefficient	.107	.875	.387
	Inequality-adjusted income index	-.611	.875	.387

Table (8). Ranking Arab Countries by Muslims (%), Mean years schooling (Year) and total fertility rate (2010)

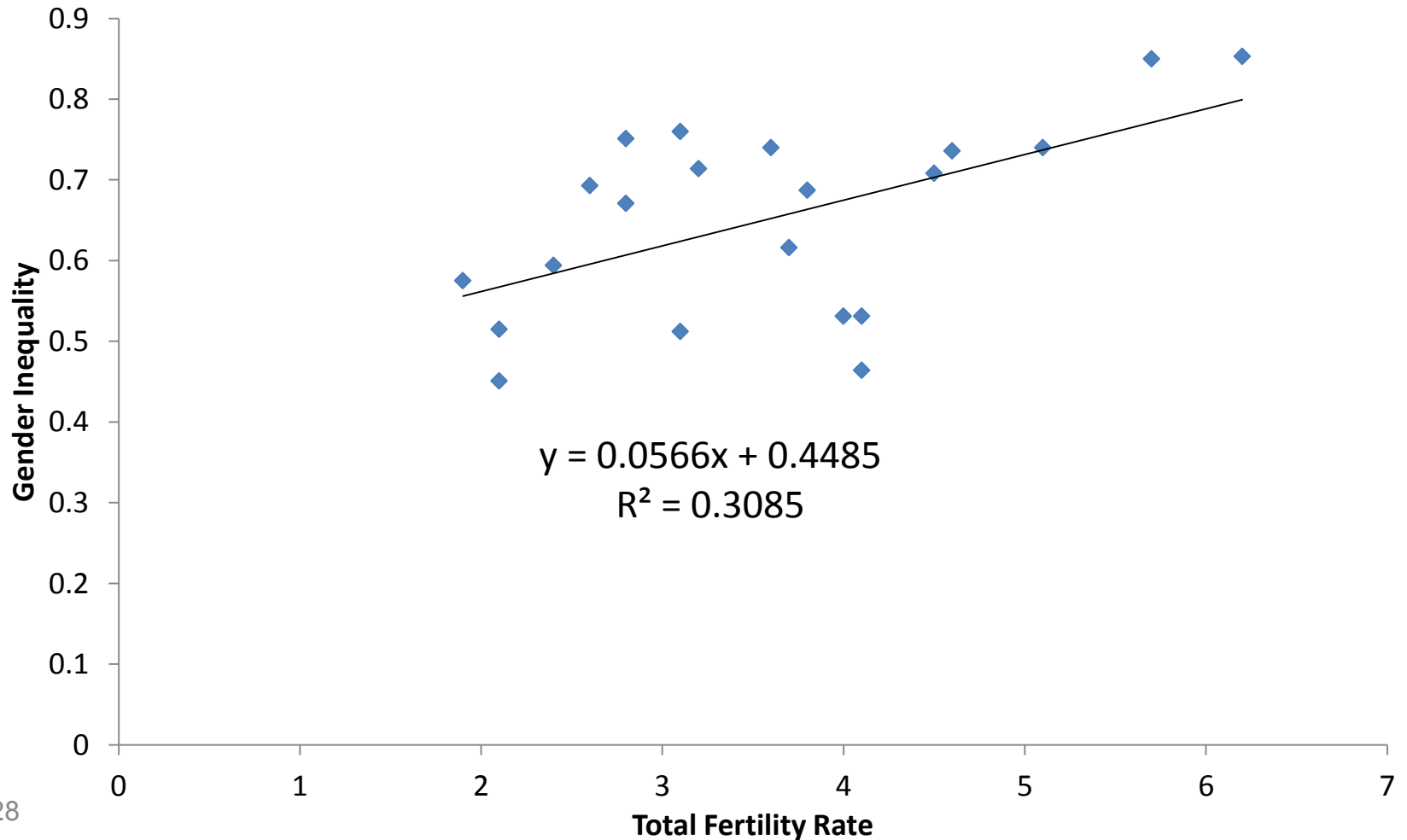
ranks	Arab Countries	Muslims (%)	TFR	MYS
1	Somalia	98.6	7.1	2.3
2	Yemen	99	6.2	2.5
3	Comoros	98.3	5.1	2.8
4	Sudan	71.4	4.5	2.9
5	Oman	99	3.6	3.5
6	Mauritania	99.2	4.6	3.7
7	Djibouti	97	4.2	3.8
8	Morocco	99	2.6	4.4
9	Palestine	97	4.0	4.9
10	Syria	92	3.8	4.9
11	Iraq	98.9	2.8	5.6
12	Kuwait	86.4	2.1	6.1
13	Egypt	94.7	3.2	6.5
14	Libya	96.6	4.1	6.5
15	Algeria	98.2	2.4	7.2
16	Qatar	77.5	2.8	7.3
17	Tunisia	99.8	2.1	7.3
18	Saudi Arabia	97.1	3.1	7.8
19	Jordan	98.8	3.7	8.6
20	United Arab Emirate	76	1.97	9.2
21	Bahrain	81.2	2.23	9.4
22	Lebanon	59.7	1.9	10

Graph(6). Relationship between Gender Inequality and Means Years of Schooling in the Selected Muslim countries(38 cases)(2010)



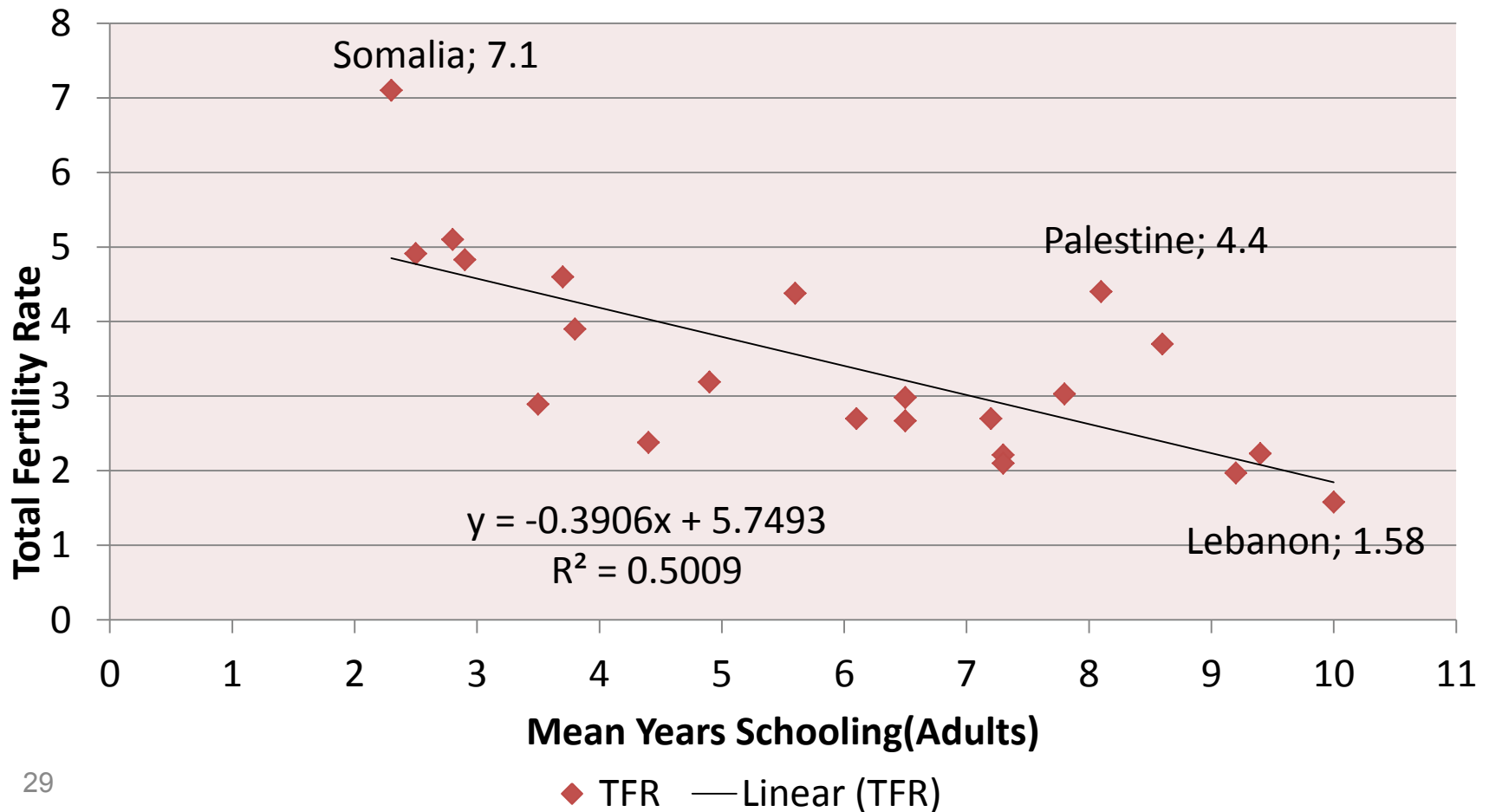
***Graph(7). Relationship between Total Fertility Rate and Gender Inequality
in Arab Countries(2010)***

Point: Reduction in Gender Inequality strongly affects on fertility

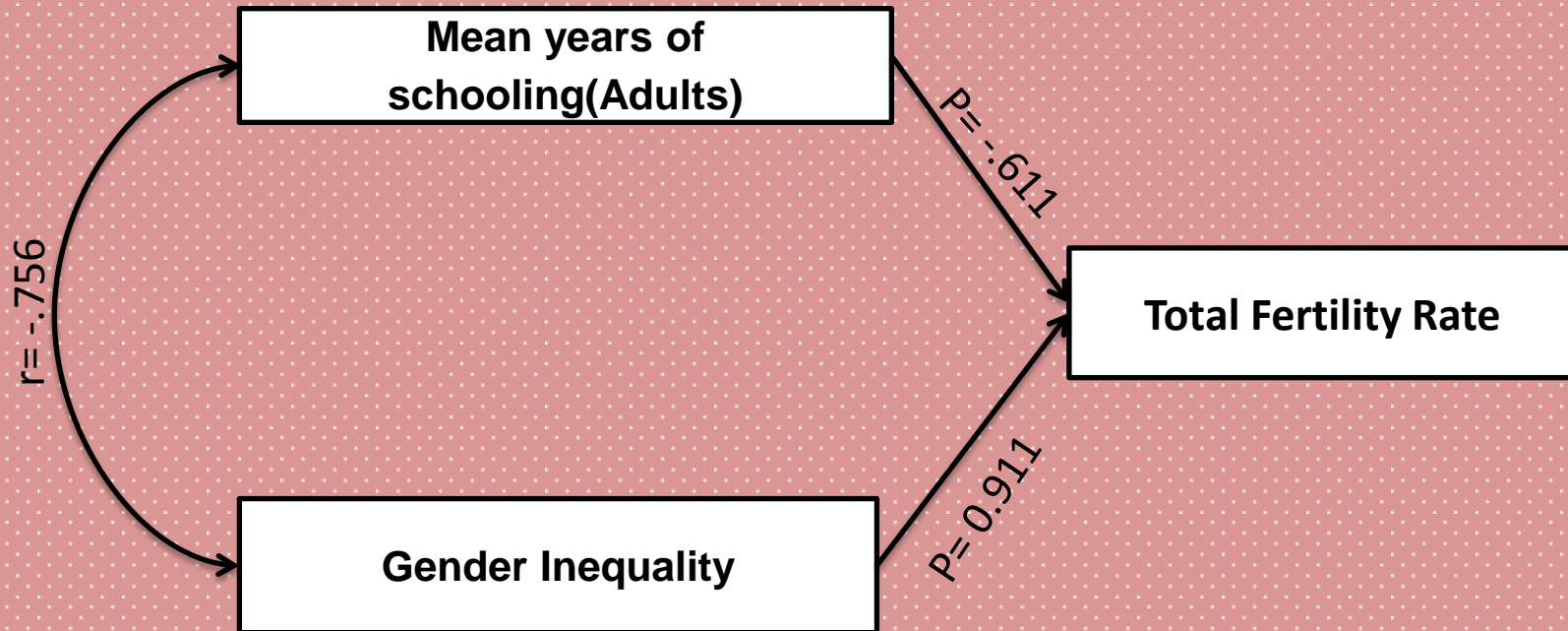


Graph(8). Relationship between Total Fertility Rate and Means Years of Schooling in Arab Countries(2010)

Point: Improvements in education strongly affects on fertility



Figure(6). Adjusted Final Model



Point: Above path diagram shows that education and gender equality not only have a strong correlation with each other but also both of them have a significant effect on the reduction of fertility.

*More explanations
on the consequences of promoting education and
gender equality*

At the level of attitude changes

- *Becoming important of high values by women such as self-esteem and self-determination.*
- *Increasing effort in order to achieve vertical social mobility.*
- *Rationalization of behavior pertaining to marriage and fertility.*
- *Decreasing desire to having many children.*
- *Altering from quantity to quality of Children.*
- *Increasing importance of desired and small size of family.*

At the level of family structure:

- 1. Changing arranged marriages towards marriages basing on love and individual aspirations.*
- 2. Changing patriarchy family system towards family systems basing on egalitarianism.*
- 3. Increasing women share and participation pertaining to family making decision and becoming horizontal of power relations between men and women in families.*
- 4. promotion of autonomy of women.*
- 5. Gradual change of traditional pattern of sexual socialization.*

Demographic and social consequences

- *Decreasing early marriages*
- *Increasing spacing between the children*
- *Increasing marriage age*
- *Increasing participation proportion of women in labor force*
- *The extension of contraception use*
- *Increasing social and political participation of women.*
- *Gradual Elimination of discrimination against women.*

Conclusion & Policy Recommendations

- *Enhancement and enrichment of education and promotion of gender equity are two main factor of fertility declines in Arab and Muslims countries.*
- *In order to reduce fertility in countries which are placed in the second and third stages of fertility transition, it should be noted that, the development of public education and literacy rate (reading and writing) are not enough.*
- *Actually, countries should try to promote the mean years of schooling or deepen education and increase sexual equality.*

- *based on previous studies and results this study , can conclude, the latecomers countries should focus on mass education specially adult education, but forerunners and followers countries should try to deepen of education. That is, making suitable circumstance to continue of schooling at higher levels.*
- *The fundamental tenets of Islam emphasizing education and health encourage activities relevant to human development such as education and equality.*
- *the first word revealed to Prophet Mohammad as a part of Qur'an is "read"(or proclaim; Iqra). Islam emphasizes on learning (without any differentiation in educational opportunities for boys and girls.*

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