Dynamics of Development and Fertility Convergence in Muslim Countries

By

Hatam Hosseini [*]
Nader Motie Haghshenas [**]

[*] Assistant Professor, Department of Social Sciences, Faculty of Economics and Social Sciences, Bu-Ali Sina University, Iran, E-Mail: h-hosseini@basu.ac.ir,
[**] Faculty Member at Population Studies and Research Center in Asia and the Pacific, Tehran, Iran,
  E-Mail: haghshenas@psrc.ac.ir.

Abstract

The aim of this paper is to describe the Muslim Countries differences in fertility transition during 1980-2005, and to study the role of family planning and development programs on fertility convergence. This study is a secondary analysis. The statistical population includes 33 Muslim countries (refer to countries in which Muslims constitute at least 50 percent of the total population). Data used is mostly taken from UNDP and United Nations Population Division for 2007 and 2008.
The results show that Muslim countries experienced different fertility levels as compared with world during 1980-2005. Moreover, Muslim countries varied remarkably in terms of the timing of fertility transition, the pace of fertility reduction during the fertility transition period, attainment of replacement-level fertility, and continuing fertility decline. According to this study, fertility convergence in Muslim countries is a new phenomenon that appeared at the threshold of 21st century. The results show that this phenomenon has been caused by the improvement in Human Development Index (HDI) and spread of contraception in Muslim countries. Then, it is expected that more improvements in HDI and CPR lead to more convergence with global fertility levels and trends.

Key Words:

Muslim, Human Development Index, Fertility Convergence, Replacement Level Fertility

Introduction

Islam is one of the world's great monotheistic religions. The followers of Islam called Muslims believe in one God and that Mohammad is his prophet. Today, the worldwide community of Muslims, which embraces the people of many races and cultures, constitute a very substantial part of the world's population. The heartland of the Muslim world is in the Middle East and North Africa. Islam has spread widely from this heartland to other parts of Africa and to South and southwest Asia (Abbasi-Shavazi and Jones 2001). Islam is the second most popular religion after Christianity and has been the world's faster growing major religion during the last hundred years. Today, a major part of the world population (21 percent in 2000) has been composed of Muslims. Projections show that this proportion will reach 23 percent in 2025. Although, there is a tendency to define the Muslim world as a unique nation with similar cultural and socio-economic characteristics, but the reality is that Muslim community are not compose a homogenous culturally, linguistic (Roudi 1989) and social-economic collection (Jones 2006, Abbasi-Shavazi and Jones 2001). Only, a common characteristic of Muslim community is their beliefs to Islam. Nonetheless, demographically these countries have many common characteristics which we can consider them as a population bloc.

The most important demographic change during the last three decades was the tremendous fertility decline in all regions of the world, especially in developing countries. In Muslim countries, fertility has declined unprecedented too. While, studies show that Muslims have a tendency for large families with comparing non-Muslim populations (Dharmalingam and Morgan 2004, Knodel et al 1999, Morgan et al 2002, Westoff and Frejka 2007, El-Badry 1967), but recent fertility trends in some of the Muslim countries like Iran and Tunisia, proposed serious questions about the role of religious doctrine, human development, and family planning programs in fertility transition. Although, there is no direct reference in favor of or against family planning and contraception in Muslim beliefs, but the practice of Azl (*coitus interruptus*) among Muslims show that family planning and contraception have accepted generally in Islam. There is a great variety in both levels and methods of contraceptive practice in Muslim-Majority countries (Jones 2006: 253). So, high fertility levels in Muslim countries should be explained with policy maker approaches to family planning programs and birth control or Muslims socio-economic conditions not simply by virtue of Islamic teaching.

Different researches have shown that unequal development leads to accelerate socio-economic inequality between subpopulations in a society and hence increases fertility variations (Erfani 2005: 4, Hosseini 2000). Regarding to ethnic - cultural diversity and geographic dispersal of Muslim countries and the fact that Muslim countries experienced modernization unequally during recent three decades, a question is that did Muslim countries experienced fertility convergence? If so, whether fertility convergence is rooted in transition to more similarity patterns of Human Development? How would be

the role of development in fertility convergence of Muslim Countries if we control the effect of family planning programs? The main hypothesis of authors is that Muslim countries during 1980-2005 have experienced different levels but similar trends with world fertility levels and trends and experiencing fertility convergence at the end of the period. This convergence seems that is due to improvements in Human development Index and expanses of contraceptive prevalence rate (CPR) in the Muslim countries.

Theoretical Background

There are different approaches about fertility trends and determinants among adherents of diverse religions which have generally focused on three various hypotheses: the Characteristics Hypothesis, the Particularized Theology Hypothesis, and the Minority Group Status Hypothesis. According to the characteristics hypothesis, religion has not significant independent effect on fertility and religious differentials in fertility quite independent of the particular teachings of religions in question and is a temporary phenomenon which obscure under effect of modernization and socio-economic assimilation (Goldscheider and Uhlenberg 1969, Johnson 1979, Nai Peng 2002, Poston et al 2006). The minority group status hypothesis is based on dynamics of minority group relation and independent effects of minority group status on fertility. Goldscheider and Uhlenberg (1969) believed that minority group status is an effective independent variable on fertility variations of religious groups. According to this hypothesis, in the absence of norms and rules compatible to increase of birth at the society, psycho-social insecurity and marginal status of ethnic groups caused fertility reduction among some parts of minority groups which attempt for social mobility. The particularized theology hypothesis emphasis on specific teachings (in the case of Islam) being pronatalist and apposed to contraception, and other elements of Islamic system like patriarchy and limitation of female autonomy which directly and indirectly increases fertility (Jones 2006: 252).

Each of these hypotheses explains fertility of ethnic and religious groups from different viewpoints. Selection one of these approaches means limitation of our viewpoint and negligence of other viewpoints. Fertility has social and biological aspects. The real operation of reproduction can be affected by social-economic, political, and cultural factors. The effect of these factors between population and sub-populations are different and operates by intermediation of factors which directly affect fertility. Davis and Black (1956) and latter Bongaarts (1978) proposed a conceptual and analytical framework for composition of socio-biological factors as intermediate variables in fertility process which can be simply illustrated as follows:
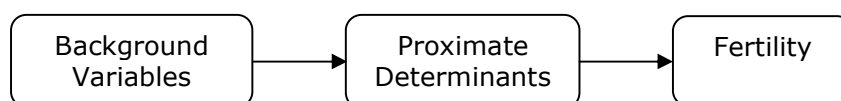
According to this model, variation in fertility levels and trends during the time can be attributed always to changes in one or more proximate determinants, and Changes in proximate determinants are affected by structural situations in turn. The authors believe that convergence of Muslim countries with world fertility levels and trends should be traced at the socio-economic context of Muslim countries and their actions and programs for family planning and contraceptive expansion. Thus, research analytical model can be displayed as follow:

Figure (1): Conceptual framework for analyzing convergence of Islamic countries with world fertility levels and trends
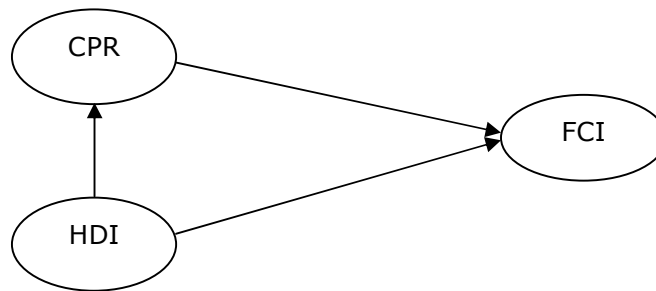
Data and Research Methodology

This study is secondary analysis. Statistical population includes 33 Muslim countries with at least 50 percent Muslim Population. According to research goals, the analysis covers two different periods of times. For explanation of changes and fertility convergence, analysis focused on 1980-2005 period. Because tremendous fertility reduction in Muslim countries have been experienced specifically at the period 1990-2005, the analysis of development and fertility changes and role of development in fertility convergence have been narrowed to 1990 and 2005 periods. In the later case, dependent variable is fertility convergence which calculates according to values of total fertility rate by the following formula:

$$1) \ldots\ldots\ldots\ldots \quad FCI = \frac{(TFR_{W,t} - TFR_{MC,t})}{TFR_{W,t}} \times 100$$

In which, FCI is the index of fertility convergence, $TFR_{W,t}$ is total fertility rate for the world at the time of t, and $TFR_{MC,t}$ is total fertility rate for the Muslim countries at the time t.

Independent variables include background and proximate variables, human development index and contraceptive prevalence rate. Values of total fertility rate, human development index and contraceptive prevalence rate adopted from United Nations Population Division (2008, 2009) and United Nations Development Programme (2007) database.

Findings and Policy Implications

Findings show that Muslim countries during 1980-2005 have experienced different levels, but similar trends of fertility with world fertility levels and trends. Moreover, they are different by the timing of fertility transition, the pace of fertility reduction during the transition, reaching to replacement level fertility, and continuing fertility decline. Results show that all Muslim countries until 1990 were in natural or transitional fertility situation (Table 1).

Table (1) - Illustration of shifts in fertility status of Muslim countries from 1990 to 2005 by frequency and name of Countries

| Total	Classification of Muslim Countries by Fertility Status (2005)				
	Controlled	Transitional	Natural		Classification of Muslim Countries by Fertility Status (1990)
16	Maldives	Comoros, Mali, Mauritania, Nigeria, Oman, Pakistan, Saudi-Arabia, Senegal, Sudan, Syria, Yaman	Afghanistan, Burkina Faso, Niger, Chad	**Natural**	
17	Albania, Algeria, Bahrain, Bangladesh, Indonesia, Iran, Kazakhstan, Lebanon, Malaysia, Morocco, Tunisia, Turkey, Turkmenistan, United Arab Emirates,	Egypt, Jordan, Tajikistan	-	**Transitional**	
-	-	-	-	**Controlled**	
33	15	14	4	**Total**	

During 1990-2005, Countries which earlier entered to fertility transition stage reached to controlled fertility situation in 2005 and other countries except Afghanistan, Burkina Faso, Niger and Chad reach to transitional fertility situation. Then, we can say that Muslim countries convergence with world fertility levels and trends is a phenomenon which specifically have been appeared from 1990s. Findings also show that during 15 years from 1990 to 2005 Muslim countries experienced dynamics in development trends. All Muslim countries except Tajikistan have encountered with increases in human development index. In 72 percent of countries the score of human development score have been changed more than 10 percent. Then, we can say that dynamics of development is one of mechanisms Muslim fertility convergence with world fertility levels and trends (Figure 2).

The results of Correlation analysis show that during 1990-2005 intensity of correlation between development and fertility convergence increased (more than 27 percent) and its coefficient increased from 0.67 in 1990 to 0.86 in 2005. In fact, countries with higher development level, experienced more convergence with world fertility levels and trends during the time. Partial correlation results show that

when controlling the effect of CPR, correlation intensity between development and fertility convergence decreased and reached to observed correlation in 1990.

Figure (2) - Fertility convergence in different levels of development in six selected countries, 1980-2005
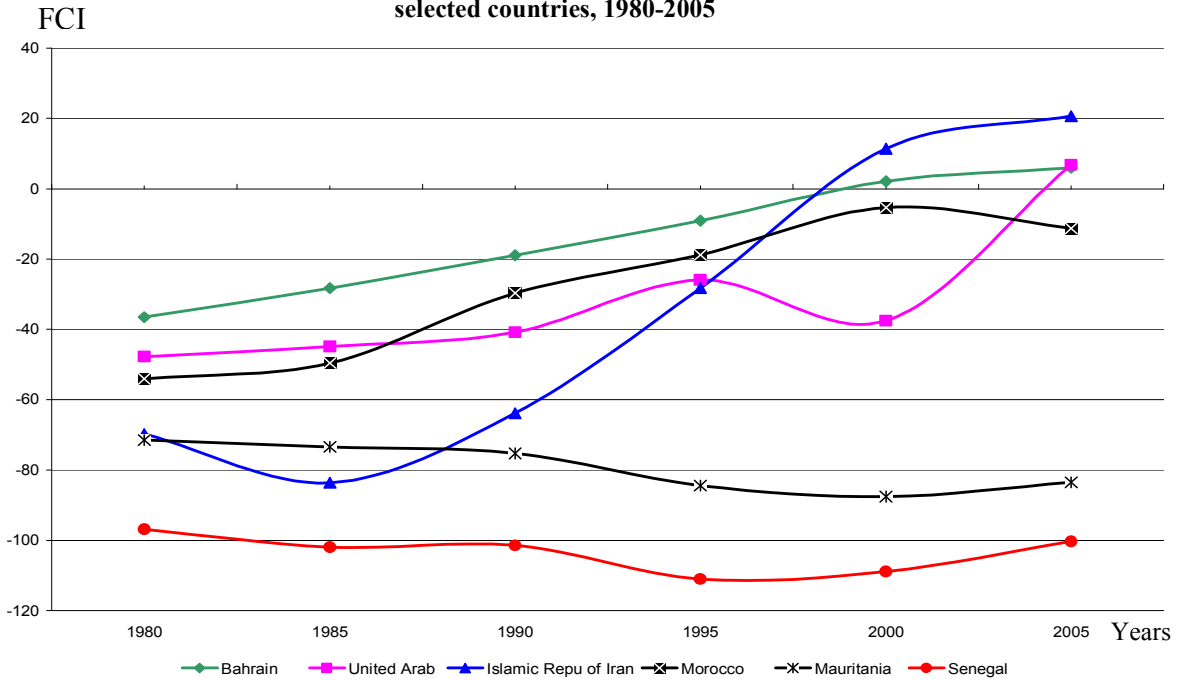
Then, we can say that fertility convergence in Muslim countries during 1990-2005 has been caused by the improvement in HDI and CRP. For more examination of this relation, we analyzed the effects of human development levels of Muslim countries on convergence with world fertility levels and trends by using proximate determinants analytical model. Based on the analytical model presented in figure 3, the direct effect of human development on the fertility convergence of Muslim countries is 0.46. Countries with higher human development level have more convergence with world fertility levels.

Figure (3) - The analytical model for fertility convergence of Muslim countries with world fertility levels, 2005

7
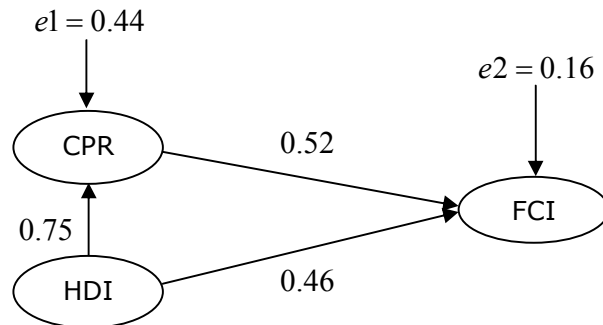
Moreover, human development indirectly and by influencing on CPR has influence on convergence with world fertility levels and trends. Then, the indirect effect of human development on fertility convergence is 0.39 (0.75*0.52) which is obviously less than the direct effect of that. So, the total effect of human development levels of Muslim countries on fertility convergence is equal to 0.85 (0.39 +0.46). That is, the model could explain a high percent of the overall relationship between human development of 33 Muslim countries and their convergence with world fertility levels in 2005. As shown in figure 3, the direct effect of human development levels on contraceptive prevalence rate (0.75) is more than its direct effect on fertility convergence (0.46).

Then, we can say that socio-economic changes and improvement in human development indices have significant effects on fertility decline and then convergence of Muslim countries with world fertility levels and trends. In micro level, it encourages rational calculations in fertility attitudes and behaviors, and in macro level justifies the use of contraception among religious leaders and policymakers, and finally crystallizes the people attitudes for birth control. Then, improvement in human development indices, at least in these Muslim countries, is one of the necessary prerequisites for contraception prevalence and convergence with world fertility levels and trends. So, we can conclude that although Islamic populations today are growing faster than the world average, but this is due to residual effect of fertility rates and consequently the higher natural growth of Muslim populations rather than the inherent tendency of Islam for increasing fertility. Then, the key point is the speed of fertility decline in many Muslim countries and experiencing replacement or below-replacement level fertility in some Muslim populations like Iran, Albania, and Tunisia. Consequently, there isn't tendency in Islamic teachings to prevent the attainment of very low fertility.

References

Abbasi-Shavazi, M.J., and Gavin W. Jones. (2001). Socio-Economic and Demographic Setting of Muslim Populations, Working Papers in Demography, No. 86.

Bongaarts, John. (1978). A Framework for Analyzing the Proximate Determinants of Fertility, *Population and Development Review*, 4(1): 32-105.

Davis, K. and Judith Blake. (1956). Social Structure and Fertility: An Analytical Framework, *Economic Development and Cultural Change,* Vol.4, No.2, PP. 211-235.

Dharmalingam, A., and S.P. Morgan. (2004). Pervasive Muslim-Hindu Differences in India. Demography 41(3): 529-545.

El-Badry, M.A. (1967). A Study of Differential Fertility in Bombay, *Demography*, 4: 626-640.

Erfani, A. (2005). Shifts in Social Development and Fertility Decline in Iran :A Cluster Analysis of Provinces: 1986-1996, Population Studies Center, *http://www.ssc.uwo.ca/sociology/popstudies/dp/dp05-12.pdf, 2006-06-25.*

Goldscheider, Calvin and Peter.R. Uhlenberg. (1969). Minority Group Status and Fertility, *the American Journal of Sociology*, Vol.74: 361-372.

Hosseini, H. (2000). Fertility and Development in Muslim Countries (In Persian), *Research Journal of Humanities*, No.1 & 2, PP. 71-93.

Session 130: Religion, traditional beliefs and fertility

Johnson, N.E. (1979). Minority Group Status and the Fertility of Black Americans 1970: A New Look, *American Journal of Sociology*, 84(6):1386-1400.

Jones, Gavin W. (2006). A Demographic Perspective on the Muslim World, *Journal of Population Research*, Vol. 23, No. 2, PP. 243-265.

Knodel, J., Rossarin Soottipong Gray, Porntip Sriwatcharin, and Sara Peracca. (1999). Religion and Reproduction: Muslims in Buddhist Thailand. *Population Studies*, 53: 149-164.

Mehryar, A.H., (2001b), Islam and Family Planning: The Shiite Perspective, Population Studies and Research Center for Asia and the Pacific, Tehran, Iran

Morgan, S.P., S. Stash, H.L. Smith, and K.O. Mason. (2002). Muslim and Non-Muslim

Differences in Female Autonomy and Fertility: Evidence from Four Asian Countries. Population and Development Review 28: 515-537.

Nai Peng, T. (2002). Socioeconomic and Ethnic Fertility Differentials in Peninsular Malaysia, Presented at the IUSSP conference on Southeast Asia's Population in Changing Asian Context, Bangkok, Thailand, 10-13 June.

Poston JR, Dudley L, Chiung Fang Chang and Hong Dan. (2006). "Fertility Differences between Majority and Minority Nationality Groups in China", *Population Research and Policy Review* (25), PP. 67-101.

Roudi, N. (1988). The Demography of Islam, *Population Today*, 16(3): 6-9.

United Nations. (2007). Human Development Report 2007/2008, fighting climate change, human solidarity in a divided world, United Nations Development Programme, New York.

United Nations. (2008). World Contraceptive Use - 2007, Department of Economic and Social Affaires, Population Division, New York.

United Nations. (2009). World Population Prospects: the 2008 Revision, Population Database, Department of Economic and Social Affaires, Population Division, New York.

Westoff, Charles F, and Tomas Frejka. (2007). "Religiousness and Fertility among European Muslims", *Population and Development Review* 33: 785-809.