Fertility Decline and Economic Development in Iran

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Introduction

Population growth rate in Iran has been declining since 1986 from 5.6 births per woman to 2.0 births in 2000. The 2011 estimates indicate a population growth rate of 1.2 percent per year which is much lower than 1986 rate, 3.9 (Population Reference Bureau, 2010). This paper shows how fertility decline accompanied to gradual rising of economic development indices including GNP, urbanization, marriage age and proportion of students, decline of infant mortality and proportion of married women.

Background

In 1993, Iranian legislature passed a family planning bill that removed most of the economic incentives for large families. The law also gave special attention to such goals as reducing infant mortality, promoting women's education and employment, and extending social security and retirement benefits to all parents so that they would not be motivated to have many children as a source of old age security and support. While all these legal reforms in support of the family planning program are significant, there has been no assessment of the laws' implementation or their impact on lowering fertility. Instead, the decline of fertility in Iran has been due in particular to strong motivation in birth control at individual level (Eini Zeinab, H 2003).

Literature

During the last decades, a few studies, namely by Heer and Turner(19651, Weitramb(l962), and Adelman(1963) based on cross sectional data affirmed the negative association between fertility and economic development. Adelman argues that the partial effect of income on birth rate is positive whereas the partial effect of education on the birth rate is negative but still the overall unconditional effect of income on fertility is negative.

Bollinger (1997) studied fertility reduction related to development in Ethiopia based on the PEDA model. He concluded that; there is specific interaction between socioeconomic, environmental and agriculture variables to fit into models like PEDA (Lutz, 2001)
In Iran, javad salehi(2002) examined the role of household in economic growth on micro economic growth in Iran. He identified two decisions that have had the largest impact on economic growth, fertility and investment in child education. He applied two distinct strategies: a traditional strategy with high fertility and low investment in children, and a modern strategy with low fertility and high investment in children. In his study, there are three factors inhibited change in household strategy; first availability in oil income, second social norms regarding to gender that affected the trade of between home and women labor market and investment in women's education. Both resulted in continued high fertility and low education of women despite rising of income. The third factor is the labor market that changed return to education. This resulted in high cost of fertility affecting family decisions to have fewer children.

Theories
According to demographic transition theory economic development is reversely associated with fertility. Fertility decline is first due to decline in mortality, then urbanization reducing proportion of married women and finally increasing women's age at marriage declines fertility. This theory has been revised and criticized by Caldwell, Notestein and Coal. Many of the proposed revisions derived from the concept of modernization.

The modernization theory is based on the idea that industrialization caused massive economic changes that forced societies to alter traditional institutions. Society-wide increases in income and improved public health infrastructure brought about this change (Weeks, 1999). Death rate declined as the standard of living improved and birth rate declined a few decades later. It was argued, as the importance of family life was diminished by industrial and urban live, thus weakening the pressure for large family (Weeks, 1998).
The focus then shifted from macro level to micro level theories to find attitudes that encourage people rethink about their future childbearing.

For example, the house holds theory of fertility introduced an individual-level perspective that is closely related to rational choice theory. The essence of rational choice theory is that human behavior is the result of individuals making calculated cost-benefit analyses about how to act and what to do (Weeks, 98).

Baker economic theory turns into Trend –off between quantity and quality of children, for less well off, the expectation that exist for children are pressured to be low and thus the cost is at it's minimum.

Caldwell conceptualized the theory of intergenerational flows of wealth that considers benefits of children. In traditional societies the *flow of wealth* is from children to parents. But the process of modernization eventually results in children begin to cost parents more (Weeks, 98).

McDonald argued that the fertility transition from high to low has been associated with improving gender equity within family –oriented social institution.

Findings

The following table shows information about some economic development indices and fertility decline during 1986 to 2001. As Insurance coverage, education and age of marriage increase and IMR decreases, GFR and TFR decrease as well.

According to intergenerational flows of wealth the declining in the number of children is resulted from rising cost of children and declining in their benefits to parents. This paper considers students in age 10 to 14 as a measure of the cost side and children working between age 10 to 14 as a measure of the benefit side.

Table (2): Economic development indices and fertiity decline in Iran (1966-2001)

Year	Insurance coverage	GNP	IMR	TFR	GFR	Students attending at school age 6-19	Proportion of educated women	Age of marriage	Proportion of working in age 1-14
1966	1.76	-	149	7.71	-	-	17.9	18.4	36
1976	2.5	-	135	7.1	-	37	35.4	19.7	18
1986	7.06	30426	56	5.5	200	59	51	19.8	11
1996	10.26	37681	26	3.3	150	66	74.3	22.4	5
1991	-	46609	-	-	95	-	79	22.7	3
2001	37	52926	18	2.5	90	76	86.8	22.9	2

Source ; SCI(2002), Population indices of Iran (1966-2001).

Conclusion

As discussed earlier, economic development affects demographic transition via imposing changes to living condition of people in micro and macro level. The process of modernization in Iran accompanies to fertility decline and it confirms almost all demographic transition theories proposition. For example reducing of mortality rate along with decreasing TFR implies to a macro level effect, while the reverse flow of wealth refer to an affect in micro level.

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